THE 7TH INTERNATIONAL RESEARCH SYMPOSIUM OF THE SGBED

Managing Business in a Digital Age: Opportunities and Challenges

PROCEEDINGS

ISBN 13 978-0-9797659-4-0

December 17-19, 2018, Le Méridien Dubai Hotel & Conference Centre, Dubai

Hosted by Skyline University College, Sharjah, United Arab Emirates

Editors

Gouher Ahmed, Naseem Abidi, Yam B. Limbu, C. Jayachandran, Silvio Cardinali

© SGBED-2019

Table of Contents

Preface	**The 7th International Research Symposium of the SGBED** Gouher Ahmed, Co-Chair & Host Coordinator, Skyline University College, UAE Naseem Abidi, Professor, Skyline University College, UAE Yam B. Limbu, Co-Chair & VP, SGBED, Montclair State University, USA C. Jayachandran, Professor Montclair State University & President SGBED, USA Silvio Cardinali, Co-Chair & VP, SGBED, Polytechnic University of Marche, Italy	**9-10**
Awards	**The 7th SGBED International Research Symposium Awards**	**11**
Journals	**Supporting Journals**	**12**

Marketing Issues

DXB034	**E- Logistics Service Quality in the digital era: key drivers for gaining customer satisfaction and loyalty.** Ivan Russo, University of Verona, Italy Ilenia Confente, University of Verona, Italy Nicolò Masorgo, University of Verona, Italy	**14-23**
DXB037	**Reviews analysis of Online retail stores in UAE: Analytical study of sentiment analysis through social media.** Riktesh Srivastava, Skyline University College, UAE Mohd Abu Faiz, City University College of Ajman, UAE	**24-31**
DXB060	**Organizing the Marketing Actions Around Premium Price in Technological Brands. The Case of Apple.** Simonetta Pattuglia, University of Rome "Tor Vergata", Italy Sara Amoroso, University of Rome "Tor Vergata", Italy	**32-41**
DXB071	**A Study of Relationship between Trust, Commitment and Relationship Value in Multi-sided platforms (MSPs) in T-Hub in the Telangana State of India through Structural Equation Modeling (SEM).** Vijaya Kumar Gudep, City University College of Ajman, UAE	**42-52**
DXB072	**Competence Certification in the Fourth Industrial Revolution.** Ornella Malandrino, University of Salerno, Italy Maria Rosaria Sessa, University of Salerno, Italy	**53-62**
DXB107	**Green Product Consumption Patterns in GCC: A Case of Lulu Hypermarket, UAE** Anil Roy Dubey, Skyline University College, UAE	**63-70**
DXB119	**Performance Management System: A Case of XYZ Company, Kingdom of Bahrain.** Bangari Naidu Sunkari, Gulf Petrochemical Industries Company, Bahrain Gagan Kukreja, Ahlia University, Bahrain Omar Albasteki, Gulf Petrochemical Industries Company, Bahrain	**71-82**

© SGBED 2019

	Effects of Supply Chain Technology in Perspective for Alignment with Revenues	**83-94**
DXB123	Parrakal Satishchandra Menon, School of Business Alliance University, Bangalore, India N. Abhinay Varma, Alliance Ascent College, Bangalore, India	
	Finance Issues	
	Social Costs and Economic Benefits of Contract Employment: The Case of India	**95-99**
DXB045	Sivakumar Venkataramany, Ashland University, USA	
	Bitcoin as an Alternative Investment: An Analytical Outlook	**100-106**
DXB098	Aqila Begum, American College of Dubai, UAE Jennifer Daffodils, Human Resource Manager, UAE Saikat Gochhait, Deemed University, India	
	Importance and Utilities of Mathematical Modeling in Business Decision Making	**107-111**
DXB021	Haftamu Menker, Skyline University College, UAE	
	Financial Performance of Microfinance Institutions in Asia: A Comparative Analysis	**112-124**
DXB126	Nizar Mousa Sahawneh, Skyline University College, UAE Nandini Kaul, University of Wollongong in Dubai, UAE Namrata Gupta, University of Wollongong in Dubai, UAE	
	Risk, Profitability and Growth Indicators- A Comparative Analysis of UAE's Large and Small banks	**125-140**
DXB127	Nizar Mousa Sahawneh, Skyline University College, UAE Nandini Kaul, University of Wollongong in Dubai, UAE Namrata Gupta, University of Wollongong in Dubai, UAE	
	Performance Measures and the CAMEL Rating of the Banking Industry: The Case of India	**141-146**
DXB044	Sivakumar Venkataramany, Ashland University, USA	
	UAE the Most Attractive FDI Destination in the Middle East: A study on How UAE is Sustaining the Status	**147-162**
DXB138	Manuel Fernandez, Skyline University College, UAE Robinson Joseph, Skyline University College, UAE	
	Entrepreneurship Issues	
DXB023	**Entrepreneurial personality** Tiina Brandt, Tampere University of Applied Sciences, Finland	**163-170**
DXB125	**Impact of digitalization on the SMEs and Start-ups in India – Challenges ahead** Shakeel Ahmad, Maulana Azad National Urdu University, Hyderabad, India Syed Samiullah Shah Hussaini, sami.hussaini@ventureast.net Head-Admn. & Legal, APIDC Venture capital, Hyderabad, India Mohd. Akbar Ali Khan, Former Professor & Dean, Osmania University, Hyderabad, India	**171-190**

Information Technology Issues

DXB040	**Digital corporate identity congruence analyses: highlighting critical issues and untapped opportunities. A focus on Italian SMEs of the dairy industry** Signori Paola, University of Verona, Italy Gozzo Irene, University of Verona, Italy Bisutti Vittoria, Padua University, Italy Segato Severino, Padua University, Italy	**191-204**
DXB061	**Internet of Things and Consumer Health: An Examination of a Wearable Ankle Edema Monitoring System for Elderly Heart Failure Patients** Muhanad Manshad, University of Northern Colorado, USA Daniel Brannon, University of Northern Colorado, USA Shakir Manshad, New Mexico State University, USA	**205-207**
DXB062	**Indigenous Knowledge systems to manage Agriculture in India.** Rudresh Pandey, ABES Engineering College, India Abhijit Das, ABES Engineering College, India	**208-215**
DXB089	**Data Mining and Data Warehousing: The E-Governance Perspective** Deepak Kalra, Skyline University College, UAE	**216-224**
DXB105	**Impact of Emiratization in UAE Private Sector.** Anuradha Reddy, Cornerstone Intl. School for Business Management, India Sudhakar Kota, Skyline University College, UAE	**225-240**
DXB102	**A Novel Hybrid Classification (NHC) Algorithm for Diabetes classification.** Karamath Ateeq, Skyline University College, UAE Gopinath Ganapathy, School of Computer Science, Engineering and Applications, Bharathidasan University, Tiruchirappalli, India.	**241-246**
DXB110	**Analyzing Unstructured Data using Mining Techniques.** Beenu Mago, Skyline University College, UAE	**247-251**
DXB130	**Social work in times of digital transformation: historical developments and trends.** Stefan Klar, FOM University, USA	**252-262**
DXB140	**Applications Models and Uses of Data Mining in E-Governance for Sustainable Development.** Deepak Kalra, Skyline University College, UAE	**263-272**
DXB124	**Impact of Digitization on CRM for B2B Firms.** Parrakal Satishchandra Menon, Alliance University, India Abhinay Varma, Alliance Ascent College, India	**273-284**
DXB111	**Mathematical Modeling of non-Newtonian Fluid under Gravitational Flow over an Inclined Plane.** Ram Karan Singh, King Khalid University, KSA	**285-293**

© SGBED 2019

Economics Issues

DXB094	**Emerging Economies and Non- Communicable Diseases: An Integration of Micro and Macro Level Approaches Between Health and Economic Development.** Wilson Gachiri, Skyline University College, UAE	294-303

HRM Issues

DXB069	**Technological Disruption- A Paradox or Continuum to Human Resource Management**. K. Vinod Kumar, S.V University Tirupati, India P. Raghunadha Reddy, S.V University Tirupati, India	304-313
DXB091	**Factors affecting work life balance and Job Satisfaction of Female employees – A comparative study of teachers in India and UAE.** Maryam Haider, Aligarh Muslim University, India Kakul Agha, Skyline University College, UAE	313-320
DXB121	**Work Life Balance among Teachers Employed in Higher Education in Oman: Emerging Issues & Challenges.** Kakul Agha, Skyline University College, UAE Sami A. Khan, King Abdulaziz University, KSA	321-328

ABSTRACTS

DXB022	**Value co-creation in vertically integrated industry incubators.** Bella Butler, Curtin University, USA Daniel Schepis, University of Western Australia, Australia Sharon Purchase, University of Western Australia, Australia	330
DXB024	**Wellbeing and Self-Leadership of Growth Entrepreneurs at Finland.** Tiina Brandt, Tampere University of Applied Sciences, Finland Pia Hautamäki, Tampere University of Applied Sciences, Finland	331
DXB025	**Modern Sales in Growth-Oriented Finnish Companies** Pia Hautamäki, Tampere University of Applied Sciences, Finland	332
DXB026	**Knowledge Firms, Intellectual Capital and The Incentive to Adopt Poison Pills**. Isaac Wanasika, University of Northern Colorado, USA	333
DXB027	**Rescheduling the projects using crash time and real time monitoring** Vibha Saihjpal Punjabi University, India S.B. Singh Punjabi University, India	334
DXB035	**From Labor Workers to Successful Entrepreneurs: The Case of Migrants from the Indian Sub-continent in the UAE.** Khalid Akhal, University of International Business and Economics, China Gouher Ahmed, Skyline University College, UAE	335
DXB036	**Retailer Expectations and Consumer response towards Third Generation Private Label Brands: An Evidence of Leading Indian Food Retail Chain.** Ajay Singh, ABES Engineering College, India Rakesh Kumar Singhal, ABES Engineering College, India Debdeep De, PwC India	336

DXB038	**Technological Change and its Impact on the Labor Market in Egypt.** Mona Farid Badran, Cairo University	**337**
DXB041	**The Role of Sales Stereotypes in Students' Perception.** Silvio Cardinali, Università Politecnica delle Marche, Italy Marta Giovannetti, Università Politecnica delle Marche, Italy Barbara Kulaga, Università Politecnica delle Marche, Italy	**338**
DXB042	**Environment and Social Sustainability-Vehicle Users Perspective in National Capital Region Delhi.** Vishal Gupta, Institute of Management Studies, India Naseem Abidi, Skyline University College, UAE	**339**
DXB043	**Instrument for Measuring Effective Teaching Competencies for Teachers in Indian Business Schools.** Kanupriya Misra Bakhru, Jaypee Institute of Information Technology, India Naseem Abidi, Skyline University College, UAE	**340**
DXB049	**Analysis of Knowledge Management Practices: A Case study of Private Scientific and Technological Organizations in Zhejiang, China.** Yi Liu Zhongnan University of Economics and Law, China Chenhui Zhao, Zhongnan University of Economics and Law, China Chao Liu, Zhongnan University of Economics and Law, China	**341**
DXB050	**Effects of Knowledge Hiding on Employee Creativity?: The Role of Knowledge Power and Task Independence.** Yi Liu Zhongnan University of Economics and Law, China Chenhui Zhao, Zhongnan University of Economics and Law, China Chao Liu, Zhongnan University of Economics and Law, China	**342**
DXB051	**Investigating river destination image by using tri-component model: A case of Malacca River- The Venice of the East.** Jason M. S. Lam, Multimedia University, Malaysia Ling Suan Choo, Universiti Utara Malaysia Yit Leng Oh, Multimedia University, Malaysia Saw Chin Khor, Universiti Tunku Abdul Rahman, Jalan Universiti, Malaysia	**343**
DXB055	**The GDPR: A Real Revolution in The Protection of Personal Data in The Digital Era**. Dusan Soltes, Comenius University, Slovakia	**344**
DXB063	**Factors determining economic moat of companies with special reference to fast moving consumer goods' companies of India.** Manoj Kumar, Skyline University College, UAE	**345**
DXB064	**Sustainable Supply Chain Management – Development of a model through Information Technology.** Ramakrishna Yanamandra, Skyline University College, UAE	**346**
DXB065	**A Framework to achieve Supply Chain Resilience through Information Technology.** Ramakrishna Yanamandra, Skyline University College, UAE	**347**

DXB066	**An Empirical Investigation of the Impact of ISO 9001 Certification.** C. P. Kartha, University of Michigan-Flint, USA	**348**
DXB068	**Knowledge management for financial resilience post disasters: An empirical analysis**. Abhishek Behl, IIT Bombay, India Pankaj Dutta, IIT Bombay, India Ajith Kumar VV, Skyline University College, UAE	**349**
DXB074	**The role of e-learning in Tour Operators' marketing strategies.** Valerio Temperini, Polytechnic University of Marche, Italy Gian Luca Gregori, Polytechnic University of Marche, Italy Lucia Pizzichini, Polytechnic University of Marche, Italy	**350**
DXB076	**Managing our Classrooms in a Digital Age: Opportunities and Challenges in Learning Through Engagement.** Vish Iyer, University of Northern Colorado, USA Muhanad Manshad, University of Northern Colorado, USA Brandon Soltwisch, University of Northern Colorado, USA Daniel Brannon, University of Northern Colorado, USA	**351**
DXB078	**Fear of missing out and internet addiction and their combined influence on online pathological shopping behaviour: Marketing Perspective**. A. S. Suresh, Christ University, India Anindya Biswas, Christ University, India	**352**
DXB082	**Developing Framework for Sustainable Procurement of Basmati RICE in India.** Rajni Kant Sharma, Maastricht School of Management, Neatherland Naseem Abidi, Skyline University College, UAE	**353**
DXB086	**Investigating the relationship between Age and Smart Phone Usage Patterns: Evidences from Indian Smart Phone Users.** A M Sakkthivel, Skyline University College, UAE V Moovendhan, Madanapalle Institute of Technology and Sciences, India Githa Heggde, IFIM Business School, India	**354**
DXB090	**An Analytical Study on the Human and Relational Capital as Outcomes of Knowledge Management Activities in Academic libraries in Sultanate of Oman.** Hanin Alqam, Middle East College, Oman Shyamala Srinivas, Middle East College, Oman	**355**
DXB100	**Political Marketing and Social Media influence on Young Voters in Ghana.** Justice Boateng Dankwah, University of Energy and Natural Resources, Ghana John Paul Kosiba, University of Professional Studies, Ghana Robert E. Hinson, Ghana Business School, University of Free State, Ghana Ogechi Adeola, Pan-Atlantic University, Nigeria	**356**

DXB101	**Investigating the Dialogic Potential of Botswana Trade and Investment Centre Website in Boosting Foreign Direct Investment.** Robert E Hinson, Ghana Business School, University of Free State, Ghana Anne Renner, University of Ghana Business School, Ghana John Paul Kosiba, University of Professional Studies, Ghana Ogechi Adeola, Pan-Atlantic University, Nigeria Nnamdi O. Madichie, University of East London Michael Nkrumah, Ghana Institute of Mgt. and Public Administration, Ghana	357
DXB103	**The challenge of consumer information management in the era of robots and artificial intelligence: opportunities and critical issues.** Nadia Olivero, University of Milano Bicocca, Italy	358
DXB106	**Investigation of green marketing practices of UAE hypermarkets.** Shanmugan Joghee, Skyline University College, UAE	359
DXB108	**Luxury Service Experience: Its Domain and Impact on Emotional Responses on Brand Equity.** Sherriff T.K. LUK, Emlyon Business School, France	360
DXB109	**Consumer profiling and diffusion of mobile banking in an emerging market.** Mallika Srivastava, Symbiosis Institute of Business Management, India Semila Fernandes, Symbiosis Institute of Business Management, India Ajith Kumar VV, Skyline University College, UAE	361
DXB113	**Shoppers Value, Customer Satisfaction and Demographic Variables: Evidence from Indian Online Retail.** Biranchi Narayan Swar, Symbiosis Institute of Business Management, India Rajesh Panda, Symbiosis Institute of Business Management, India	362
DXB114	**An Effective Way of Managing Employees in Digital Era through Vipassana Meditation**. Seema Pradhan, Symbiosis International University, India Ajith Kumar VV, Skyline University College, UAE	363
DXB116	**VIX Futures: Value-at-Risk and return distribution.** Ali Husain Ahmed, Xiamen University, China Qian Han, Xiamen University, China	364
DXB118	**Effect of Disruptive technologies on retail banking activities.** Abdul-Rahman Khokhar, Saint Mary's University, Canada	365
DXB120	**Mapping antecedents of innovative work behavior: A conceptual review**. Michael K. Muchiri, RMIT University, Melbourne, Australia Adela J. McMurray, RMIT University, Melbourne, Australia Mathews Nkhoma, RMIT Vietnam University, Australia Hiep C. Pham, RMIT Vietnam University, Australia	366
DXB132	**The Impact of Economic Freedom Leads on Economic Growth: Empirical Evidence from the MENA Countries** Anwar Al-Gasaymeh, Applied Science University-Amman-Jordan, Jordan Haitham Alzoubi, Skyline University College, UAE Gouher Ahmed, Skyline University College, UAE	367

DXB133	**Investigating the Relationship between Sustainable Supply Chain Strategies and Supply Chain Collaboration and its Impact on the Competitive Priorities: An Empirical study on Jordanian Pharmaceutical companies.** Haitham M. Alzoubi, Skyline University College, UAE Gouher Ahmed, Skyline University College, UAE Anwar Al-Gasaymeh, Applied Science University-Amman-Jordan, Jordan	**368**
DXB134	**Biometric Identity card as a tool for E Governance in Sultanate of Oman** Kavita Chavali, Dhofar University, Oman Shouvik Sanyal, Dhofar University, Oman	**369**
DXB135	**Perception of Educated Citizens on Aadhar Card as a tool for Effective and Efficient E Governance in India.** Sudha Mavuri, GITAM Institute of Management, India Kavita Chavali, Dhofar University, Oman Shireen Rosario, Dhofar University, Oman	**370**
DXB137	**Examination of Index Model and Prediction of Beta –A case study examination in IT Sector.** Manuel Fernandez, Skyline University College, UAE B.Rajesh Kumar, Institute of Management Technology, UAE	**371**
DXB139	**Glocalization and tourism – A Smart Tourism Era.** Mohit Vij, Skyline University College, UAE Rasha El Khatib, Skyline University College, UAE	**372**
DXB141	**Women's Birthplace Choice: The State of Art.** Silvio Cardinali, Università Politecnica delle Marche, Italy Marta Giovannetti, Università Politecnica delle Marche, Italy Valentina Foglia, Università Politecnica delle Marche, Italy	**373**
DXB142	**Perceived Banking Service Quality in Al-Buraimi Region; A Study of Customers.** Haidar Abbas, Al-Buraimi University College, Oman Abdullah Said Khamis Al-Badi, Al-Buraimi University College, Oman	**374**
DXB143	**Linkage between Technology and Human Capital Development Strategies: Exploratory Evidences from Four Leading Firms in India.** Sanjib Biswas, Calicut Business School, India Shekhar Chaudhuri, Calicut Business School, India	**375**
DXB144	**The duration of copyright, new revenue-generating models for the music industry, and access to digital content on the Internet.** Markus Rytinki, University of Oulu, Finland	**376**
DXB146	**Impact of Mobile Augmented Reality (MAR) on retailing in UAE. An exploratory study** Abdul Salam Mohammad, Skyline University College, UAE	**377**
DXB147	**Entreprenuership Ecosystem: Innovative Thinking in UAE** Kakul Agha, Skyline University College, UAE	**378**

PREFACE

The 7th International Research Symposium of the SGBED

Editors

Gouher Ahmed[1], Naseem Abidi[2], Yam B. Limbu[3], C. Jayachandran[4], Silvio Cardinali[5]

The SGBED (Society for Global Business & Economic Development) organized its 7th International Research Symposium, **"Managing Business in a Digital Age: Opportunities and Challenges"** in collaboration with Skyline University College, Sharjah, United Arab Emirates (UAE) during December 17-19, 2018, at Le Méridien Dubai Hotel & Conference Centre, Dubai. The SGBED established in 1995 continue to serve the academia with the following objectives:

- Promote research and publications in the area of business and development issues by organizing major international business conferences and research symposiums around the world;
- Facilitate networking opportunities for faculty and generate opportunities for collaborative research and publications; and
- Organize professional seminars and workshops in collaboration with partner institutions on business topics and issues pertaining to emerging markets and developing countries.

The SGBED had so far organized 7 international research symposiums and 15 major International Business conferences. The 16th International Business conference is scheduled to take place in Sao Paulo, Brazil in June 10-12, 2019.

The 7th symposium had an excellent response from 27 different countries with 120 papers on the following themes.

- Advances in Digital Technologies and Development: *Digital Technologies across Urban and Rural Communities; Agriculture, Manufacturing & Services; Health Care, Education; Tourism & Hospitality, Entertainment, etc.*
- Knowledge, Human Capital & Data Management in a Digital Age: *HR, Intellectual Capital, Technology Management, Technological Forecasting & Big Data;*
- Entrepreneurship, SMEs, Micro Enterprises in a Digital Age: *Mobile Technology, "Apps," Crowd Funding & Enterprise Development.*
- Marketing & Consumer Behavior in a Digital Age: *commerce; B to B; B to C; C to C Transactions*
- Sales Force Management & CRM in a Digital Age:
- Integrated Marketing Communications in a Digital Age: *Digital Advertising; Social Media & Social Networks*
- Supply Chain Management in a Digital Age:
- Digital Technology in Government and Delivery of Public Goods & Services: *Role of Bio-metric Identity Cards (eg, Aadhaar in India)*

- Banking, Finance, Accounting, Taxation & Payment Systems in a Digital Age
- Privacy, Cyber Threats & Security Issues

Based on authors' preferences, symposium proceedings include full papers and abstracts.

We sincerely appreciate the Symposium Organizing Committee and all the sponsors and voluteers to make it a memorable event.

Mr. Kamal Puri, Patron & President, Skyline University College, UAE
Mr. Nitin Anand, Patron & COEC, Skyline University College, UAE
Prof. C. Jayachandran, President, SGBED, Montclair State University, USA
Prof. Samir Chatterjee, Chair, SGBED Board, Curtin University, Australia
Prof. Mohammad Inairat, Dean & Co-Chair, Skyline University College, UAE
Prof. Gouher Ahmed, Co-Chair & Host Coordinator, Skyline University College, UAE
Dr. Yam B. Limbu, Co-Chair & VP, SGBED, Montclair State University, USA
Dr. Silvio Cardinali, Co-Chair & VP, SGBED, Polytechnic University of Marche, Italy
Prof. Mario Henrique Ogasavara, ESPM, Sao Paulo, Brazil
Prof. Raghunatha Reddy, S.V University, India
Dr. Issac Wanasika, Montfort College of Business, University of Northern Colorado, USA
Dr. Devon Johnson, School of Business, Montclair State University, USA
Dr. Ajith Kumar V.V., HOA, Business School, Skyline University College, UAE
Dr. Deepak Kalra, HOA, IT, Skyline University College, UAE
Prof. Sherriff T.K Luk, Nanjing University of Finance & Economics, China
Prof. Naseem Abidi, Professor & Chair OAPC, Skyline University College, UAE
Prof. Sakthivel A. M., Professor & Chair TEC, Skyline University College, UAE
Dr. Ramakrishna Yanamandra, Assistant Professor, Chair of Quality Assurance and Risk Management Implementation Committee, Skyline University College, UAE

****

1. Dr. Gouher Ahmed, Co-Chair and Host Coordinator of 7th SGBED International Research Symposium, SGBED Regional Coordinator-Middle East and Professor at Skyline University College, UAE.
2. Dr. Naseem Abidi, Professor and Chair-Outreach and Accreditation Committee at Skyline University College, UAE.
3. Dr. Yam B. Limbu, Co-Chair and Vice President SGBED, Associate Professor at Montclair State University, USA.
4. Dr. C. Jayachandran, President SGBED, Professor at Montclair State University, USA.
5. Dr. Silvio Cardinali, Co-Chair and Vice President SGBED, Associate Professor, Polytechnic University of Marche, Italy

AWARDS

The following research papers of the 7th SGBED International Research Symposium were judged and given best paper awards.

Organizing the Marketing Actions Around Premium Price in Technological Brands - The Case of Apple.
Simonetta Pattuglia, University of Rome "Tor Vergata", Italy
Sara Amoroso, University of Rome "Tor Vergata", Italy

Social Costs and Economic Benefits of Contract Employment: The Case of India
Sivakumar Venkataramany, Ashland University, USA

The 7th International Research Symposium of the SGBED was recognized by Government of Dubai

The Government of Dubai Award

The 7th SGBED International Research Symposium is recognized as the best organized event by the Government of Dubai and awarded the prestigious Al Safeer Congress Ambassador Award on 27th February, 2019. Prof. Gouher Ahmed, Co-Chair & Host Coordinator of Symposium, SGBED Regional Coordinator Middle East, and Professor at Skyline University College, received the award from His Excellency Helal Saeed Almarri, Director General of Dubai Tourism, Government of Dubai, UAE.

SUPPORTING JOURNALS

1. ***Journal of Knowledge Management***

   Emerald, ABDC A Category, SCOPUS Index (IF5y: 3.293).
   Manlio Del Giudice, Editor in Chief Journal of Knowledge Management, University of Rome, Link Campus Naples, Italy

2. ***International Journal of Business and Emerging Markets***

   Inderscience, SCOPUS indexed and ABDC listed journal.
   Guest Editors:
   Isaac Wanasika, University of Northern Colorado, USA.
   Yam B. Limbu, Montclair State University, USA.
   Ying Hua, University of International Business and Economics, China
   Na Wang, Huaqiao University, China

3. ***International Journal of Sustainable Society***

   Inderscience, SCOPUS indexed journal.
   Guest Editors:
   Gouher Ahmed, Skyline University College, UAE.
   C. Jayachandran, Montclair State University, USA.
   Yam B. Limbu, Montclair State University, USA.

4. ***International Journal of Business Analytics***

   IGI, SCOPUS Indexed journal.
   Guest Editors:
   Yam B. Limbu, Montclair State University, USA.
   Silvio Cardinali, Università Politecnica Delle Marche, USA.
   Gouher Ahmed, Skyline University College, USA.

Disclaimer

Research papers and abstract published in the proceedings are peer reviewed, and they have been formatted to ensure uniformity in style of representation to ensure conformity. Any ethical issue such as copyright violation, data privacy, funding etc. is the sole responsibility of authors of the research paper. SGBED will not be responsible for such violations.

Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limits of the U.S. copyright law for private use of patrons without fee. University faculties are permitted to photocopy isolated articles for non-commercial classroom use without any charge. For other copying, reprint or replication requirements, write to the Dr. Yam B. Limbu, Vice-President SGBED, Montclair State University, Montclair, NJ 07043, USA.

Referencing

Referencing of research papers published in the proceedings may be used as,

Signori Paola, Gozzo Irene, Bisutti Vittoria, Segato Severino (2019), Digital corporate identity congruence analyses: highlighting critical issues and untapped opportunities. A focus on Italian SMEs of the dairy industry, in Ahmed G., Abidi, N., Limbu, Y., Jayachandran, C., Cardinali, S., (Eds.), *Managing Business in a Digital Age: Opportunities and Challenges,* Proceedings of the 7th International Research Symposium of the SGBED, pp. 171-184. ISBN 13 978-0-9797659-4-0

Proceeding can be downloaded from the following websites

SBGED website www.sgbed.com or
http://www.sgbed.com/download/past-sgbed-symposium-proceedings/

Skyline University College, UAE website
www.skyline university.ac.ae

DXB034

E-LOGISTICS SERVICE QUALITY IN THE DIGITAL ERA: KEY DRIVERS FOR GAINING CUSTOMER SATISFACTION AND LOYALTY

Ivan Russo, ivan.russo@univr.it
Dipartimento di Economia Aziendale, University of Verona, Italy, Via Cantarane 24, 37128, Verona, Italy. Phone: +39458028161

Ilenia Confente, ilenia.confente@univr.it
Dipartimento di Economia Aziendale, University of Verona, Italy, Via Cantarane 24, 37128, Verona, Italy. Phone: +39458028174

Nicolò Masorgo, nicolo.masorgo@univr.it
Dipartimento di Economia Aziendale, University of Verona, Italy, Via Cantarane 24, 37128, Verona, Italy. Phone: +39458028161

ABSTRACT

In the digital era, where customers are shopping online, the internet has represented a new challenge and opportunities for retailers to reach customers. While the development of this channel has benefited consumers in terms of monetary and time savings, on the other hand the e-commerce retailing scenario has introduced new issues which are not related to merely the price and quality of the service but also relative to e-logistics service quality (e-LSQ). Thus, in order to analyse the significance of e-logistics service quality factors influencing the consumer's satisfaction in the shopping online, we propose a survey-based analysis concerning the impact of these elements, assuming that the consumer satisfaction leads to consumer loyalty and retention. The multiple regression analysis has confirmed the significance of the site ease-of-use and the Physical Distribution Service Quality (PDSQ) in predicting the customer satisfaction, whereas other antecedents, such as the Physical Distribution Service Price (PDSP) and the product returns management (PRM), has been disconfirmed. The study firstly contributes to extend previous models, by verifying the direct correlation among the ease of use and consumer satisfaction and loyalty. In addition, the results identify the existing trade-off among the price and quality in the e-logistics service quality. Finally, the non-significance of the hypothesis concerning the product returns management introduces the need for further studies.

Keywords: E-logistics service quality, customer satisfaction, customer loyalty, last mile.

Introduction

In the digital era, where customers are daily shopping online, the internet development has been seen as a fundamental tool that allows retailers to run their business in this new channel. The electronic home shopping in a B2C context brings some challenges for retailers, because it requires specific characteristics, which are identifiable in speed, connectivity, information sharing, goods exchange and service. Since consumers have been finding the online shopping as a source of benefits, such as monetary savings (Close & Kukar-Kinney, 2010; Pappas, Kourouthanassis, Giannakos, & Lekakos, 2017) and time savings (Miyatake, Nemoto, Nakaharai, & Hayashi, 2016), one of the e-retailers' aim is to identify the elements of the

purchasing experience on-line. Accordingly, a recent report (KPMG, 2017) found that among the main reasons why consumers purchase online, the majority is focused on the aforementioned benefits of money and time saving.

Furthermore, the consumers' familiarity with the e-commerce is growing as well as their propension to share online shopping experiences and feelings, giving feedbacks on what they have bought, for instance, through the Word of Mouth. Hence, the e-retailers are considering the consumer's satisfaction as an important element to be studied (Cristobal, Flavián, & Guinalíu, 2007), in order to firstly understand what the consumers expect, then to provide an appropriate customer's service and a pleasant online shopping experience. Indeed, the customer service has been proven to retain existing customers (Zeithaml, 2000): three out of five online customers would not purchase if the customer service is considered inadequate (Meola, 2016; Wertz, 2017).

While the e-commerce retailing scenario brought several benefits, it has also introduced new challenges for the practitioners: what has been emerging is the difference among the offline and online physical distribution. In the first, the consumers are asked to reach a brick-and-mortar store, whereas the second requires that the retailers manage the fulfilment process. In other words, what has raised complexities is the "last mile process", which is that portion of the supply chain delivering products directly to the consumer (Kull, Boyer, & Calantone, 2007) and it represents the only personal contact existing between the retailer and the customer. Thus, it has a repercussion on the consumer's satisfaction, the e-WOM and retention.

This study is based on the concept that the consumer's satisfaction in the online shopping leads to his loyalty and retention, therefore the existing relationship is deeply investigated. Thus, the research idea is to focus on the consumer's satisfaction, considering in particular the effects of high-levels e-Logistics Service Quality (e-LSQ) have on satisfaction. In particular, this study takes into account the impact of Physical Distribution Service Quality (PDSQ), of Physical Distribution Service Price (PDSP), the role of product returns management (PRM) on the overall customer satisfaction. In addition to these variables, a context specific variable is considered, regarding the ease of use of the e-tailer website. The paper is structured as follows: a literature review and hypotheses will be detailed; then the method and main results will be provided. Last, a discussion and conclusion section will be illustrated.

Literature Review

Customer satisfaction and loyalty in the online retailing have been widely analysed in the literature. Several aspects have been investigated, particularly among their antecedents, such as the influence of service quality, thus comprehending the impact of the order procurement and fulfilment process (Heim & Sinha, 2001), the effects of pre-purchase, transaction-relation and post-purchase on the customer's loyalty (Jiang & Rosenbloom, 2005; Otim & Grover, 2006) and the overall service quality for the site-to-store purchases (Swaid & Wigand, 2012).

Although the achievement of customer's satisfaction does not always equate customer's loyalty, a significant stream of research recognizes the first as a key predictor of the second (Cheng, 2012; Chiou & Droge, 2006; Davis-Sramek, Droge, Mentzer, & Myers, 2009). In addition, other studies investigated how the relationship between these two variables might be

different if offline-online comparison is considered (Cheng, 2012). Therefore, the literature has begun to examine the online retail supply chain under a customer's perspective.

Since each customer might differently perceive the quality of the service, the determinants that influence the consumers' purchase experience required to be identifies. Among such determinants, the easy-of-use of the website (Liu, Tucker, Koh, & Kappelman, 2003), and the relationship among the price paid and the quality of the distribution service (Brynjolfsson & Smith, 2000; Cao & Zhao, 2004), are all drivers of the customers' experience. In addition, the returns management process provided by the e-tailer can play a key role in determining customer satisfaction (Griffis, Rao, Goldsby, & Niranjan, 2012),

These determinants are defining the measures that ensure an accurate analysis of the retailers' performance, not only in terms of price, but also in terms of product fulfilment process and the consumers' expectation about the service.

One of the key determinant of the consumer satisfaction in the online shopping is the ease-to-use of the website.

The ease-of-use is defined as the ease with which a customer is able to use an e-commerce site, thus the customer's opinion that the online shopping requires less effort (Chiu, Chang, Cheng, & Fang, 2009; Collier & Bienstock, 2006; Lin & Sun, 2009). The relation among this independent variable and the customer satisfaction has been confirmed by considering the greater perceived website usability (Belanche, Casaló, & Guinalíu, 2012; Flavián, Guinalíu, & Gurrea, 2006). Thereafter, other studies occurred with the specific aim of analysing this causality: while Lin & Sun (2009) observed a positive impact of the website service quality, which is formed also by the ease-of-use, in the e-satisfaction Deng, Turner, Gehling, & Prince (2010) proved a more general concept based on the perceived utilitarian performance of an IT, which positively influences the IT satisfaction. Recently, Jain, Gajjar, Shah, & Sadh (2017) carried out a research comprehending the E-business quality, a variable similar to those already mentioned, which includes the ease-of-use of the website, with the aim to measure the service quality of e-tailers. Nonetheless, the relation among the ease-of-use and the customer satisfaction has not fully developed in the literature yet. Thus, being the first step for creating a nice and positive experience for the customer, the first hypothesis is the follow:

H_1: site ease positively affects customer's satisfaction

A considerable stream of research has established the importance of the LSQ to achieve customer satisfaction (Carol C. Bienstock, Royne, Sherrell, & Stafford, 2008; Davis-Sramek, Mentzer, & Stank, 2008; Mentzer, Flint, & Hult, 2001). Logistics Service Quality (LSQ) refers to the customer service activities related to the logistics, which enhance product value by identifying time, place and form utility (Carol C. Bienstock et al., 2008). Mentzer, Flint, & Kent (1999) conceptualized this concept by identifying a LSQ scale based on nine different dimensions: as final results, they stated that LSQ must be linked to specific measures, such as loyalty, WOM, price sensitivity and others related to the supplier point of view.A considerable stream of research has established the importance of the Logistics Service Quality (LSQ) to achieve customer satisfaction (C. C. Bienstock, Royne, Sherrell, & Stafford, 2008; Davis-Sramek et al., 2008; Mentzer et al., 2001). LSQ refers to the customer service activities related to the logistics, which enhance product value by considering time, place and form utility (C. C.

Bienstock et al., 2008). Mentzer, Flint, & Kent (1999) conceptualized this concept by defining a LSQ scale based on nine different dimensions: as results, they stated that LSQ must be linked to specific measures, such as loyalty, WOM, price sensitivity and others related to the supplier point of view.

However, few studies considered the online environment (Bouzaabia, Van Riel, & Semeijn, 2013; Griffis, Rao, Goldsby, & Niranjan, 2012). While the markets have evolved to better match the customer's requirements, the literature followed this trend by studying the consequences of the e-LSQ on the customer's satisfaction. Even though some studies have provided relevant theoretical and managerial contributions (Rao, Goldsby, Griffis, & Iyengar, 2011; Stank, Pellathy, In, Mollenkopf, & Bell, 2017), further investigations seems necessary.

The Physical Distribution Service Quality (PDSQ) can be defined as a framework to measure in which ways firms provide customer value through logistics, considering the dimensions of availability of products, timeliness in the duration of the order delivery cycle, condition of order and return (Mentzer, Gomes, & Krapfel, 1989). In other words, it is a technical component of LSQ that has the process of delivery as its function (Rafiq & Jaafar, 2007). More recently, the PDSQ literature has been expanded to the omni-channel strategy (Murfield, Boone, Rutner, & Thomas, 2017), where the evolution of the logistics service was considered, respectively from LSQ to e-LSQ (Rao et al., 2011) and from PDSQ to e-PDSQ (Xing, Grant, McKinnon, & Fernie, 2010). Indeed, when the e-commerce grew relevance, the traditional distribution has evolved from the brick-and-mortar to the online retailing, in which the supply chain partners play a fundamental role, because they are distributing directly to the end customer (Vinhas et al., 2010). In other words, the physical store position as unique channel for the distribution has been partly replaced and, at the same time, completed by the online channel. Therefore, the hypothesis is concerned with the online purchase satisfaction of the consumer and how the PDSQ influences it. The second hypothesis is:

H_2: PDSQ positively affects customer's purchase satisfaction.

The consumer needs to find a reasonable similarity among the price paid for the logistics service and the actual service. Initially, even though the price represents an important variable to determine the consumer satisfaction, the literature concerning the LSQ had not issued a proper study of this determinants: price was cited as less important than the level of PDSQ (Bienstock, Mentzer, & Bird, 1996). However, the service provided by the e-tailer is proportional to the economic feasibility of the quality standard, so that a high quality service is yielded if the sellers is able to do that at a competitive price that allows them to obtain a profit (Rabinovich & Bailey, 2004). Hence, online retailers should seek ways to improve PDSQ while simultaneously reducing associated costs. Rabinovich, Rungtusanatham, & Laseter (2008) investigated the drop-shipping, a practice aimed at reducing the costs of shipping products by centralizing warehousing and storage through outsourcing these activities. The concept of Physical Distribution Service Price (PDSP) determines a need for the online retailers to provide a service at a certain affordable cost, without reducing the quality standard that consumers are supposed to receive. Accordingly, the customer will not be satisfied if the service quality is not balanced to the perceived economic effort. Therefore, consumers' satisfaction and PDSP are connected, because the second is strictly connected to the first: the positive impact of the PDSP and consumers satisfaction was studied by Rao et al. (2011). Following studies (Rao, Rabinovich, & Raju, 2014)

linked the risk of returns with the PDS price by stating that the e-tailers service should be tailored to the type of consumer, favouring those that have a longer relationship.

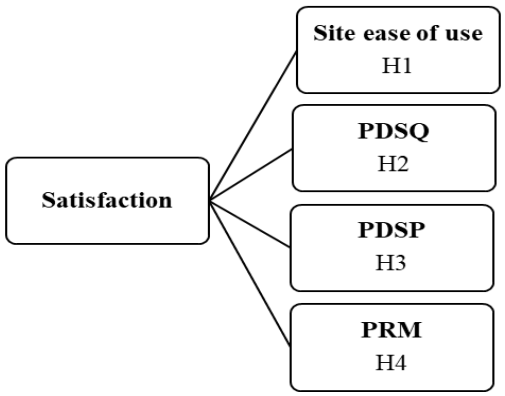
In conclusion, companies have to find the right trade-off between the price and the level of the service and consumers respond to the trade-off with satisfaction or dissatisfaction, and this leads to the third hypothesis:

H_3: PDSP positively affects customer's purchase satisfaction

In the online environment, the customer's dissatisfaction of the product leads to a product return, which follows a specific procedure identified in the website. The customer materializes the satisfaction in returning the product if he can actually do that, in other words if the instructions are enough easy for him. The product returns management (PRM) intervenes in the customer's satisfaction and loyalty when these variables are understood in their negative meaning, so that one of the reasons behind returns is the customer's dissatisfaction (Jaaron & Backhouse, 2016). Accordingly, the consumer receiving late, damaged or faulty products, will decide to return the items (Potdar & Rogers, 2012), thus confirming a poor logistics service quality provided by the retailer. On the other hand, customer service can benefit from the returns management (Chen, Anselmi, Falasca, & Tian, 2017; Rogers, Lambert, Douglas, Croxton, Garcia-Dastugue, , 2002; Stock & Mulki, 2009), because it alleviates the consumer's remorse feeling (Chen, Anselmi, Falasca, & Tian, 2017; Rogers, Lambert, Douglas, Croxton, Garcia-Dastugue, , 2002; Stock & Mulki, 2009), because it alleviates the consumer's remorse feeling (Walsh, Albrecht, Kunz, & Hofacker, 2016) or discrepancies with the expected features (Rao et al., 2014). Since e-retailers aim at satisfying the consumers, a lenient returns policy (Janakiraman, Syrdal, & Freling, 2016; Wood, 2001) and an efficient reverse logistics are drivers of consumer satisfaction. This introduce our last hypothesis:

H_4: Efficient product returns management (PRM) positively affects customer satisfaction towards the e-tailer

Figure 1. Research model



Method

We asked participants to complete an online survey based on their experience of being consumers of online retailers. The survey was sent to participants through the Survey Monkey platform, with the link posted on various social media pages.

Participants were asked to answer questions related to their satisfaction about several dimensions that constitute their overall satisfaction toward the online purchasing experience. They were asked to provide the name of the main retailer they purchase from. In particular, respondents were asked to evaluate the relevance of four main satisfaction antecedents that are site ease of use, PDSQ, PDSP and returns management. All the scale were taken from existing literature and each item was measured with a 7-point Likert scale (from 1 = highly dissatisfied to 7 = highly satisfied). They were asked to provide the name of the main retailer they purchase from. In particular, respondents were asked to evaluate the relevance of four main satisfaction antecedents that are site ease of use (Heim & Sinha, 2001), PDSQ (Rao et al., 2011, 2014), PDSP (adapted from Rao et al., 2011)(Rao et al., 2011, 2014), PDSP (adapted from Rao et al., 2011) and PRM (Mollenkopf, Rabinovich, Laseter, & Boyer, 2007). All the scale were taken from existing literature and each item was measured with a 7-point Likert scale (from 1 = highly dissatisfied to 7 = highly satisfied).

Two more constructs were inserted to capture the overall satisfaction (Mollenkopf et al., 2007) and loyalty (Rao et al., 2011) toward the e-tailers by respondents.(Rao et al., 2011) toward the e-tailers by respondents.

A further section of the survey related to exploring the demographic characteristics of the sample (gender, age, education and frequency of use of internet and online purchases).

A total of 195 participants filled in the survey. The ages of the participants ranged from 19 to 29 years old. 38% of respondents were males and 62% were females.

Table 1 presents the means and standard deviations of the selected variables. On average, PDSQ represents the dimension consumers are more satisfied with, although all the selected variable have received an average mean of more than 5 to 7 point scale. Regarding the dependent variables, the average mean was 6 for satisfaction and 6.20 for loyalty, although the latter one has a great standard deviation (st.dev=2) while the former has a standard deviation of 0.88, with more homogeneous results.

Table 1. Descriptive statistics.

Variables	Mean	St.Dev.
Site Ease of use	5,72	0,86
PDSQ	5,90	0,72
PDSP	5,30	0,98
Returns management	5,02	1,14
Customer satisfaction	6,00	0,88
Customer loyalty	6,20	2,04

Results

Data analysis was realized via a multiple regression analysis adopting SPSS software.

The regression analysis indicated that two of the four antecedents that were investigated as predictors of customer satisfaction were significant, that are Site Ease of Use (H1 supported) and PDSQ (H2 supported).

On the contrary, PDSP and Returns management were found to be not significant predictor for customer loyalty (H3 and H4 not supported). Table 2 summarizes the main results. Overall, the model had a good fit with a R^2 of .463.

Table 2. Results from the regression analysis.

Variables	Unstandardized coefficients		Standardised coefficients	t	Sig.
	Beta	St.Dev. error	Beta		
(Constant)	.630	.439		1.436	.153
Ease of use	.424	.064	.413	6.631	.000
PDSQ	.392	.073	.321	5.355	.000
PDSP	.065	.053	.072	1.224	.222
Returns management	.059	.048	.076	1.216	.225

In addition, as the present study focuses on the main antecedents that help e-tailers to gain high levels of customer satisfaction, the last step of analysis is to verify, whether the relationship between satisfaction and loyalty exists also in our research setting.

In doing so, we conducted a second regression analysis where satisfaction was the predictor of our outcome varible, customer loyalty. Results show a significant and positive impact of customer satisfaction on customer loyalty (β=.290, p-value<.001).

Implication, limitations and future research

Consumers buying online are increasing on a daily basis and data prove that they are more interested in purchasing online. Achieving consumer satisfaction and loyalty have become relevant and challenge goals for every companies. Since all retailers are facing the omni-channel/multichannel issue by putting interest on build a cost-optimized distribution across channels, this leads to the aim of increasing performance and preserve customer satisfaction.

This paper tries to provide a highlight on the role of logistics service in a B2C online context. The antecedent involved in the study are primarily the quality of the physical distribution service, the cost/quality of the distribution service, the product returns management and lastly the ease-of use of the websites. Thus, this study contributes to research and practice by identifying and testing factors that might affect consumer satisfaction and loyalty in the e-commerce retailing.

This study contributes to confirm the validity of previous models about the positive relationship between ease of use and consumer satisfaction and loyalty (Belanche et al., 2012). Then, this research highlights the need to invest more on the quality aspect of the distribution service because it has the strongest impact on the customer's satisfaction and loyalty instead to concentrate on physical distribution service price. Delivery is the service that has the major importance with the customer interaction and the rapidity is one of the best challenges. The complexity and the cost of delivery are higher in order to meet customer expectations for that retailers are also offering different delivery service options as a way to retain customers. This last aspect needs further research to understand better the right match between delivery speed (same day, next day, within two-day, etc.), the destination (customer's home or pick up from the store) and time scheduling (morning instead of evening) consistent with Ishfaq, Defee, Gibson, & Raja, (2016).

However, as a second implication our data showed product returns management is not significant for our sample. This probably happens for the millennials, who constitute our sample as they are digital native with higher expectations respect returns policy leniency that it is considered as a part of regular service. This controversial aspect needs further studies in the future particularly in the case of service failure.

Third, our findings indicate that the impact of PDSP on satisfaction and loyalty is not significant, thereby establishing the complexity of the necessary drivers on consumers. This is consistent with the shift of economy toward to a form of servitization. Under this perspective, one of the key element is a strong customer centricity (Confente, Buratti, & Russo, 2015). The main concept is that firms should be able to face price competition through the offering of an augmented product where the physical distribution service price is important but again it is part of the consumers' expectations. This is probably the Amazon effect with free express shipping for Amazon prime customer that tracked a specific threshold to expect from consumers side and it is also a big challenge for several e-retailer to face off (PWC, 2018).

PDSP and PDSQ highlight a typical trade-off between service and efficiency across the supply chain. Efficiency may require cost optimization and the most appropriate delivery choice while logistics service may require speed and reliability. Our findings show how PDSQ is perceived as more important respect PDSP, further research need to investigate how to calibrate better PDSP to have a main effect on customer satisfaction and loyalty. For example, recent survey by Pwc reveal consumers are willing to pay more for same-day or faster delivery. We encourage future research to further unpack the interactions between satisfaction, loyalty, and willing to pay more in order to provide a better understanding of the thresholds at which same day delivery become germane to loyalty.

References

Belanche, D., Casaló, L. V., & Guinalíu, M. (2012). Website usability, consumer satisfaction and the intention to use a website: The moderating effect of perceived risk. *Journal of Retailing and Consumer Services*, *19*(1), 124–132. https://doi.org/10.1016/j.jretconser.2011.11.001

Bienstock, C. C., Mentzer, J. T., & Bird, M. M. (1996). Measuring Physical Distribution Service Quality. *Journal of the Academy of Marketing Science*, *25*(1), 31–44. https://doi.org/10.1177/0092070397251004

Bienstock, C. C., Royne, M. B., Sherrell, D., & Stafford, T. F. (2008). An expanded model of logistics service quality: Incorporating logistics information technology. *International Journal of Production Economics*, *113*(1), 205–222. https://doi.org/10.1016/j.ijpe.2007.03.023

Bienstock, C. C., Royne, M. B., Sherrell, D., & Stafford, T. F. (2008). An expanded model of logistics service quality: Incorporating logistics information technology. *International Journal of Production Economics*, *113*(1), 205–222. https://doi.org/10.1016/j.ijpe.2007.03.023

Bouzaabia, O., Van Riel, A. C. r., & Semeijn, J. (2013). Managing in-store logistics: A fresh perspective on retail service. *Journal of Service Management*, *24*(2), 112–129. https://doi.org/10.1108/09564231311323926

Brynjolfsson, E., & Smith, M. D. (2000). Frictionless Commerce? A Comparison of Internet and Conventional Retailers. *Management Science*, *46*(4), 563–585. https://doi.org/10.1287/mnsc.46.4.563.12061

Cao, Y., & Zhao, H. (2004). Evaluations of E-tailers' Delivery Fulfillment Implications of Firm Characteristics and Buyer Heterogeneity. *Journal of Service Research*, *6*(4), 347–360. https://doi.org/10.1177/1094670503262948

Chen, H., Anselmi, K., Falasca, M., & Tian, Y. (2017). Measuring returns management orientation. *International Journal of Logistics Management*, *28*(2), 251–265. https://doi.org/10.1108/IJLM-06-2015-0095

Cheng, S.-C. (2012). The customer satisfaction-loyalty relation in an interactive e-service setting: The mediators. *Journal of Retailing and Consumer Services*, *19*(2), 202–210. https://doi.org/10.1016/j.jretconser.2012.01.001

Chiou, J. S., & Droge, C. (2006). Service quality, trust, specific asset investment, and expertise: Direct and indirect effects in a satisfaction-loyalty framework. *Journal of the Academy of Marketing Science*, *34*(4), 613–627.

https://doi.org/10.1177/0092070306286934
Chiu, C., Chang, C., Cheng, H., & Fang, Y. (2009). Determinants of customer repurchase intention in online shopping. *Online Information Review*, *33*(4), 761–784. https://doi.org/10.1108/14684520910985710
Close, A. G., & Kukar-Kinney, M. (2010). Beyond buying: Motivations behind consumers' online shopping cart use. *Journal of Business Research*, *63*(9–10), 986–992. https://doi.org/10.1016/j.jbusres.2009.01.022
Collier, J. E., & Bienstock, C. C. (2006). Measuring service quality in E-retailing. *Journal of Service Research*, *8*(3), 260–275. https://doi.org/10.1177/1094670505278867
Confente, I., Buratti, A., & Russo, I. (2015). The role of servitization for small firms: drivers versus barriers. *International Journal of Entrepreneurship and Small Business*, *26*(3), 312–331.
Cristobal, E., Flavián, C., & Guinalíu, M. (2007). Perceived e-service quality (PeSQ): Measurement validation and effects on consumer satisfaction and web site loyalty. *Managing Service Quality*, *17*(3), 317–340. https://doi.org/10.1108/09604520710744326
Davis-Sramek, B., Droge, C., Mentzer, J. T., & Myers, M. B. (2009). Creating commitment and loyalty behavior among retailers: what are the roles of service quality and satisfaction? *Journal of the Academy of Marketing Science*, *37*(4), 440–454. https://doi.org/10.1007/s11747-009-0148-y
Davis-Sramek, B., Mentzer, J. T., & Stank, T. P. (2008). Creating consumer durable retailer customer loyalty through order fulfillment service operations. *Journal of Operations Management*, *26*(6), 781–797.
Deng, L., Turner, D. E., Gehling, R., & Prince, B. (2010). User experience, satisfaction, and continual usage intention of IT. *European Journal of Information Systems*, *19*(1), 60–75. https://doi.org/10.1057/ejis.2009.50
Flavián, C., Guinalíu, M., & Gurrea, R. (2006). The role played by perceived usability, satisfaction and consumer trust on website loyalty. *Information and Management*, *43*(1), 1–14. https://doi.org/10.1016/j.im.2005.01.002
Griffis, S. E., Rao, S., Goldsby, T. J., & Niranjan, T. T. (2012). The customer consequences of returns in online retailing: An empirical analysis. *Journal of Operations Management*, *30*(4), 282–294.
Heim, G. R., & Sinha, K. K. (2001). Operational Drivers of Customer Loyalty in Electronic Retailing: An Empirical Analysis of Electronic Food Retailers. *Manufacturing & Service Operations Management*, *3*(3), 264–271. https://doi.org/10.1287/msom.3.3.264.9890
Ishfaq, R., Defee, C. C., Gibson, B. J., & Raja, U. (2016). Realignment of the physical distribution process in omni-channel fulfillment. *International Journal of Physical Distribution and Logistics Management*, *46*(6–7), 543–561. https://doi.org/10.1108/IJPDLM-02-2015-0032
Jaaron, A. A. M., & Backhouse, C. (2016). A systems approach for forward and reverse logistics design. *The International Journal of Logistics Management*, *27*(3), 947–971. https://doi.org/10.1108/IJLM-07-2015-0118
Jain, N. K., Gajjar, H., Shah, B. J., & Sadh, A. (2017). E-fulfillment dimensions and its influence on customers in e-tailing: a critical review. *Asia Pacific Journal of Marketing and Logistics*, *29*(2), 347–369. https://doi.org/10.1108/APJML-11-2015-0167
Janakiraman, N., Syrdal, H. A., & Freling, R. (2016). The Effect of Return Policy Leniency on Consumer Purchase and Return Decisions: A Meta-analytic Review. *Journal of Retailing*, *92*(2), 226–235. https://doi.org/10.1016/j.jretai.2015.11.002
Jiang, P., & Rosenbloom, B. (2005). Customer intention to return online: Price perception, attribute-level performance, and satisfaction unfolding over time. *European Journal of Marketing*, *39*(1–2), 150–174. https://doi.org/10.1108/03090560510572061
KPMG. (2017). *The truth about online consumers*. *KPMG International*. https://doi.org/10.1038/scientificamericanmind0509-54
Kull, T. J., Boyer, K., & Calantone, R. (2007). Last-mile supply chain efficiency: An analysis of learning curves in online ordering. *International Journal of Operations and Production Management*, *27*(4), 409–434. https://doi.org/10.1108/01443570710736985
Lin, G. T. R., & Sun, C. (2009). Factors influencing satisfaction and loyalty in online shopping: an integrated model. *Online Information Review*, *33*(3), 458–475. https://doi.org/10.1108/14684520910969907
Liu, S., Tucker, D., Koh, C. E., & Kappelman, L. (2003). Standard user interface in e-commerce sites. *Industrial Management & Data Systems*, *103*(8), 600–610. https://doi.org/10.1108/02635570310497648
Mentzer, J. T., Flint, D. J., & Hult, G. T. M. (2001). Logistics Service Quality as a Segment-Customized Process. *Journal of Marketing*, *65*(4), 82–104. https://doi.org/10.1509/jmkg.65.4.82.18390
Mentzer, J. T., Flint, D. J., & Kent, J. L. (1999a). Developing a logistics service quality scale: a fundamental marketing concept? *Journal of Business Logistics1*, *20*(1), 9–32.
Mentzer, J. T., Flint, D. J., & Kent, J. L. (1999b). Developing a logistics service quality scale: a fundamental marketing concept? *Journal of Business Logistics*, *20*(1), 9–32.
Mentzer, J. T., Gomes, R., & Krapfel, R. E. (1989). Physical distribution service: A fundamental marketing concept?

Journal of the Academy of Marketing Science, *17*(1), 53–62. https://doi.org/10.1007/BF02726354
Meola, A. (2016). E-Commerce Retailers Using Live Chat to Improve Sales - Business Insider.
Miyatake, K., Nemoto, T., Nakaharai, S., & Hayashi, K. (2016). Reduction in Consumers' Purchasing Cost by Online Shopping. *Transportation Research Procedia*, *12*(June 2015), 656–666. https://doi.org/10.1016/j.trpro.2016.02.019
Mollenkopf, D. A., Rabinovich, E., Laseter, T. M., & Boyer, K. K. (2007). Managing internet product returns: a focus on effective service operations. *Decision Sciences*, *38*(2), 215–250.
Murfield, M., Boone, C. A., Rutner, P., & Thomas, R. (2017). Investigating logistics service quality in omni-channel retailing. *International Journal of Physical Distribution & Logistics Management*, *47*(4), 263–296.
Otim, S., & Grover, V. (2006). An empirical study on Web-based services and customer loyalty. *European Journal of Information Systems*, *15*(6), 527–541. https://doi.org/10.1057/palgrave.ejis.3000652
Pappas, I. O., Kourouthanassis, P. E., Giannakos, M. N., & Lekakos, G. (2017). The interplay of online shopping motivations and experiential factors on personalized e-commerce: A complexity theory approach. *Telematics and Informatics*, *34*(5), 730–742. https://doi.org/10.1016/j.tele.2016.08.021
Potdar, A., & Rogers, J. (2012). Reason-code based model to forecast product returns. *Foresight*, *14*(2), 105–120. https://doi.org/10.1108/14636681211222393
PWC. (2018). *Global Consumers Insights Survey 2018*.
Rabinovich, E., & Bailey, J. P. (2004). Physical distribution service quality in Internet retailing: service pricing, transaction attributes, and firm attributes. *Journal of Operations Management*, *21*(6), 651–672. https://doi.org/10.1016/J.JOM.2003.11.004
Rabinovich, E., Rungtusanatham, M., & Laseter, T. M. (2008). Physical distribution service performance and Internet retailer margins: The drop-shipping context. *Journal of Operations Management*, *26*(6), 767–780. https://doi.org/10.1016/j.jom.2008.05.001
Rafiq, M., & Jaafar, H. S. (2007). Measuring Customers' Perceptions of Logistics Service Quality of 3Pl Service Providers. *Journal of Business Logistics*, *28*(2), 159–175. https://doi.org/10.1002/j.2158-1592.2007.tb00062.x
Rao, S., Goldsby, T. J., Griffis, S. E., & Iyengar, D. (2011). Electronic Logistics Service Quality (e-LSQ): Its Impact on the Customer ' s Purchase Satisfaction and Retention. *Journal of Business Logistics*, *32*(2), 167–179.
Rao, S., Rabinovich, E., & Raju, D. (2014). The role of physical distribution services as determinants of product returns in Internet retailing. *Journal of Operations Management*, *32*(6), 295–312. https://doi.org/10.1016/j.jom.2014.06.005
Rogers, D. S., Lambert, D. M., Croxton, K. L., & García-Dastugue, S. (2002). The Returns Management Process. *The International Journal of Logistics Management*, *13*(2), 1–18.
Stank, T. P., Pellathy, D. A., In, J., Mollenkopf, D. A., & Bell, J. E. (2017). New Frontiers in Logistics Research: Theorizing at the Middle Range. *Journal of Business Logistics*, *38*(1), 6–17.
Stock, J. R., & Mulki, J. P. (2009). Product returns processing: an examination of practices of manufacturers, wholesalers/distributors, and retailers. *Journal of Business Logistics*, *30*(1), 33–62.
Swaid, S. I., & Wigand, R. T. (2012). The effect of perceived site-to-store service quality on perceived value and loyalty intentions in multichannel retailing. *International Journal of Management*, *29*(3), 301.
Vinhas, A. S., Chatterjee, S., Dutta, S., Fein, A., Lajos, J., Neslin, S., … Wang, Q. (2010). Channel design, coordination, and performance: Future research directions. *Marketing Letters*, *21*(3), 223–237. https://doi.org/10.1007/s11002-010-9105-2
Walsh, G., Albrecht, A. K., Kunz, W., & Hofacker, C. F. (2016). Relationship between Online Retailers' Reputation and Product Returns. *British Journal of Management*, *27*(1), 3–20. https://doi.org/10.1111/1467-8551.12120
Wertz, J. (2017). Exceptional Customer Service Is Key To E-Commerce Growth.
Wood, S. L. (2001). Remote Purchase Environments: The Influence of Return Policy Leniency on Two-Stage Decision Processes. *Journal of Marketing Research*, *38*(2), 157–169. https://doi.org/10.1509/jmkr.38.2.157.18847
Xing, Y., Grant, D. B., McKinnon, A. C., & Fernie, J. (2010). Physical distribution service quality in online retailing. *International Journal of Physical Distribution & Logistics Management*, *40*(5), 415–432. https://doi.org/10.1108/09600031011052859
Zeithaml, V. A. (2000). Service Quality, Profitability, and the Economic Worth of Customers: What We Know and What We Need to Learn. *Journal of the Academy of Marketing Science*, *28*(1), 67–85. https://doi.org/10.1177/0092070300281007

DXB037

REVIEWS ANALYSIS OF ONLINE RETAIL STORES IN UAE: ANALYTICAL STUDY OF SENTIMENTS THROUGH SOCIAL MEDIA

Riktesh Srivastava, rsrivastava@skylineuniversity.ac.ae
Skyline University College, Sharjah

Mohd. Abu Faiz
City University College of Ajman

ABSTRACT

Text mining for social media has now become decisive tool for marketing, and many businesses understand the supremacy of embracing technology into their marketing campaigns. These texts are the "Consumer language", owing to its spread and reach. There is no reservation that use of user generated texts has stimulated the companies to identify them and use it for decision making, however, classifying sentiment analysis through these texts is still a fresh sensation. Online retail companies in UAE are an early adopter of social media, but how do they use text mining techniques is still a matter to wary upon. The study proposes a model to collect reviews from multiple sources and identify sentiments and topics simultaneously. The model is the tested on 3 online retail companies in UAE and the results depicts productive outcomes.

Keywords: Sentiment Analysis, Liu Hu algorithm, Plutchik modeling, Latent Semantic Indexing.

Introduction

Companies are eager to join the dialogue with consumers through social media (Marshall, 2016a), but are finding it difficult to increase the engagement. There is also a claim that social media acts as a tool for continuous interaction between consumers and companies (Mangold & Faulds, 2009), but actual interaction through social media is just 2% (Read, 2015). Many applications were then introduced to increase interactions:

- Twitter hashtags to get higher consumer engagement (Marshall, 2016b; Patel, 2014)
- Facebook Ratings and Reviews, to post recommendations directly onto business pages (Yuzdepski, 2018)
- Blogs for broader consumer feedbacks (Jansen, Zhang, Sobel, & Chowdury, 2009; Li, Lai, & Chen, 2009), and
- Review sites as an intermediary between consumers and companies, with 1/3 of consumers use these reviews before buying (Kolowich, 2018)

Consumers are using these applications for voicing their opinions, and thus analyses of these data has increased. The consumer can know the qualities of the product from the experiences shared by people on these applications, which can be useful for them before buying online. Online retail companies can improve their product or services on the basis of consumers reviews. The analysis of online contents to extract reviews requires deep understanding of natural text; abilities of most of the existing models are known to be inadequate.

The proposed model works in two fold, wherein, the model does both sentiment analysis and topic modeling of the extracted text. For sentiment analysis, the texts are first classified into

positive and negative sentiments via Liu Hu Algorithm (M. Hu & Liu, 2004; N. Hu, Bose, Koh, & Liu, 2012; X. Hu, Tang, Tang, & Liu, 2013) and then divided into 8 polarities – Anger, Disgust, Fear, Sadness, Joy, Surprise, Anticipation and Trust respectively using Plutchik modeling.

Secondly, the model also categorizes 5 topics for the texts using Latent Semantic Indexing (LSI) algorithm. LSI is Natural Language Processing (NLP) algorithm that consents set of observations to be defined by unobserved groups (Ding, Yu, Yu, Wei, & Wang, 2008; Ortega Bueno, Fonseca Bruzón, Muñiz Cuza, Gutiérrez, & Montoyo, 2014). LSI is considered to be the most appropriate algorithm for identifying the topic representation of each texts (Chiru, Rebedea, & Ciotec, 2014).

Consequently, the proposed model generates three outcomes,

- *Outcome 1: Sentiment Analysis (positive and negative sentiments)* [as mentioned in Part 2a section]
- *Outcome 2: Classification of Sentiments into Polarities* [as mentioned in Part 2b section]
- *Outcome 3: Identification of imperative topics* [as mentioned in Part 2c section]

The paper is divided as follows: Section 2 explains the proposed model, with step-wise justification of each steps. Section 3 tests the model on extracted texts for 3 online retail stores in UAE. Section 4 does the analysis of outcomes acquired and concludes the paper.

Proposed Model

Figure 1 elaborates the proposed model for text analysis of the extracted text. As specified sentiment analysis and topic selection for the consumer feedback are collected from various sources regarding the 3 online retailers in UAE.

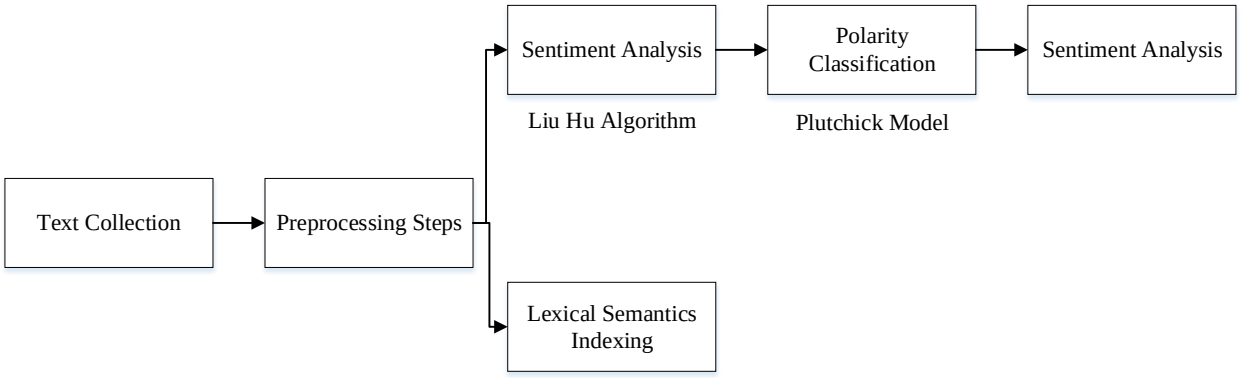


Figure 1: Proposed Text Analysis Framework

The collected texts are first preprocessed for analysis. The preprocessed texts serve as feeder to both sentiment analysis and topic modeling.

Part 1: Preprocessing steps

Preprocessing is a crucial step, since selecting the appropriate preprocessing methods, polarity can be clearly classified (Haddi, Liu, & Shi, 2013; Kenyon-Dean et al., 2018; Krouska, Troussas, & Virvou, 2016). Preprocessing is used to eliminate the texts, as some texts includes mishmash of English and other language words.

The task required us to classify a text into positive, negative and neutral polarity categories. This can essentially be treated as a 2-step process (Guha, Joshi, & Varma, 2015)

- Classify each text into subjective (positive/negative) and objective(neutral) classes.
- Classify subjective text into positive and negative ones

In order to follow the 2-steps, there will be 4 steps in preprocessing of texts(Srivastava, 2018), as the text may also include symbols, emoji, hyperlinks or other language texts, which needs to be removed and only intended text to be selected.

Step 1: Transformation

The text collected are in raw format (combination of short form of words, notations and other symbols). Transformation converts this raw format into more meaningful format. It includes conversion of texts in lowercase, remove accents, parse html and remove URLS.

Mathematically, transformation steps can be denoted by equation (1) as:

(1)

$$\sum_{i=1}^{n}\prod_{j=1}^{m} t_{ij} \;=\; \sum_{i=1}^{n}\left[\prod_{j=1}^{m}\begin{bmatrix}(t_{11})\\(t_{12})\\:\\:\\:\\(t_{nm})\end{bmatrix}\right] = \sum_{i=1}^{n}\left[\prod_{j=1}^{m}\begin{bmatrix}(W_{11}W_{12}\dots W_{1j})\\(W_{21}W_{22}\dots W_{2j})\\:\\:\\:\\(W_{n1}W_{n2}\dots W_{nm})\end{bmatrix}\right]$$

where, i is number of texts which contain j words. Notice from equation (1) that each words of texts are not disjointed and are embodied as sentences.

Step 2: Tokenization

Tokenization is a process of breaking texts into words (as stated in equation (1)), called tokens. Equation (1) can now be redefined as in equation (2) as:

(2)

$$= \sum_{i=1}^{n}\left[\prod_{j=1}^{m}\begin{bmatrix}(W_{11})(W_{12})\dots\dots(W_{1j})\\(W_{21})(W_{22})\dots\dots(W_{2j})\\:\\:\\:\\(W_{n1})(W_{n1})\dots\dots(W_{nm})\end{bmatrix}\right]$$

Step 3: Normalization

Step 3 receipts all words as cited in equation (2) as input and executes stemming and lemmatization. Stemming is heuristic progression of axing of derivational affixes. There are likelihoods that after stemming, some words may appear irrelevant, though relevant (Dickinson, Ganger, & Hu, 2015; M. Arif & Mustapha, 2017). Lemmatization is used for vocabulary and morphological analysis of words(Manning, Raghavan, & Schuetze, 2009) . Porter 2 Stemmer, also called Snowball stemmer, does both Stemming and Lemmatization with ease and is used for this step (Dempsey, 2016). The words are jumbled based on affixes and stemmed and lemmatized consequently. The process is explained in equation (3):

(3)

$$= \sum_{i=1}^{n} \left[\prod_{j=1}^{m} \begin{bmatrix} (W_{11})(W_{12}) \dots \dots (W_{1j}) \\ (W_{21})(W_{22}) \dots \dots (W_{2j}) \\ \vdots \\ \vdots \\ \vdots \\ (W_{n1})(W_{n1}) \dots \dots (W_{nm}) \end{bmatrix} \right] = \begin{bmatrix} (w_{11}, w_{12}, \dots \dots, w_{1m}) \leftarrow x_1 \\ (w_{21}, w_{22}, \dots \dots, w_{2m}) \leftarrow x_2 \\ \vdots \\ \vdots \\ (w_{n1}, w_{n2}, \dots \dots, w_{nm}) \leftarrow x_n \\ v_1, v_2, \dots \dots \dots v_m \end{bmatrix}$$

where, $w_{11}, w_{12}, \dots \dots, w_{1n}$ are words with similar affixes and mapped to x_1, $w_{21}, w_{22}, \dots \dots, w_{2n}$ are mapped to x_2 and words $v_1, v_2, \dots \dots \dots v_m$ does not have affirmative affixes and thus remain invariant.

Notice in equation (3) that amount of words are substantially concentrated from k to m, where $k \ll m$.

Step 4: ngram

Next step is termed as ngram, which is sequence of n words. The combination of words is principally a set of co-occurring word, and, while computing the ngram typically move one word forward. The generic representation of ngram is:

$ngram_t = k - (t - 1)$ (6)

where,

$k = numbers\ of\ words\ in\ a\ text\ t$, then

Unigram and Bigram are generally used in research as it includes features comprising of sets of two adjacent words. It was observed that unigram cannot capture phrases and multi-word expressions, effectively ignoring any word order dependence (Lin, Zhang, Wang, & Zhou, 2012). For example, words like 'not excited', 'not satisfied' clearly say that the sentiment is negative, but a unigram might fail to identify. The outcome of equation (4) considering all the words is shown in equation (5)

(5)

$$= \sum_{i=1}^{n} \left[\prod_{j=1}^{l} \begin{bmatrix} (WD_{11}, WD_{13}, \dots \dots, WD_{1l}) \\ (WD_{21}, WD_{23}, \dots \dots, WD_{2l}) \\ \vdots \\ \vdots \\ \vdots \\ (WD_{n1}, WD_{n3}, \dots \dots, WD_{nl}) \end{bmatrix} \right]$$

where, $l = \frac{k}{2}$ as two words in the corpus are now combined into one word.

$WD_1, WD_2, \dots \dots \dots WD_l$ in equation (5) is the vector representation of all the bigrams.

Part 2a: Sentiment Analysis 1-Implementation using Liu Hu Algorithm

Liu Hu Method (M. Hu & Liu, 2004; N. Hu et al., 2012; X. Hu et al., 2013) is used for text sentiment analysis based on polarity of text as given by equation (6).

(6)

$$polarity(t) = \begin{Bmatrix} positive\ \sum_{p \in P} weight_{pos}(p) > \sum_{n \in N} weight_{neg}(n) \\ negative\ \sum_{p \in P} weight_{pos}(p) < \sum_{n \in N} weight_{neg}(n) \\ neutral\ \sum_{p \in P} weight_{pos}(p) = \sum_{n \in N} weight_{neg}(n) \end{Bmatrix}$$

Note that in equation (6) P and N are the set of positive and negative texts, where there are 6,800 entries of positive and negative words. Also, *p* and *n* are the obtained words from the collected text. Note that from equation (6), neutral polarity is not collected and is rather shifted to either positive or negative, based on proximity to either of them. These two types of polarity form the foundation of study to identify the sentiments of consumers towards 3 online retails.

Part 2b: Sentiment Analysis 2-Polarity evaluation via Plutchik model

Polarities are analyzed further using plutchik emotional model(Plutchik, 1982, 1988), which divides the positive and negative polarities into 8 categories – Joy, Surprise, Trust, Anticipation, Anger, Disgust, Fear and Sadness, out of which first 4 are positive polarity and later 4 are negative polarities (Srivastava & Rathore, 2018).

$$\sum_{j=1}^{m} postive_j = \sum_{j=1}^{m}\left[\prod_{j=1}^{m} Joy_j + \prod_{j=1}^{m} Surprise_j + \prod_{j=1}^{m} Trust_j + \prod_{j=1}^{m} Anticipation_j\right] \quad (7)$$

$$\sum_{j=1}^{m} negative_j = \sum_{j=1}^{m}\left[\prod_{j=1}^{m} Anger_j + \prod_{j=1}^{m} Disgust_j + \prod_{j=1}^{m} Fear_j + \prod_{j=1}^{m} Sadness_j\right] \quad (8)$$

Part 2c: Topic Modeling 1-Latent Semantic Indexing (LSI) description

To identify K topics ($K = 5$), the algorithm reads each text, d, and goes through each word, w, for topic T, to compute

- $p\left(\frac{T}{d}\right)$: proportion of words in texts d that are assigned to topic t
- $p\left(\frac{w}{T}\right)$: proportion of assignment of words w, from texts d to topic t

The complete expression is estimated as:

$$p\left(\frac{T}{d}\right) * p\left(\frac{w}{T}\right) \quad (9)$$

Repeating equation (9) several times generates steady state of appropriate word assignment to topics.

$$p\left(\frac{T'}{d}\right) * p\left(\frac{w}{T'}\right) = p\left(\frac{T'}{w,d}\right)$$

$$= \frac{\#\ of\ words\ in\ topic\ T' + \beta_w}{total\ tokens\ in\ T' + \beta} + (\#words\ in\ d\ belogs\ to\ topic\ T' + \alpha) \quad (10)$$

Using equation (10), LSI correctly places the word w to the topics T' for which $p\left(\frac{T'}{w,d}\right)$ is maximum.

Analysis and conclusion

The analysis of proposed model is divided into three parts, which are sentiment analysis, sentiment classification and topic modeling.

Sentiment Analysis

In the proposed model, sentiments of extracted texts are observed in terms of its density. "Density" signifies the intensity of sentiments in scale of 0 to 100, with positive and negative scale between 0 to 1.

Souq.com – The negative intensity is higher in ComplaintBoard $[positive\ (0-0.2)\ and\ negative\ (0-0.3)]$ and

Sitejabber[$positive\ (0-0.2)\ and\ negative\ (0-0.4)$], whereas, positive intensity is slightly higher in Princena [$positive\ (0-0.6)\ and\ negative\ (0-0.4)$].

Crazydeals - The negative intensity is higher in ComplaintBoard [$positive\ (0-0.2)\ and\ negative\ (0-0.4)$] and Princena[$positive\ (0-0.2)\ and\ negative\ (0-0.4)$], whereas, almost equally distributed for Sitejabber with [$positive\ (0-0.12)\ and\ negative\ (0-0.12)$].

Namshi – The negative intensity is higher in ComplaintBoard [$positive\ (0-0.08)\ and\ negative\ (0-0.12)$]. For Princena and Sitejabber, the positive and negative intensity will be considered as equally distributed for analysis.

Polarity Analysis

Overall, the total extracted text used for the study was 1420 from three sources. Out of these texts, 285 texts were negative and 1135 were positive sentiments. The polarity of negative and positive sentiments is (as mentioned in equation 7 and 8):

$positive = \{Joy, Surprise, Trust, Anticipation\} \equiv \{663,129,332,11\}$

$negative = \{Anger, Disgust, Fear, Sadness\} \equiv \{11,10,33,231\}$

Topic Modeling

The model identifies 5 most used positive and negative words used by consumers in each of the media are extracted. It was observed that consumers are using harsh words while mentioning their negative feedback, and normal terminologies were used while providing positive comment. It was also observed that none of the feedback (either positive and negative) were answered by companies.

Conclusion

Sentiment analysis is a field of study that examines people's sentiments or emotions towards certain entities. This paper proposes a model to tackle a fundamental problems of sentiment analysis, sentiment polarity categorization and topic modeling. The site reviews from three websites (ComplaintBoard, Princena and Sitejabber) are selected as data source, wherein the model does web extracting and after initial preprocessing does sentiment analysis. A sentiment polarity categorization process has been proposed along with detailed descriptions of each step. Topic Modeling is conducted using Latent Semantic Indexing to identify the relevant topics of discussion in the study.

References

Chiru, C., Rebedea, T., & Ciotec, S. (2014). Comparison between LSA-LDA-Lexical Chains. In *WEBIST-2014* (p. 8).

Dempsey, E. (2016). *Porter2 Stemmer Documentation*.

Dickinson, B., Ganger, M., & Hu, W. (2015). Dimensionality Reduction of Distributed Vector Word Representations and Emoticon Stemming for Sentiment Analysis. *Journal of Data Analysis and Information Processing*, *03*, 153. https://doi.org/10.4236/jdaip.2015.34015

Ding, W., Yu, S., Yu, S., Wei, W., & Wang, Q. (2008). LRLW-LSI: An Improved Latent Semantic Indexing (LSI) Text Classifier. In G. Wang, T. Li, J. W. Grzymala-Busse, D. Miao, A. Skowron, & Y. Yao (Eds.), *Rough Sets and Knowledge Technology* (pp. 483–490). Springer Berlin Heidelberg.

Guha, S., Joshi, A., & Varma, V. (2015). Sentibase: Sentiment Analysis in Twitter on a Budget. In *Proceedings of the 9th International Workshop on Semantic Evaluation (SemEval 2015)* (pp. 590–594). Denver, Colorado: Association for Computational Linguistics. Retrieved from http://www.aclweb.org/anthology/S15-2098

Haddi, E., Liu, X., & Shi, Y. (2013). The Role of Text Pre-processing in Sentiment Analysis. *Procedia Computer Science*, *17*, 26–32. https://doi.org/10.1016/j.procs.2013.05.005

Hu, M., & Liu, B. (2004). Mining and Summarizing Customer Reviews. In *Proceedings of the Tenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining* (pp. 168–177). New York, NY, USA: ACM. https://doi.org/10.1145/1014052.1014073

Hu, N., Bose, I., Koh, N. S., & Liu, L. (2012). Manipulation of online reviews: An analysis of ratings, readability, and sentiments. *Decision Support Systems*, *52*(3), 674–684. https://doi.org/10.1016/j.dss.2011.11.002

Hu, X., Tang, L., Tang, J., & Liu, H. (2013). Exploiting Social Relations for Sentiment Analysis in Microblogging. In *Proceedings of the Sixth ACM International Conference on Web Search and Data Mining* (pp. 537–546). New York, NY, USA: ACM. https://doi.org/10.1145/2433396.2433465

Jansen, B. J., Zhang, M., Sobel, K., & Chowdury, A. (2009). Micro-blogging as online word of mouth branding. In *Proceedings of the 27th international conference extended abstracts on Human factors in computing systems - CHI EA '09* (p. 3859). Boston, MA, USA: ACM Press. https://doi.org/10.1145/1520340.1520584

Kenyon-Dean, K., Ahmed, E., Fujimoto, S., Georges-Filteau, J., Glasz, C., Kaur, B., … Ruths, D. (2018). Sentiment Analysis: It's Complicated! In *Proceedings of the 2018 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, Volume 1 (Long Papers)* (pp. 1886–1895). New Orleans, Louisiana: Association for Computational Linguistics. Retrieved from http://www.aclweb.org/anthology/N18-1171

Kolowich, L. (2018). 22 Customer Review Sites for Collecting Business & Product Reviews. Retrieved November 10, 2018, from https://blog.hubspot.com/service/customer-review-sites

Krouska, A., Troussas, C., & Virvou, M. (2016). The effect of preprocessing techniques on Twitter sentiment analysis. In *2016 7th International Conference on Information, Intelligence, Systems Applications (IISA)* (pp. 1–5). https://doi.org/10.1109/IISA.2016.7785373

Li, Y.-M., Lai, C.-Y., & Chen, C.-W. (2009). Identifying Bloggers with Marketing Influence in the Blogosphere. In *Proceedings of the 11th International Conference on Electronic Commerce* (pp. 335–340). New York, NY, USA: ACM. https://doi.org/10.1145/1593254.1593307

Lin, Y., Zhang, J., Wang, X., & Zhou, A. (2012). An Information Theoretic Approach to Sentiment Polarity Classification. In *Proceedings of the 2Nd Joint WICOW/AIRWeb Workshop on Web Quality* (pp. 35–40). New York, NY, USA: ACM. https://doi.org/10.1145/2184305.2184313

M. Arif, S., & Mustapha, M. (2017). The Effect of Noise Elimination and Stemming in Sentiment Analysis for Malay Documents. In A.-R. Ahmad, L. K. Kor, I. Ahmad, & Z. Idrus (Eds.), *Proceedings of the International Conference on Computing, Mathematics and Statistics (iCMS 2015)* (pp. 93–102). Springer Singapore.

Mangold, W. G., & Faulds, D. J. (2009). Social media: The new hybrid element of the promotion mix. *Business Horizons*, *52*(4), 357–365. https://doi.org/10.1016/j.bushor.2009.03.002

Manning, C., Raghavan, P., & Schuetze, H. (2009). *Introduction to Information Retrieval* (1st ed.). England: Cambridge University Press.

Marshall, J. (2016a, March 30). Companies Increasingly Trademark Hashtags. *Wall Street Journal*. Retrieved from https://www.wsj.com/articles/companies-increasingly-trademark-hashtags-1459333936

Marshall, J. (2016b, March 30). Companies Increasingly Trademark Hashtags. *Wall Street Journal*. Retrieved from https://www.wsj.com/articles/companies-increasingly-trademark-hashtags-1459333936

Ortega Bueno, R., Fonseca Bruzón, A., Muñiz Cuza, C., Gutiérrez, Y., & Montoyo, A. (2014). UO_UA: Using Latent Semantic Analysis to Build a Domain-Dependent Sentiment Resource. In *Proceedings of the 8th International Workshop on Semantic Evaluation (SemEval 2014)* (pp. 773–778). Dublin, Ireland: Association for Computational Linguistics and Dublin City University. Retrieved from http://www.aclweb.org/anthology/S14-2137

Patel, N. (2014). How to Use Hashtags to Increase Your Online Presence. Retrieved November 10, 2018, from https://www.quicksprout.com/2014/04/04/how-to-use-hashtags-to-increase-your-online-presence/

Plutchik, R. (1982). A psychoevolutionary theory of emotions. *Social Science Information*, *21*(4–5), 529–553. https://doi.org/10.1177/053901882021004003

Plutchik, R. (1988). The Nature of Emotions: Clinical Implications. In *Emotions and Psychopathology* (pp. 1–20). Springer, Boston, MA. https://doi.org/10.1007/978-1-4757-1987-1_1

Read, A. (2015). How to Increase Your Reach on Any Social Network. Retrieved November 10, 2018, from https://blog.bufferapp.com/increase-reach

Srivastava, Rajita, & Rathore, J. S. (2018). Content Analysis Concerning Online Shopping in UAE: Evaluation of Impact Score from News | International Journal of Business Analytics and Intelligence-Volume 6 Issue 1. *International Journal of Business Analytics and Intelligence*, *6*(1), 9–13. Retrieved from http://publishingindia.com/ijbai/54/content-analysis-concerning-online-shopping-in-uae-evaluation-of-impact-score-from-news/708/4933/

Srivastava, Riktesh. (2018). 3 years - 3 moves Government verdicts to renovate Customary Bharat to Contemporary India: Evaluation of opinions from citizens. *International Journal of Business and Data Analytics*, *1*(1). da

Yuzdepski, Z. (2018). Goodbye Stars, Hello Facebook Business Recommendations. Retrieved November 10, 2018, from https://www.vendasta.com/blog/facebook-business-recommendations

DXB060

ORGANIZING THE MARKETING ACTIONS AROUND PREMIUM PRICE IN TECHNOLOGICAL BRANDS. THE CASE OF APPLE.

Simonetta Pattuglia, pattuglia@economia.uniroma2.it
Sara Amoroso, amoroso@economia.uniroma2.it
University of Rome "Tor Vergata", ITALY

ABSTRACT

The purpose of this study is to find out the behavioural differences of each generational cohort and to understand the effect on consumers' willingness to pay a premium price and on brand loyalty in the case of technological brands. The research also aims to explore the impact on companies' strategy and marketing processes. The study follows a quantitative research design and uses a survey as a tool to collect data. The present work may enable firms to be more targeted in their approach to create competitive advantage and strong relationships with their audiences. Marketers and practitioners must recognize and take into consideration the differences across generational cohorts when developing their marketing strategy.

Keywords: Brand, Generation, Authenticity, Premium Price, Technological brand.

Introduction

The second half of the Twentieth century witnessed the beginning of major transformations regarding technology, globalization, political economy and consequently cultural, social, demographic aspects. A deep change that continues to play itself out impacting on new lifestyle and consumption behaviour, on the one hand, and on managing firms processes, on the other hand. In particular, the past two decades have been marked by incredible technological advancement and innovation. Just think that in 1998, cell phones were still a rarity, and internet was only just catching on.

In this ever-changing scenario of uncertainty and high competition we witness an amplified importance of the intangible assets of brands. Thus, marketing is facing new challenges and opportunities.

Yet the marketing literature posits that the effective implementation of planned marketing strategy is key to linking marketing efforts with firm performance (Olson et al., 2005; White et al., 2004). Further, in practice, implementing planned marketing strategy is widely seen as a problematic managerial task that consumes substantial time and effort resources but often ends in failure (Sashittal and Jassawalla, 2001; Thorpe and Morgan, 2007). These problems may be even greater for managers dealing with different typologies of consumers that don't share the same behaviour, perception and preferences. In a virtual world, not paradoxically, the "quest for authenticity" from consumers is becoming more emphasized and today it is defined as a socially constructed phenomenon (Beverland and Farrelly, 2010; Napoli et al., 2014; Pattuglia and Mingione, 2016). In line with these, in acknowledging the interpretative nature of brand authenticity, it is evident that consumers may differ in their evaluation, perceiving the same brand as authentic or inauthentic (Rose and Wood, 2005; Beverland and Farrelly, 2010). Moreover, in these times of increasing uncertainty, authenticity seems to be a crucial human aspiration, making it a key issue in contemporary marketing and a major factor for brand success. For all of these reasons the marketing strategy literature suggests that the effective implementation of planned marketing strategy is a key driver of firm performance (Olson et al., 2005; White et al., 2004).

© SGBED 2019

Consequentially, one of the main trend of these last years, after the seminal work about generational themes in economics and society by Mannheim (Mannheim, 1928, 1952), is again the importance of targeting through generational cohorts (Ryder 1965; Howe and Strauss, 2000).

As the years passed the concept of authenticity – in a world of digital and virtual communicative platforms – has become more and more a social constructed phenomenon, and a number of scholars have claimed that brand authenticity has the capability to legitimize a brand within its context and its consumers (Grayson and Martinec, 2004; Kates, 2004; Rose and Wood, 2005; Beverland, 2005, 2006; Thompson et al., 2006; Beverland et al., 2010).

Finally, despite authenticity has been studied and analyzed in many sectors, such as luxury wine, beer, sport, green products, music (Beverland, 2005; Rose and Wood, 2005; Kolar and Zabkar, 2010; Ewing et al., 2012; Spiggle et al., 2012), the hi-tech companies haven't been analyzed yet.

Moreover, how customers perceive brands as authentic and what motivates them to pay price premium is an important theme in research as well as among practitioners (Anselmsson et al., 2007). The purpose of this research is to establish which attributes make a technological brand authentic for each generational cohort and to understand the effect on loyalty and on the the willingness to pay a premium price. The research also aims to explore the impact on marketing processes and the companies'strategic marketing answers. These are important issues for marketers who aim to develop specific strategies, in order to obtain a premium price for the different cohorts. This paper aims to answer the following three research questions:

RQ1: What are the attributes that make a technological brand authentic and allow for a loyalty and a premium price?

RQ2: Is the belonging to a generational cohort a moderator between brand authenticity and its outcomes?

RQ3: What are the impacts on marketing processes?

Literature Review and hypothesis development

Brand Authenticity: definition, dimensions and outcomes

In an objective sense the "authentic" is often considered as the "original" and is contrasted with the copy, so it is strongly linked to an object and its characteristics (Bendix, 1997; Peterson, 2005). Recent researches consider brand authenticity to be shaped by multiple stakeholders' perceptions (Beverland and Farrelly, 2010; Napoli et al., 2014; Pattuglia and Mingione, 2016). So, the distinction between the authentic and inauthentic tends to be subjective and socially or personally constructed (Grayson and Martinec, 2004; Leigh et al., 2006). It is a behavior experienced by a person that is and self-determined (Deci and Ryan, 1991).

In this new perspective, consumers may differ in their evaluation, perceiving the same brand as authentic or inauthentic (Rose and Wood, 2005; Beverland and Farrelly, 2010).
Currently, brand authenticity is shaped by sincerity, quality, heritage, originality and reliability (Grayson and Martinec, 2004; Wiedmann et al., 2011; Bruhn et al., 2012; Napoli et al., 2014)

In general, academics from this stream of literature have tried to answer the question: "How do consumers attribute authenticity onto an object/service brand?". Scholars and practitioners have investigated consumers' ability to determine the difference between what can be conceived as real or fake (Brown et al., 2003; Grayson and Martinec, 2004; Rose and Wood, 2005; Beverland and Farrelly, 2010; Corciolani, 2014). Empirical findings have revealed that consumers struggle to discriminate the real from the fake (Rose and Wood, 2005; Corciolani, 2014).

Accordingly, Napoli et al. (2014) call for studies that investigate the effect that individual and personal differences across consumers have on brand authenticity perceptions. To the authors' knowledge, there is only one study that has investigated age-related consumers' perceptual differences on brand authenticity (Moulard et al., 2015).

Being a socially constructed phenomenon, several scholars have claimed that brand authenticity has the power to legitimize a brand within its environment (Grayson and Martinec, 2004; Rose and Wood, 2005; Beverland, 2006; Thompson et al., 2006; Beverland et al., 2008, 2010).

Holt (2002) suggests that brands might help consumers in producing the self and cultivating their identities. Thus, a brand is authentic only if it is "a genuine expression of an inner personal truth (Postrel, 2003, Beverland, 2005).

Building on an in-depth literature review of brand authenticity this research developed the following hypothesis:

H1: Sincerity, quality, heritage, originality, reliability and image are dimensions of brand authenticity.

H2: The six dimensions of brand authenticity are positively related to consumers' willingness to pay a premium price.

H3: The six dimensions of brand authenticity are positively related to the brand loyalty.

H4: Trust moderates the relationship between brand authenticity and the consumers' willingness to pay a premium price.

H5: Trust moderates the relationship between brand authenticity and the brand loyalty.

Building on this, we initially tested our model on brand authenticity, price premium and loyalty (see Fig. 1).

Moreover, we can also postulate different perceptions on brand authenticity within each generational cohort, and different perceptions between the various cohorts.

So, after an investigation through the literature about generational cohorts, it is important to underline that generational cohorts can affect the relationship between brands and consumers' loyalty and willingness to pay a price premium.

Generational Cohorts: definition and features

From a social point of you, a generation can be defined as a group of individuals born within the same historical and socio-cultural context, who experience the same formative experiences and develop unifying commonalities as a result (Mannheim, 1952; Pilcher, 1994).

Each generation's history limits its members to a specific range of opportunities and experiences, provides them with "collective memories" (Schuman and Scott, 1989) that serve as a basis for future attitudes and behaviours, predisposes them to a certain way of thought and action, and restricts their range of self-expression to certain predefined possibilities throughout their lives (Eyerman and Turner, 1998; Gilleard, 2004; Mannheim, 1952; Ryder, 1965). Although every generation is subject to the developmental processes of the human life course, each experiences a unique historical context that shapes the unfolding of that life course.

The present four dominant generational cohorts (Inglehart, 1977) are considered in this research: Baby Boomers, Generation X, Millennials (or Generation Y) and Generation Z.
In particular, Baby Boomer Generation (1946-1964) is the largest generation (Reisenwitz and Iyer, 2009; Moore, 2012; Loroz and Helgeson 2013). This cohort is characterized by a high spending power, and despite different lifestyles and spending habits from following generations, they are also an important consumer group for technology firms. This generation passed through economic and social changes, so they managed dealing with technology, without mastering it (Jackson et al., 2011; Burnsed and Bickle, 2015). Baby Boomers are more open to new media and technologies than previous generations (Kumar and Lim, 2008).

Xers are people (1965-1980) refer as 'baby busters', due to the drop-off or 'bust' in births following the Baby Boomer generation after World War II (Yu and Miller, 2005; Moore, 2012). The Gen X cohort is well educated, and media and technologically "immigrant" (Eastman and Liu, 2012;). Millennials (1982-1995) are the new "Great Generation", broadly defined as the Generation Y (Howe and Strauss, 2000; Wilson and Gerber, 2008; Meister and Willyerd, 2010). They are often early adopters of new technologies and are extensive users of the internet. They represent the first technological generation and prefer original brands, products or services (Norum, 2003; Moore, 2012),

Finally, Generation Z (1995-2000s) is the newest generation (also known as Post-Millennials, the iGeneration, or the Homeland Generation). In terms of characteristics, lifestyles, and attitudes, Generation Z individuals are the "new conservatives" embracing traditional beliefs, valuing the family unit, self-controlled, and more responsible. They are accustomed to high-tech and multiple information sources, with messages bombarding them from all sides. They have never lived without the Internet (Langford, 2008; Benjamin 2008).

To sum up, strong differences exist between these four generational cohorts.
Other hypotheses are posited based on the literature around generational cohorts:

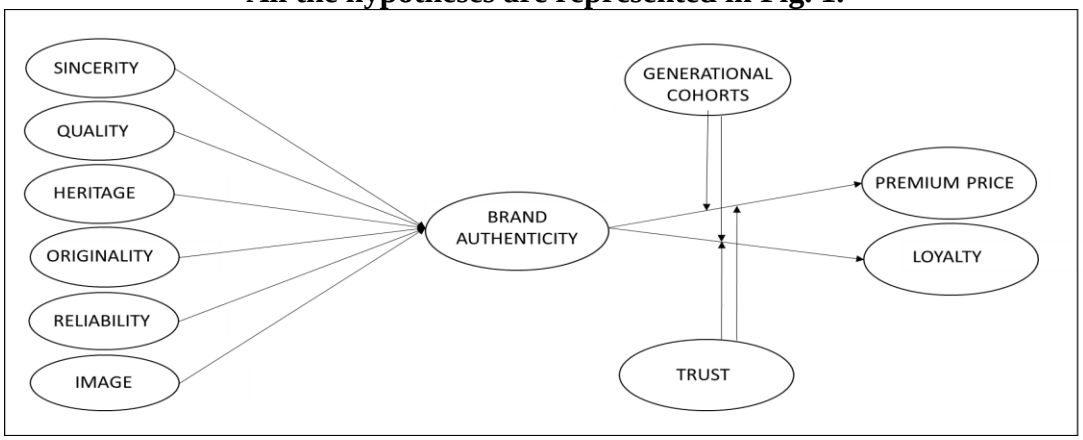
H6: Generational cohort moderates the relationship between brand authenticity and premium price.

H7: Generational cohort moderates the relationship between brand authenticity and brand loyalty.

H8: The driving forces of the willingness to pay a premium price are different for each generational cohort.

H9: The driving forces of the brand loyalty are different for each generational cohort.

All the hypotheses are represented in Fig. 1.



Source: our elaboration on the basis of the extant literature

FIG.1: BRAND AUTHENTICITY AND GENERATIONS CONCEPTUAL MODEL RELATED TO PREMIUM PRICE AND LOYALTY

Methodology

We selected the brand Apple as case study for four main reasons: first of all because the technology usage represents one of the main characteristics differentiating the behaviour in consuming, consuming media and technological products, such as smartphones, pads, pc etc., of generational cohorts. Second because the brand has high brand awareness (Forbes, 2018; Brandirectory, 2018; Interbrand, 2018; Reputation Institute, 2018) allowing both customers and non-customers to be included in the sample. Third because Apple is a technological brand and there is no research on the authenticity related to brand loyalty and price premium of technological brands. Finally, because Apple can be considered outstanding thanks to its (relatively) long history and, most importantly, its iconicity. It has an innovative design (visual) and stores (Apple stores) allow consumers to use experientially the products on display (touch).

Data were gathered throughout a continuous internet survey that was carried out in Italy (EU) in the period 2015-2016 (Baby Boomers, Generation X and Millennials) and in June 2018 (Baby Boomers, Generation X, Millennials and Generation Z) . The constructs of brand heritage, quality and sincerity were adapted from the scale by Napoli et al. (2014); originality and reliability were based on the scale by Bruhn et al. (2012); image, trust, loyalty and price premium were based on the scale by Wiedmann et al. (2011). A seven-point Likert scale was used in all cases.

A correlation analysis was firstly run to test the relationship between the constructs and then Generalized Linear Model (GLM) on SPSS was performed to test the proposed model (Fig. 1).

Findings

The survey resulted in a total of 807 usable responses. The sample comprised 175 Boomers (22%), 168 GenXers (21%), 350 Millennials (43%) and 114 GenZed (14%).

Cronbach alphas were estimated to examine the internal consistency and the reliability of each construct. Studies recommend that the generally acceptable threshold level for these tests is 0.7 (Fornell and Larcker, 1981). All Cronbach alpha values were found to be above 0.7 in our study, which confirms the reliability of the constructs.
From a correlation point of view we found that all the six dimensions describing the authenticity are strongly correlated to the willingness to pay a premium price and to the propensity of a consumer loyalty toward the brand (all the Pearson coefficients above the threshold of 0.5).

TABLE 1: STRENGTH OF RELATIONSHIPS BETWEEN DIMENSIONS

Dependent Variables	**Generational Cohort**	**Heritage Index**	**Quality Index**	**Sincerity Index**	**Originality Index**	**Reliability Index**	**Brand Image Index**	**TRUST Index**
PRICE PREMIUM 1*	0,002		0,033				0,000	
PRICE PREMIUM 2**	0,002		0,014				0,013	
LOYALTY 1***			0,000				0,000	0,000
LOTALTY 2****		0,000	0,015		0,042		0,005	0,000
LOYALTY 3*****	0,039	0,001						

** I am willing to pay a higher price to buy brand Apple*
*** The products of brand Apple are worth a higher price than other products*
**** I recommend brand Apple to my friends*
***** I am loyal to brand Apple*
****** I do not intend to buy another brand than brand Apple*

p-value= 0,000	Very high significance level
0,001<p-value<0,009	High significance level
0,01<p-value<0,05	Medium significance level
0,06<p-value<0,09	Low significance level
p-value>0,10	Not significant

On the basis of the generalized linear model we observed that the willingness to pay a premium price in regard of the brand Apple and the propensity to the brand loyalty are intensely linked to the sense of brand image and to the perceived quality. Moreover, the belonging to different generational cohorts strongly influences the relationship between the brand authenticity and the other constructs. In particular, the willingness to pay a premium price and the brand loyalty grow from the Baby Boomers to the Gen Z. Whereas the heritage of the brand seems to be a better predictor of the consumer loyalty affecting previous generations more than Millennials and Generation Z. To conclude, results show that all the 9 hypothesis are verified.

Theoretical implications

Our study gives a number of contributions to the existing literature on brand authenticity, generational cohorts, the (different) willingness to pay a premium price and the inclination to the brand loyalty.

First, the construct of brand authenticity is multidimensional and its perception is shaped from various dimensions (Bruhn et al., 2011; Napoli et al., 2014, Morhart et al., 2015) that can vary in strength and in length from consumer to consumer. This is especially true for what concern the belonging to different generational cohorts. This evidence is maybe due to the fact that the consumption of technology represents one of the main characteristics differentiating the behaviour of generations.

Our model describes technological brands necessitating most of all high brand image and perceived quality to allow superior sense of brand authenticity and allow for price premium and brand loyalty. We endorse previous research by underlining a positive mediator effect between brand trust and consumers' willingness to pay a price premium and between brand trust and brand loyalty (Choi et al., 2013; Napoli et al., 2014; Choi et al., 2015).

This research also adds some implication to the knowledge on generational cohorts. Noteworthy dissimilarities between generational cohorts were found, especially between the two older generations –Baby Boomers and Gen X- and the younger generations –Millennials and Gen Z-. Our findings suggest that brand image, over than other constructs, positively affects Millennials and Gen Z more than Baby Boomers and Gen X. This result endorses previous researches which explain that as consumers, young generations, especially Millennials, are more affected by the image and by brand *allure* than previous cohorts (Norum, 2003; Moore, 2012; Loroz and Helgeson, 2013). Moreover, GenXers are disenchanted and cynical about brand products and services (Littrell et al., 2005; Jackson et al., 2011; Moore, 2012) whereas Millennials do not tolerate misalignment between the brand promise and its actual delivery (Pattuglia and Mingione, 2016). Brand Heritage positively influences Boomers more than Millennials and Generation Z. Thus, it seems Boomers recognize the historical value of brands.

Our results, in alignment with previous researches, suggest that Boomers are inclined to be loyal to brands (Jackson et al., 2011; Burnsed and Bickle, 2015). In contrast, Millennials and Zed are the generations less disposed to be loyal. This might be due to the fact that they are very well informed about the existence of various brands, and thus feel a limited loyalty and usually look for the best offerings (Howe and Strauss, 2000; Parment, 2013; Reisenwitz and Iyer, 2009).

Managerial implications

A majority of studies on marketing, brand management and research aims to uncover differences between the various generational cohorts that should take into account the peculiar differences among generation especially if we talk about technology.

Our findings highlight relevant managerial implications and show that marketing practitioners should take into account the differences among generations when developing their marketing strategies. This is because brands mean different things to different consumers, especially if we talk about different ages and different background and lifestyle. Thus, while brand management may strive to communicate a specific and consistent image to the market in order to obtain a premium price, consumers may develop different perceptions of the brand, also depending on their background, attitude and relationship with the brand. Brand management and research may be well advised to acknowledge the relationship between knowledge, affectation, behaviour for each generation. This view leads to several relevant implications.

Marketing managers should support a price premium positioning, should communicate credibility in focusing uniqueness and heritage elements.

Moreover, our study suggests to companies to approach targeting more deeply in order to establish effectiveness in relationships with stakeholders. For instance, managers should be aware of keeping their promises and being sincere with Millennials and GenXers, these being key drivers for their willingness to pay a price premium.

New media platforms (mobile and social networks) and shared connections can help to this by maintaining continuity – heritage – from the past, considered as a common framework of brand features and brand values adjusting continuosly the company strategies.

Thus, from a practical point of view, firms should, nonetheless, invest in both generations (old and new) who show belief through communicative actions in social media channels (in order to achieve awareness, image and reputation objectives) but also in advertising and promotion to enhance customers' emotional engagement and willingness to pay a price premium. Regarding communication actions brands should moreover invest in public relations strategies (traditional and online PR) in order to catalize positive words-of-mouth and brand communities, above all regarding the Baby Boomers generation.

In order to cluster and target consumers with generational cohort criteria, our study finally study suggests marketing managers should manage a sophisticated Customer Relationship Management (CRM) strategy. Especially regarding Millennials and Gen Z, marketers should invest in factual distinctiveness of the brand with trials and demostrations. Not paradoxically, as said it is important to note that Millennials and Zed are well informed and more skeptical compared to previous generations (their parents) and less influenced by communication activities. Because of this managers should consider a deep implementation of physical touch points and consider a combined online-offline customer journey in order to facilitate the interaction between consumers and products.

Conclusions, limitations and directions for future research

The objectives of this study were to determine what attributes make a technological brand authentic and allow for loyalty and premium price and to define the moderator effect of the belonging to different generations. The study was based on Apple case.

To the authors' knowledge, this is the first study investigating the driving factors and the behavioural outcomes in the case of technological brand across generational cohorts. We explored the impact of authenticity on price premium and loyalty of four different consumer cohorts in Italy and some important differences were found among the four groups.

The research provides an important step in defining, measuring, and testing the dimensions of perceived authenticity of one of the most well-known and reliable technological brand, Apple. We found that the image, the quality, the heritage and the trustworthiness are the most important drivers in authenticating a technological brand.

This study also identifies an important moderating construct that is the belonging to different generations. The results suggest that younger individuals rely on originality and image more than older ones when assessing technology authenticity, while older individuals primarily rely on heritage and trust.

These findings suggest that for young generations the brand image is the most important factor to support a premium price and a consumer loyalty, whereas adults are more influenced by reliability and value-structure of the brand. The perception about brand authenticity evolves and varies with age.

The findings of the current research propose how the authenticity about new hi-tech sector can be determined and managed around premium price and loyalty affected by different dimensions (brand image, quality, brand heritage, brand originality).

This study was limited to a single brand in a single country. Further research is required in order to verify and generalize the findings.

References

Aaker, D. (2003). "The power of the branded differentiator". *MIT Sloan Management Review*, 45(1), 83.

Aaker, D. A. (1996). "Measuring brand equity across products and markets". *California Management Review*, 38(3), 102-120.

Aitken, R., & Campelo, A. (2011). "The four Rs of place branding". *Journal of Marketing Management*, 27(9-10), 913-933.

Anselmsson, J., Johansson, U., & Persson, N. (2007). "Understanding price premium for grocery products: a conceptual model of customer-based brand equity". *Journal of Product & Brand Management*, 16(6), 401-414.

Ba, S., & Pavlou, P. A. (2002). "Evidence of the effect of trust building technology in electronic markets: Price premiums and buyer behaviour". *MIS quarterly*, 243-268.

Bendix, R. (1997). *In search of authenticity: The formation of folklore studies*. University of Wisconsin Press.

Benjamin, K. (2008), "Welcome to the Next Generation of Search," *Revolution*, April, 56-59.

Beverland, M. B. (2005). "Crafting brand authenticity: the case of luxury wines". *Journal of Management Studies*, 42(5), 1003-1029.

Beverland, M. B. (2006). "The 'real thing': branding authenticity in the luxury wine trade". *Journal of Business Research*, 59(2), 251-258.

Beverland, M. B., & Farrelly, F. J. (2010). "The quest for authenticity in consumption: Consumers' purposive choice of authentic cues to shape experienced outcomes". *Journal of Consumer Research*, 36(5), 838-856.

Beverland, M. B., Farrelly, F., & Quester, P.G. (2010). "Authentic subcultural membership: Antecedents and consequences of authenticating acts and authoritative performances". *Psychology & Marketing*, 27(7), 698-716.

Brown, S., Kozinets, R. V., & Sherry Jr, J. F. (2003). "Teaching old brands new tricks: retro branding and the revival of brand meaning". *Journal of Marketing*, 67(3), 19-33.

Bruhn, M., Schoenmuller, V., Schafer, D., & Heinrich D. (2012). "Brand Authenticity: Towards a Deeper Understanding of its Conceptualization and Measurement". *Advances in Consumer Research*, 40, 567-576.

Burnsed, K. A., & Bickle, M. C. (2015). "Comparison of US generational cohorts'shopping mall behaviors and desired features". *International Journal of Sales, Retailing & Marketing*, 4(4), 18-30.

Cassinger, C., & Bertilsson, J. (2011). "Governing consumers through freedom: A theoretical discussion of the co-creation construct". In European Conference of the Association for Consumer Research, Vol. 9, pp. 412-416. *Associations for Consumer Research*.

Chaudhuri, A., & Holbrook, M. B. (2001). "The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty". *Journal of marketing*, 65(2), 81-93.
Choi, H., Ko, E., Kim, E. Y., & Mattila, P. (2015). The role of fashion brand authenticity in product management: A holistic marketing approach. *Journal of Product Innovation Management*, 32(2), 233-242.
Corciolani, M., & Santanelli, M. (2014). "L'effetto dell'autenticità della marca sull'attaccamento alla marca e sul senso di distinzione sociale avvertito dai consumatori". *Mercati e Competitività*.
Delgado-Ballester, E., & Luis Munuera-Alemán, J. (2001). "Brand trust in the context of consumer loyalty". *European Journal of marketing*, 35(11/12), 1238-1258.
Eastman, J. K., & Liu, J. (2012). "The impact of generational cohorts on status consumption: an exploratory look at generational cohort and demographics on status consumption". *Journal of Consumer Marketing*, 29(2), 93-102.
Ewing, D. R., Allen, C. T., & Ewing, R. L. (2012). "Authenticity as meaning validation: An empirical investigation of iconic and indexical cues in a context of "green" products". *Journal of Consumer Behaviour*, 11(5), 381-390.
Eyerman, R., & Turner, B. S. (1998). "Outline of a theory of generations". *European Journal of Social Theory*, 1, 91–106.
Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
Gilleard, C. (2004). "Cohorts and generations in the study of social change". *Social Theory & Health*, 2, 106–119.
Grayson, K., & Martinec, R. (2004). "Consumer perceptions of iconicity and indexicality and their influence on assessments of authentic market offerings". *Journal of Consumer Research*, 31(2), 296-312.
Gurău, C. (2012). "A life-stage analysis of consumer loyalty profile: comparing Generation X and Millennial consumers". *Journal of Consumer Marketing*, 29(2), 103-113.
Howe, N., & Strauss, W. (1991). *Generation Z.*
Howe, N., & Strauss, W. (2000). *Millennials rising: The next great generation*. New York: Vintage.
Inglehart, R. (1977). "*The silent revolution: Changing values and political styles among western publics*". Princeton: Princeton University Press.
Kates, S. M. (2004). "The dynamics of brand legitimacy: An interpretative study in the gay men's community". *Journal of Consumer Research*, 31(2), 455-464.
Kolar, T., & Zakbar, V. (2010). "A consumer-based model of authenticity: An oxymoron or the foundation of cultural heritage marketing?". *Tourism Management*, 31(5), 652-664.
Kumar, A., & Lim, H. (2008). "Age differences in mobile service perceptions: comparison of Generation Y and baby boomers". *Journal of Services Marketing*, 22(7), 568-577.
Jackson, V., Stoel, L., & Brantley, A. (2011). Mall attributes and shopping value: Differences by gender and generational cohort. *Journal of retailing and consumer services*, *18*(1), 1-9.
Langford, P. (2008), "Gen Y or Boomer, They Think the Same," *The Advertiser*, 1, December 6, 36.
Littrell, M. A., Jin Ma, Y., & Halepete, J. (2005). "Generation X, baby boomers, and swing: Marketing fair trade apparel". *Journal of Fashion Marketing and Management: An International Journal*, 9(4), 407-419.
Loroz, P. S., & Helgeson, J. G. (2013). "Boomers and their babies: An exploratory study comparing psychological profiles and advertising appeal effectiveness across two generations". *Journal of Marketing Theory and Practice*, 21(3), 289-306.
Mannheim K. (1928), "Das Problem der Generationen", *Kolner Vierteljahrshefthe fur Soziologie*
Mannheim K. (1952), "The Problem of Generations", in Mannheim K., *Essays in the Sociology of Knowledge*, London, Routledge.
Meister J. C., & Willyerd K. (2010), "Mentoring Millennials. Spotlight on Leadership. The Next Generation", *Harvard Business Review*, Vol. 88 No. 5, pp. 67-72.
Moore, M. (2012). "Interactive media usage among millennial consumers". *Journal of Consumer Marketing*, 29(6), 436-444.
Morhart, F., Malär, L., Guèvremont, A., Girardin, F., & Grohmann, B. (2015), "Brand Authenticity: An Integrative Framework and Measurement Scale", *Journal of Consumer Psychology*, Vol. 25 No. 2, pp. 200-218.
Moulard, J. G., Garrity, C. P., & Rice, D. H. (2015). What makes a human brand authentic? Identifying the antecedents of celebrity authenticity. *Psychology & Marketing*, *32*(2), 173-186.
Napoli, J., Dickinson, S. J., Beverland, M. B., & Farrelly, F. (2014). "Measuring consumer-based brand authenticity". *Journal of Business Research*, 67(6), 1090-1098.
Norum, P. S. (2003). "Examination of generational differences in household apparel expenditures". *Family and Consumer Sciences Research Journal*, 32 (1), 52-75.
Olson, E. M., Slater, S. F., & Hult, G. T. M. (2005). "The importance of structure and process to strategy implementation". *Business Horizons*, 48, 47–54.
Pattuglia, S., & Mingione, M. (2016). "Towards a new understanding of brand authenticity: seeing through the lens of Millennials". *Management in a Digital World. Decisions, Production, Communication, Sinergie Journal.eu*.
Pilcher, J. (1994). Mannheim's sociology of generations: an undervalued legacy. *British Journal of Sociology*, 481-495.
Postrel V. (2003). "*The substance of style: How the rise of aesthetic value is remaking commerce, culture and consciousness*". New York: Harper-Collins Publishers.

Reisenwitz, T. H., & Iyer, R. (2009). "Differences in generation X and generation Y: Implications for the organization and marketers". *Marketing Management Journal*, 19(2), 91-103.
Rose, R. L., & Wood, S.L. (2005). "Paradox and the consumption of authenticity through reality television". Journal of Consumer Research, 32(2), 284-296.
Ryder, N. B. (1965). "The cohort as a concept in the study of social change". *American Sociological Review*, 30, 843–861.
Sashittal, H.C., Hodis, M., & Sriramachandramurthy, R. (2015), "Entifying your brand among Twitter-using millennials", *Business Horizon*, Vol. 58 No. 3, pp. 325-333.
Schuman, H., & Scott, J. (1989). "Generations and collective memories". *American Sociological Review*, 54, 359–381.
Soltan, R. (2004), "*The Tween Market: Keeping Our Collections Attractive, Practical and Effective*," Library Youth Services Consultant and Staff Person, Educational Resources Laboratory at Oakland University, http://www.mlaforum.org/volumeIII/issue1/Article2Tweens.html.
Spiggle, S., Nguyen, H.T., & Caravella, M. (2012). "More than fit: brand extension authenticity". *Journal of Marketing Research*, 49(6), 967-983.
Thompson, C. J., Rindfleisch, A., & Arsel, Z., (2006). "Emotional branding and the strategic value of the Doppelgänger brand image". *Journal of Marketing*, 70(1), 50-64.
Thorpe, E., & Morgan, R. E. (2007). "In pursuit of the 'deal approach' to successful marketing strategy implementation". *European Journal of Marketing*, 41(5/6), 659–677.
Twenge, J. M. (2010). A review of the empirical evidence on generational differences in work attitudes. *Journal of Business and Psychology*, *25*(2), 201-210.
White, J. C., Conant, J. S., & Echambadi, R. (2004). "Marketing strategy development styles, implementation capability, and firm performance: Investigating the curvilinear impact of multiple strategy-making styles". *Marketing Letters*, 14(2), 111–124.
Wiedmann, K. P., Hennigs, N., Schmidt, S., & Wuestefeld, T. (2011). "Drivers and outcomes of brand heritage: consumers' perception of heritage brands in the automotive industry". *The Journal of Marketing Theory and Practice*, 19(2), 205-220.
Wilson, M., & Gerber, L.E. (2008), "How Generational Theory Can improve Teaching: Strategies for Working with the Millennials", *Currents in Teaching and Learning*, Vol.1 No. 1, pp. 29-44.
Yu, H. C., & Miller, P. (2005). Leadership style: The X Generation and Baby Boomers compared in different cultural contexts. *Leadership & Organization Development Journal*, *26*(1), 35-50.

DXB071

A STUDY OF RELATIONSHIP BETWEEN TRUST, COMMITMENT AND RELATIONSHIP VALUE IN MULTI-SIDED PLATFORMS (MSPS) IN T-HUB IN THE TELANGANA STATE OF INDIA THROUGH STRUCTURAL EQUATION MODELING

Vijay Kumar Gudep, gvkonline@gmail.com, v.kumar@cuca.ae
City University College of Ajman, UAE

ABSTRACT

The growth of digital communication technologies has presented several challenges to the modern marketers. Several research studies have revealed that these digital technological developments have enabled some companies to serve as matchmakers for facilitating business by offering support in connecting one group of buyers with another by providing platforms for collaboration. These are known as multi-sided platforms (MSPs) and have emerged as a major choice for marketers due to their intrinsic potential for creating value to both buyers and participating companies. There is an increasing body of research evidence which highlighted that trust and commitment play an important role in evolving meaningful MSP relationships. This research study investigates the possible relationships between trust, commitment and relationship value in multi-sided platforms in the Indian context. A sample size of 200 respondents was chosen from T-Hub in the Indian city of Hyderabad. A structured questionnaire with a five point Likert scale was used for this study. Statistical tools like Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were used to assess the model construct relationships. All the hypotheses of this research study are validated and reinforced by the previous research findings. The findings of this research study have implications for understanding e-commerce and MSP relationships in India.

Keywords: Trust, Commitment, Relationship Value and Multi-Sided Platforms (MSPs)

Introduction to Multi-Sided Platforms (MSPs)

Due to the technological advancements in digital communications, of late multi-sided platforms (MSPs) have emerged as a major marketing option in offering support to support business across different groups. Multi-sided platforms(MSPs) refer to technologies, products or services that create value to buyers and participating firms by facilitating direct and lively interactions between two or more customer or participant groups (Hagiu & Wright, 2015). Examples of MSPs include LinkedIn, Microsoft, Google and Apple. LinkedIn, which is a globally popular leading professional networking company, is operating its business by designing a three-sided platform that connects individual users (professionals), prospective recruiters and advertisers. This company receives significant revenues from all three sides mentioned above. Likewise, Microsoft projects its Windows operating system as a three-sided platform in the personal computer industry by providing support to connect its licensed users, third party application developers and hardware manufacturers in the PC industry (such as Toshiba, Dell and Hewlett-Packard). The platforms created by these companies are popularly known as multisided platforms (MSPs) and they have the potential to create value to both customers and participating companies by enabling direct and lively interactions between two or more customer or participating groups (Ansari, Garud, & Kumaraswamy, 2016a).These examples standout as testimonials and highlight about how successful companies create enormous value for their customers on one side of the platform by typically increasing the number of participating customers on the other side.

This research study makes an attempt to study the relationship trust, commitment and relationship value in multi-sided platforms (MSPs) in the context of T-Hub in the Telangana state of India. T-Hub refers to the platform created by Telangana state government in India to attract the global start-ups and other prospective entrepreneurs from all countries in the world to invest in the Hyderabad city in India. T-Hub is known as India's largest incubator offering community space for prospective global investors, upcoming start-ups and other entrepreneurs. T-Hub has developed unique partnership with both public and private academic institutions such as Indian Institute of Information Technology (IIIT), Indian School of Business (ISB), Nalsar University besides several other top notch institutions. In this study, a survey instrument was administered to the investors of start-up companies, entrepreneurs of technology companies, consultants and senior executives of small, medium and large companies who are working on incubation of business ideas (Ansari, Garud, & Kumaraswamy, 2016b). The major objective of this study is to empirically investigate the relationships between trust, commitment and relationship value in MSP Relationships.

The broad research objectives are as following.

1. To study the impact of trust, commitment and relationship value in forging MSP partnerships
2. How strategic partners develop relationship value based on commitment, and trust in the context of social media platforms?
3. To offer suggestions for improving strategic partnerships among the MSP participants in the context of social media.

Need of the Research study

This research study is influenced by the growing popularity of social media, which provides an opportunity for intense interactions across the groups in multi-sided platforms (MSPs). Some of the popular social media platforms that have the potential to influence MSP relationships in India are Facebook, Twitter, Instagram, Youtube and LinkedIn. These social media sites enable companies and customers to share information for mutual benefit. It is against this background, it is relevant to consider social media context as an important factor in assessing the impact of trust and commitment in MSP relationships. Although several research studies were conducted on the nature and scope of MSPs in general across the globe, no research study was conducted in the Indian context on trust and commitment aspects. The lack of empirical research on the relationship between trust and commitment influenced this study.

Theoretical Frameworks and Hypotheses

For this research study, a 4-construct conceptual model has been designed. This model is based on the landmark research study of Commitment-Trust Theory (Morgan & Hunt, 1994). This conceptual model proposes that relationship value is a multidimensional measure and consequence of relationship commitment and trust for multi-sided platform (MSP) partnerships. In this model, the strategic partnerships (alliances) for MSPs are also included.

Conceptual Framework

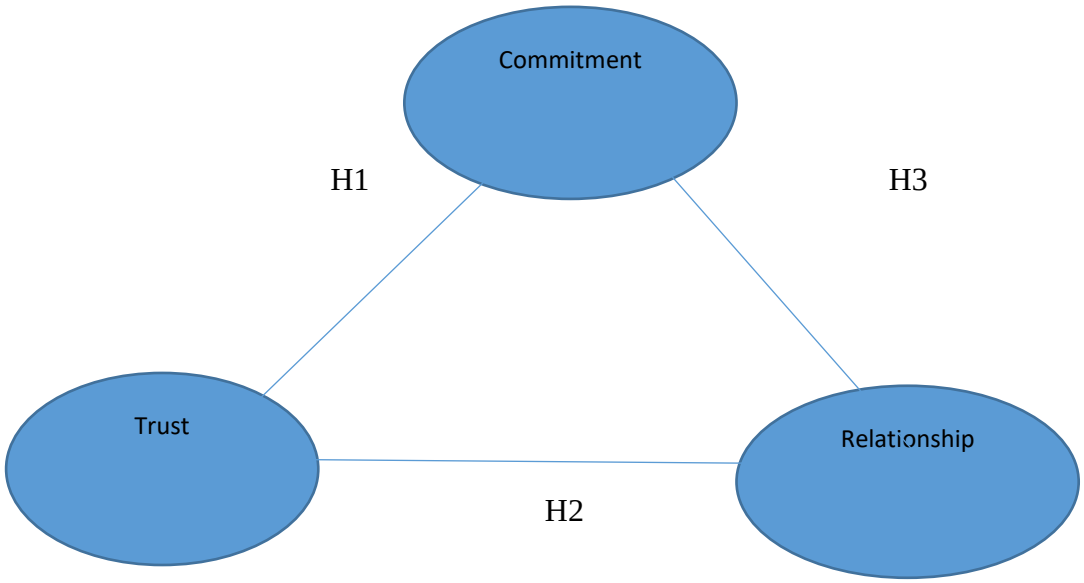


Figure-1: Conceptual Model Framework

Proposed Hypotheses

Hypothesis 1: Trust has a positive impact on evolving commitment in MSP partnerships.
Hypothesis 2: Trust has a positive impact on forging relationships in MSP partnerships.
Hypothesis 3: Commitment has a positive impact on forging relationships in MSP partnerships.

Expected contribution to the literature and managerial implications

In the past although several research studies were conducted in the context of B2B relationships, it is interesting to note that less research studies were conducted on MSP partnerships. This research study on MSP relationships would probably be the first research study to be conducted in the Indian context and it has the potential to add value to the existing research literature on multi-sided platforms especially for the startup investors.

Due to the advances in technology, of late multi-sided platforms (MSPs) have emerged as a sustainable option in offering support for seeking ideas for innovations in digital businesses (Jack & Powers, 2015; King, 2013). It is against this background, the need and importance of providing multi-sided platform leadership was highlighted by (Hagiu & Wright, 2015). Although there are many challenges in designing and developing multi-sided platform leadership, the important areas include managing first-party content and coordination, dealing with patent intermediaries and assessing platform competition. Several researchers have argued about the importance of platform leadership for multi-sided platforms with emphasis on a range of issues related to dealing with competition among network participants. Driven by the importance of creating a viable platform leadership, (Cennamo & Santalo, 2013) conducted an econometric analysis of the US video game industry between 1995 and 2008 and identified two significant strategies. These two strategies are popularly known as focusing on competition among participants, and making efforts to offer exclusive offers with high quality.

Trust in B2B relationships/ Theoretical foundations

The importance of developing trust among the platform MSP participants was highlighted in several research studies internationally. There is an increasing body of research evidence to suggest that trust has the potential to add value in B2B relationships in general and also to multi-sided platform businesses in particular. Building trust is important for ongoing relationships in the context of international markets.

Several research studies have addressed the importance of focusing on trust in B2B relationships in general and research focus on trust dates back to the late 80's and 90's (Anderson & Weitz, 1992; Moorman, Zaltman, & Deshpande, 1992; Morgan & Hunt, 1994b).

According to Anderson & Narus (1990, p.45), trust is defined as "the firm's belief that another company will perform actions that will result in positive outcomes for the firm as well as not take unexpected actions that result in negative outcomes". Another definition of trust has been provided by Moorman et al., (1992) who defined trust as the readiness to believe a dependable trading partner.

Deriving the meaning of trust from the above study, Morgan & Hunt (1994), theorized trust as one party's reliance in trading collaborator's dependability and truthfulness. Another research study conducted by Zaheer, et al., (1998), highlighted that trust is defined as an expectation that partners hold to fulfill their obligations in a predictable manner values. Morgan & Hunt, (1994) argued that shared values are positively impacting the development of relational commitment.

Jiang et al., (2011) conducted an exploratory study in the context of diverse international markets in building long-term relationships. Their research findings addressed the outcomes of trust between various MSP businesses and the results demonstrated that both trust and reliance are important in maintaining sustainable long-term business relationships specifically in industrial business relationships. Another study was conducted by Dowell et al. (2015) with a focus on testing the role of trust and its impact on business relationships. It is interesting to note that these authors adopted The Commitment and Trust Theory developed by (Morgan & Hunt, 1994) as a conceptual framework to identify five elements that were categorized into affective and cognitive trusts. They classified trust as affective trust - mutual sharing/benefit, and good opinion, cognitive trust- dependability, capability to meet goals, and efficient performance of tasks. Their research findings highlighted that both trust and reliance have the potential to play an important role in building relationships for long-term perspective. While several studies have been conducted about the importance of trust in global B2B contexts, but no empirical research study was conducted to date with regard to MSP partnerships in the Indian context.

Commitment in MSP Relationships

Commitment between MSP partners plays an important role in managing ongoing profits for modern business firms. Commitment was defined by Moorman et al. (1992) as an important element for evolving a long-term aspiration to uphold a valued association. Morgan & Hunt, (1994) highlighted that commitment has tremendous role in relationship marketing efforts. Driven by this research study, Gil-Saura et al., (2009) observed that commitment facilitates partner relationships and helps in maintaining a relationship that is felt so important. Gil-Saura et al., (2009) defined that commitment is a conceptual understanding that goes beyond focusing on the existing profits in sustaining relationship.

Relationship Value in MSP Relationships

Relationship value is a multifaceted concept and it has the potential to develop trust, commitment and satisfaction in business partnerships (Ulaga & Eggert, 2006). They argued that, relationship value is a precursor of trust, commitment and satisfaction in business affiliation. They also proposed the relationship value concept in a 2 X 3 matrix format based on two basic extents of value creation such as advantages and costs. Relationship benefits are theorized as product profitability, customer satisfaction, higher advantages that firm gets from their associates (Morgan & Hunt 1994) . Relationship value is conceived as a tradeoff between benefits and sacrifices and understood with regard to the challenges posed by the competition.

The Commitment–Trust theory

There is an increasing body of academic research evidence to establish that the Commitment–Trust concept is a widely used concept for forging effective business relationships (MacMillan, et al., 2005). The existing literature on modern marketing affirms a positive relationship between trust and commitment (Gao et al., 2005; Hausman & Johnston, 2010). The Commitment–Trust Theory by (Morgan & Hunt, 1994) is considered as a landmark research study on assessing how relationships develop through trust and commitment. In this model trust

has been crucial in fostering relationship commitment highlighted broadly in terms of integrity and reliability (Morgan & Hunt, 1994).

The findings of this research model have further demonstrated that firms may choose to work with their partners with trust and commitment while they are facing intense competitions. This model is relevant for this research this study since strategic partnerships are built with an emphasis on long-term relationships, mutual goal setting and financial gain for both partners(Mentzer, Min, & Zacharia, 2000). The summary of the literature review is presented in the Table-1.

Table 1: Summary of Key literature on commitment, trust, and strategic relationships

Research area	Authors	Area of research focus	Research context/Method	Research findings
Relationship value, trust, and supplier retention	Badenhorst-Weiss & Tolmay, (2016)	Studied the automotive supply chains, relationship value, trust and supplier retention in automobile industry	First and second level suppliers were studied through email survey and telephonic interviews, in South Africa; Regression Analysis was performed	Trust and relationship value emerged as important predictors of supplier retention (long term orientation)
Commitment-Trust Theory	Smith, D., et al., (2014)	Focus was laid on assessing the family influence in retailer-vendor strategic partnerships	Studied the owners of family business in United States and also retail senior executives through an online questionnaire; Partial least squares method and Structural equation modeling method were used	Impact of family influence on strategic partnerships is established; Commitment trust theory was supported.
Partnerships that were based on commitment – trust theory	Wu et al., (2012)	Studied the commitment trust theory in high tech companies	empirical study in the supply chain management in Taiwan; structural equation modeling, was used	Supply chain relationships were influenced by trust
Trust, commitment& Shared Values	Theron et al., (2011)	Assessed the impact of shared values on trust in business to business relationships in financial services in USA	Telephonic, and web based survey was used to assess shared values impact in financial services	Competence and shared values emerged as important predictors of trust
Commitment, trust	Morgan & Hunt, (1994)	Emphasis was identifying key mediating variables for the model of trust and relationship commitment	Study focused on automobile tire retail industry in America through exploratory study using LISREL VII	Endorsed the presented model on Commitment and Trust Theory

Gaps Identified in the Literature

Previous research studies on MSPs have concentrated on platform leadership issues by focusing on managing platform competition (Suarez and Kirtley ,2012). The platform leadership research studies have helped companies to focus on first party content and platform competition (Gawer and Cusumano, 2014). But in the current context, there is a scope for throwing more light on crafting of new platform strategies for effective partnerships and also for assessing the impact of trust and commitment on the successful functioning of MSPs in the Indian scenario. Although several research studies were conducted on assessing the relationship between commitment and

overall performance (Palmatier, 2008a) and commitment and relationship value (Gil-Saura et al., 2009), but no such study was conducted for multi-sided platform (MSP) partnerships and also the interrelationships between trust, commitment and shared values. This research study endeavors to fill this gap in literature on the relationship between commitment and relationship value in the context of Indian scenario.

Research Methodology

A structured survey instrument was used to collect the data for assessing the relationship between trust, commitment and relationship value in MSP relationships in the T-Hub of Telangana state in India. For this purpose, a 5 point likert scale was used with a total of 15 statements on trust, commitment and relationship value in MSP relationships. These statements were based on the analysis of literature review on MSP relationships across the globe. The respondents hailed from the T-Hub located in the city of Hyderabad in India. In this questionnaire questions related to demographic data such as gender, educational qualification of the respondents and tenure of MSP businesses were also included. To assess the direct and indirect (mediated) nature of MSP relationships that existed between the studied variables (15 statements in the questionnaire), confirmatory factor analysis (CFA) and structural modeling equation (SME) methods have been used through SPSS (version-25) and AMOS (version-25). These analyses helped in understanding which model fits the data best while assessing the interrelationships between trust, commitment and relationship value.

Respondents were chosen from T-Hub in the Hyderabad city of India. The respondents include those who have invested or partnered in startup companies in India or involved in buying or selling products and services on multi-sided platforms (MSPs). Data was also collected from senior executives of firms those who were in a position to make a decision about social media platform partnership with the firm in T-Hub located in Hyderabad city of India. A structured questionnaire with a five point Likert scale was used to study the relationships between trust, commitment and relationship value. Statistical tools like Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were used to assess the relationships between trust, commitment and relationship value among the model constructs.

For this study, convenience sampling method was used to collect the data. The limited number of respondents justified using this method. The survey was conducted during July 2018 to August 2018. These questionnaires were administered to a total of 250 respondents and from this only 200 questionnaire were in the correct format. Therefore the effective sample size is 200. It was observed that 56.5% of the respondents were males and 43.5% were females. The respondents differed in terms of educational qualification profile, and it was observed that 7% were below school level, 19% in secondary school level, 34% graduate and 40% were post graduates. The MSP tenure of the respondents revealed that 27.5% were of 1 year tenure, 28% were of 2 year tenure, 23.5% were of 3-5 years and 21% were above 6 years category. The demographic data is presented in Table 2 below.

© SGBED 2019

Table 2 Demographic Data

Demographic variables	Category	Sample	Percentage
Gender	Male	113	56.5
	Female	87	43.5
Educational Qualification	Below school	14	07.0
	Secondary school	38	19.0
	Graduate	68	34.0
	Post-graduate	80	40.0
MSP Tenure	1 year	55	27.5
	2 year	56	28.0
	3-5 years	47	23.5
	Above 6 years	42	21.0

Results Analysis

Statistical tests were applied to assess the reliability and validity of the present survey. Cronbach alpha was calculated for trust, commitment and relationship value constructs and results exceeding 0.60 reelected the level of acceptability. The reliability statistics are presented in the Table 3-Relaibility statistics.

Table 3 Reliability Statistics

Constructs	***Cronbach's alpha***
Trust	0.806
Commitment	0.802
Relationship value	0.812

It is evident from the results of table-2 that the reliability coefficient values for different constructs were calculated using reliability calculation procedure in the SPSS (version 25). The reliability coefficient values are found to be above 0.70 for all the three constructs such as trust (0.806), commitment (0.802) and relationship value (0.812).

Confirmatory Factor Analysis (CFA)

For this study, Confirmatory Factor Analysis (CFA) was conducted to assess the construct validity of the model. To assess this validity, loading estimates and construct reliability values were investigated. Confirmatory Factor Analysis (CFA) was performed to measure the dimensionality. The fit statistics results are presented in Table 4.

Table 4 Fit Statistics results

	$\chi 2$	P value	RMSEA	GFI	AGFI	TLI	CFI
Model	118.940	0.000	0.049	0.929	0.903	0.953	0.903
Trust	12.278	0.031	0.086	0.976	0.927	0.948	0.974
Commitment	39.016	0.000	0.185	0.923	0.923	0.880	0.909
Relationship	16.919	0.288	0.035	0.988	0.963	0.992	0.996

It can be interpreted from table-3, that the "goodness of fit" of the proposed model indicated a reasonably good fit with RMSEA value of 0.049. Interestingly, the GFI= 0.929, which indicates a perfect model of fit. The AGFI value of 0.903 further demonstrates a reasonably good fit for the proposed model. The TLI (Tucker- Lewis coefficient) value is 0.953 and it can be interpreted that (since this value is above 0.90) there is a goodness of fit. Similarly the CFI value is 0.903 and this also indicates a good fit for the model.

Structural Equation Model (SEM)

A structural model is fit into this research study to test the trust, commitment and relationship value constructs as displayed in figure 2-revised model. Three paths trust to commitment, trust to relationship and commitment to relationship were found to have significant positive standardized path coefficients and based on Wald tests. The goodness of fit values/indices for this structural model are displayed in Table 4-Goodness of fit results. The analysis of the results revealed that there is a good of fit to the data. The Chi-square / degrees of freedom ratio ($\chi 2$ / df) is 1.46 (< 2.0) and the values of GFI, AGFI, CFI, TLI (all of them are > 0.9) indicate a high degree of fit. Further, the value of Root mean square error of approximation (RMSEA) is 0.049 (< 0.05) also demonstrates goodness of fit.

Table 5 Goodness of fit results of the study

Goodness-of-fit statistics		***Values***	***Desired range of values for a good fit***
Chi-square test	$\chi 2$	118.940 (p > .05)	p > .05
Absolute fit measures Degrees of freedom	Df	81	≥ 0
Chi-square / degrees of freedom ratio	$\chi 2$ / df	1.46	0 to 5
Goodness of fit index	GFI	.929	> .90
Root mean square error of approximation	RMSEA	.049	< .08
Incremental fit measures Adjusted good-of-fit index	AGFI	.903	> .90
Tucker-Lewis index	TLI	.953	> .90
Comparative fit index	CFI	.964	> .95
normed fit index (NFI)	NFI	.904	> .90

Figure-2 on revised estimates of the model highlights the parameter estimates of the proposed model. In line with these estimates that are displayed in figure 2- revised estimates, it can be interpreted that trust in MSP relationships is positively correlated with commitment and further trust is also positively correlated with relationship. As shown in table 5- summary of hypotheses testing results the regression weight of trust to commitment is (t=3.6544; p< 0.05), trust to relationship is (t=4.763; p< 0.05) and commitment to relationship is (t=3.035; p<0.05) respectively.

This indicates that trust and commitment hold significant impact on relationship. The results in table 5, highlight that H1 (Trust and commitment) and H2 (Trust and relationship) are strongly supported with coefficients of 0.329 and 0.355. Similarly H3 (commitment and relationship) is strongly supported with a coefficient of 0.205.

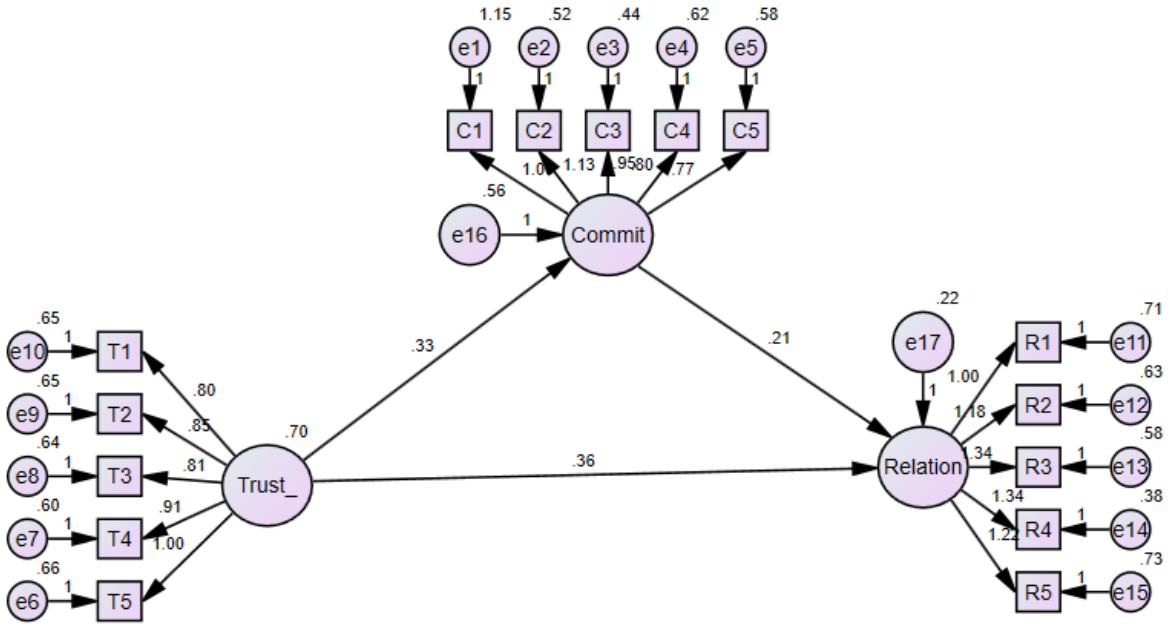


Figure 2- Revised estimates of the model

Table 6 Summary of Hypotheses Testing Results

Path	***Estimate (β)***	***S.E.***	***C.R.***	***P***	***Results***
1. Commitment ← Trust	0.329*	0.090	3.654	0.000	Supported
2. Relationship ← Trust	0.355*	0.075	4.763	0.000	Supported
3. Relationship ← Commitment	0.205*	0.068	3.035	0.002	Supported

Note: β = standardized beta coefficients; S.E. = standard error; C.R. = critical ratio; *p< 0.01

Conclusions

The research findings highlighted that trust and commitment are important factors in developing relationships in MSPs. The results analysis of this study revealed that trust in MSPs is a direct path as shown in the proposed model and also a factor with a potential to impact upon commitment. The findings support H1, and the results are consistent with the previous studies conducted by Wu et al., (2012) and Badenhorst-Weiss & Tolmay, (2016). For hypothesis 2, the results revealed that trust in MSPs is a direct path and also a significant factor that facilitates commitment. This is in line with the research findings of Theron et al., (2011). For hypothesis 3, results indicated that commitment is also a direct path and also a factor that can significantly affect the relationship in MSPs. Therefore this hypothesis is also supported and the results are consistent with the findings of Theron et al., (2011). Based on the results analysis, it can be interpreted that the trust component in MSPs significantly affects relationships and therefore firms operating in T-Hub in the Telangana state of India may have to focus on these factors in order to develop the long-term success.

Recommendations for future study

The scope of this research study can be enhanced by incorporating a large sample size and large number of variables that have a potential to impact upon trust, commitment and relationship in the Indian context of MSPs. Since this research study establishes that trust and commitment are important in facilitating relationship, more future studies may be conducted about the antecedents of trust and commitment in MSPs in India.

References

Anderson, E., & Weitz, B. (1992). The Use of Pledges to Build and Sustain Commitment in Distribution Channels. *Journal of Marketing Research*, *29*(1), 18–34. https://doi.org/10.2307/3172490

Anderson, J. C., & Narus, J. A. (1990). A Model of Distributor Firm and Manufacturer Firm Working Partnerships. *Journal of Marketing*, *54*(1), 42–58.

Ansari, S. (Shaz), Garud, R., & Kumaraswamy, A. (2016a). The disruptor's dilemma: TiVo and the U.S. television ecosystem. *Strategic Management Journal*, *37*(9), 1829–1853. https://doi.org/10.1002/smj.2442

Ansari, S. (Shaz), Garud, R., & Kumaraswamy, A. (2016b). The disruptor's dilemma: TiVo and the U.S. television ecosystem. *Strategic Management Journal*, *37*(9), 1829–1853. https://doi.org/10.1002/smj.2442

Badenhorst-Weiss, J. A., & Tolmay, A. S. (2016). Relationship Value, Trust And Supplier Retention In South African Automotive Supply Chains. *Journal of Applied Business Research (JABR)*, *32*(5), 1329. https://doi.org/10.19030/jabr.v32i5.9762

Cennamo, C., & Santalo, J. (2013). Platform competition: Strategic trade-offs in platform markets. *Strategic Management Journal*, *34*(11), 1331–1350. https://doi.org/10.1002/smj.2066

Dowell, D., Morrison, M., & Heffernan, T. (2015). The changing importance of affective trust and cognitive trust across the relationship lifecycle: A study of business-to-business relationships. *Industrial Marketing Management*, *44*(Journal Article), 119–130. https://doi.org/10.1016/j.indmarman.2014.10.016

Gao, T., Sirgy, M. J., & Bird, M. M. (2005). Reducing buyer decision-making uncertainty in organizational purchasing: can supplier trust, commitment, and dependence help? *Journal of Business Research*, *58*(4), 397–405. https://doi.org/10.1016/S0148-2963(03)00137-1

Gawer, A., & Cusumano, M. A. (2014). Industry Platforms and Ecosystem Innovation. *Journal of Product Innovation Management*, *31*(3), 417–433. https://doi.org/10.1111/jpim.12105

Gil-Saura, I., Frasquet-Deltoro, M., & Cervera-Taulet, A. (2009). The value of B2B relationships. *Industrial Management & Data Systems*, *109*(5), 593–609. https://doi.org/10.1108/02635570910957605

Hagiu, A., & Wright, J. (2015). Multi-sided platforms. *International Journal of Industrial Organization*, *43*(C), 162–174.

Hausman, A., & Johnston, W. J. (2010). The impact of coercive and non-coercive forms of influence on trust, commitment, and compliance in supply chains. *Industrial Marketing Management*, *39*(3), 519–526. https://doi.org/10.1016/j.indmarman.2009.05.007

Jack, E. P., & Powers, T. L. (2015). Managing strategic supplier relationships: antecedents and outcomes. *Journal of Business & Industrial Marketing*, *30*(2), 129–138. https://doi.org/10.1108/JBIM-08-2011-0101

Jiang, Z., Henneberg, S. C., & Naudé, P. (2011). The importance of trust vis-à-vis reliance in business relationships: some international findings. *International Marketing Review*, *28*(4), 318–339. https://doi.org/10.1108/02651331111149921

King, S. P. (2013). Two-Sided Markets. *Australian Economic Review*, *46*(2), 247–258. https://doi.org/10.1111/j.1467-8462.2013.12020.x

MacMillan, K., Money, A., Money, K., & Downing, S. (2005). Relationship marketing in the not-for-profit sector: an extension and application of the commitment–trust theory. *Journal of Business Research*, *58*(6), 806–818. https://doi.org/10.1016/j.jbusres.2003.08.008

Mentzer, J. T., Min, S., & Zacharia, Z. G. (2000). The nature of interfirm partnering in supply chain management. *Journal of Retailing*, *76*(4), 549–568. https://doi.org/10.1016/S0022-4359(00)00040-3

Moorman, C., Zaltman, G., & Deshpande, R. (1992a). Relationships between providers and users of market research: The dynamics of trust within and between organizations. *Journal of Marketing Research*, *29*(3), 314–328. https://doi.org/10.2307/3172742

Moorman, C., Zaltman, G., & Deshpande, R. (1992b). Relationships between Providers and Users of Market Research: The Dynamics of Trust within and between Organizations. *Journal of Marketing Research*, *29*(3), 314–328.

Morgan, R. M., & Hunt, S. D. (1994a). The Commitment-Trust Theory of Relationship Marketing. *Journal of Marketing*, *58*(3), 20–38.

Morgan, R. M., & Hunt, S. D. (1994b). The Commitment-Trust Theory of Relationship Marketing. *Journal of Marketing*, *58*(3), 20–38. https://doi.org/10.2307/1252308

Morgan, R. M., & Hunt, S. D. (1994c). The Commitment-Trust Theory of Relationship Marketing. *Journal of Marketing*, *58*(3), 20–38.

Palmatier, R. W. (2008a). Interfirm Relational Drivers of Customer Value. *Journal of Marketing*, *72*(4), 76–89. https://doi.org/10.1509/jmkg.72.4.76

Palmatier, R. W. (2008b). Interfirm Relational Drivers of Customer Value. *Journal of Marketing*, *72*(4), 76–89. https://doi.org/10.1509/jmkg.72.4.76

Suarez, F. F., & Kirtley, J. (2012). Dethroning an established platform. *MIT Sloan Management Review*, *53*(4), 35.

Theron, E., Terblanche, N., & Boshoff, C. (2011). The Antecedents of Trust in Business-to-Business Financial Services. *Journal of Business-to-Business Marketing*, *18*(2), 188–213. https://doi.org/10.1080/1051712X.2010.499837

Ulaga, W., & Eggert, A. (2006). Relationship value and relationship quality: Broadening the nomological network of business-to-business relationships. *European Journal of Marketing*, *40*(3/4), 311–327. https://doi.org/10.1108/03090560610648075

Wu, M.-Y., Weng, Y.-C., & Huang, I.-C. (2012). A study of supply chain partnerships based on the commitment-trust theory. *Asia Pacific Journal of Marketing and Logistics*, *24*(4), 690–707. https://doi.org/10.1108/13555851211259098

Zaheer, A., McEvily, B., & Perrone, V. (1998). Does Trust Matter? Exploring the Effects of Interorganizational and Interpersonal Trust on Performance. *Organization Science*, *9*(2), 141–159. https://doi.org/10.1287/orsc.9.2.141

DXB072

COMPETENCE CERTIFICATION IN THE FOURTH INDUSTRIAL REVOLUTION

Maria Rosaria Sessa, masessa@unisa.it
Ornella Malandrino, ornellam@unisa.it
University of Salerno, Italy

ABSTRACT

The objective of the work is to create an Ontology-based Model representing the soft competences required by 2020, able to create semantic consistency in management competences for Human Resource management systems. The proposed approach is based on the idea that it is possible to implement an approach that identifies, evaluates and certifies skills in organizations by exploiting ontologies or through the ability to describe knowledge within a specific domain, while also enabling the automatic processing by the computers of the knowledge thus represented. This would lead to the implementing of a more sophisticated intraoperative tool compared to those currently in place at Community and national level, based on the recognition of previously acquired learning experiences and the qualifications that individuals possess. This would mean greater cooperation between education and vocational training favoring the readability and portability of competences required by the Industry 4.0.

Keywords: Competence; Certification; Human Resource Management; Corporate Social Responsibility; Ontology-based Model

Introduction

The territorial development aims for satisfying different and growing human needs: from goods production to housing, manufacturing and energetic needs. The activities that have various effects on territory, some of these make its characteristics or functions worse, other activities are able to increase them. For this reason, it is necessary a new interpretation of economical, natural and social phenomena, following a systemic approach able to reinterpret them for the dissemination of ecologically and socially sustainable economic (Proto and Supino, 2009). The realisation of an accurate social-environmental management implies the expansion of traditional economical approach to overcome or integrate the conventional one that is based on maximisation of wealth, including other objectives as environmental protection and the enhancement natural and human resources on the territory.

Therefore, there is a need to go beyond the generic concept of Corporate Social Responsibility, taking into account rather the concept of corporate sustainability, whereby the satisfaction of the needs and expectations of the parties involved must be supported by means of 'triple bottom line approach (Nigro and Petracca, 2016).

In the light of this, human capital formation exerts a significant impetus on the economic and social growth path of a community, as defined by economist Gary S. Becker in 1964, according to which human capital represents the whole of the productive capacity that an individual acquires through the accumulation of general or specific knowledge, of savoir-faire. It is an intangible resource that, like any other capital, has the capacity to reproduce, throughout the life of the individual, through different types of learning: formal, non-formal and informal (Malandrino et al., 2017).

© SGBED 2019

In particular, modern technologies, greater market demands and the search for a combination of efficiency and quality assurance, which have led to the emergence of new forms of production organization, will also have considerable repercussions on the level of qualifications and skills required to workers. In addition to a greater need for more declarative and procedural specific knowledge, key qualifications, system understanding and professional skills are also important. Therefore, job-based learning becomes more and more important to qualify workers inside and to benefit from new organizational forms. Learning potential involves the possibility that learning processes take place in a particular workplace (Sessa and Malandrino, 2018).

In this regard, the process of acknowledgement, validation and certification of competences takes on a strategic importance in the context of the increasingly interconnected spheres of school education, vocational training and human resources. The certification process in other words, can enhance our professional and individual cultural heritage in terms of the usability of characteristic knowledge, skills and abilities. Therefore, the evolution of this pathway, especially in normative terms, has led to the current state of the art in terms of certification at European and national level (Bresciani, 2012).

The aim of this study is to develop a management competence framework using the Ontology-based Model proposed by Miranda et al. (2017). We propose an approach based on ontologies that develops standards for certifying human capital competencies, in order to the soft skills required by 2020.

In the age of the Fourth Industrial Revolution, the model will serve as an integrated system where both the demand for jobs and recruitment strategies are harmonized in order to match labor demand and supply and to narrow the gaps in terms of competences possessed.

Competence certification in European Union

The training and development of human capital has assumed a key role in European Union strategy for some time, given the awareness of its centrality to the knowledge economy. The concept of human capital was introduced at the end of the eighteenth century by Adam Smith's "The Wealth of Nations," and since then has been analysed by numerous scholars. But it was not until the second half of the twentieth century that it became the subject of an organic economic theory, thanks to the pioneering contributions of Jacob Mincer (1958), Theodore Schultz (1961), and Gary Becker (1964), which interpreted "education" and "training" as resources able to create genuine stocks of competencies and abilities, capable of providing considerable impetus for the pursuit of economic and social growth. In recent decades, the attention given to human capital became even more marked, since it was considered an essential asset and a significant driver of the transition toward objectives characterized by sustainable development and inclusion and social cohesion. The Lisbon Strategy, adopted by the EU in 2000, was the first to officially establish the importance of implementing new paradigms, in the context of European social and economic policies aimed at the transition to a knowledge economy, focused on the synergistic pursuit of economic, cultural, and social objectives. This ambitious strategy is founded on two key elements: the continuous training of individuals to activate innovative circuits and participate in the global challenge of competitiveness, and the centrality of the person, with a focus on recognizing and certifying individual competencies, however they were acquired. The Lisbon Strategy gave rise to an unceasing commitment that has wound its way through (though at varying intensities) the last fifteen years of European policy, aimed at creating a harmonized national framework oriented toward creating a coherent space in which to bring together the multiple levels of education existent in the EU. Today, competencies are understood as the outcome of various paths of learning, cumulatively acquired over a person's lifetime. Learning has, in fact, acquired a dimension that goes beyond the

narrow limits of traditionally recognized training activities that normally lead to certification, such as those carried out for a course of study (formal training), encompassing others associated with training activities carried out in various environments, such as those acquired in the workplace (non-formal training) and in daily life (informal training), which have traditionally not been eligible for certification.

The need to construct a European area based on harmonized standards and metrics, comparability, transferability, and recognition of competencies as well as the free circulation of workers, is even more strongly felt in the current occupational scenario (Ferrera, 2013). This is true also in light of the Europe 2020 Strategy of March 2010 (European Commission, 2010), in which education, training, and learning are considered fundamental pillars for the achievement, by 2020, of the desired objectives of intelligent, sustainable, and inclusive growth.

But it's starting in the late 1990s that, the European Commission and CEDEFOP established the European Forum on the transparency of professional qualifications, highlighting the need for initiatives to improve the transfer of results obtained from training courses in various countries, promoting dialogue among interested parties, and stimulating the proper implementation of policies that had previously been enacted as well as the adoption of new programs to certify of the "quality" of learning. The purpose was to create a European space in which to effectively reconcile training and employment, promoting mobility through appropriate measures to improve transparency and cooperation among Member States. A new approach was therefore delineated, arising from the incisive role of Europe, whose policy in this sector has been marked by three fundamental coordination processes for education and training, known as the Bologna Process, the Copenhagen Process and the process based on the "Open Method of Coordination" . Therefore, the renewed European training paradigm makes use of the fundamental contribution of a few pillars: standardization and certification. These customary concepts have long been in use worldwide in many areas of the economic system, particularly in the industrial sectors, which first warned of the need to implement processes and adopt standardization tools, and, subsequently, certification to promote the competitiveness of its products on international markets. On the other hand, the adoption of the tool of certification of the competencies resulting from learning processes is rather recent, despite the proclaimed centrality of quality assurance in the specific context of training (Squarzoni, 2013).

Although the EU has been engaged since the early 2000s in a multitude of measures to promote closer cooperation between Member States with regard to competencies, transferability of training credits, and mutual recognition, emphasizing the role of new European certification systems, a truly significant moment was the publication (December 2012) of the EU Council Recommendation on the validation of non-formal and informal learning, which asks Member States to institute national systems by 2018. The purpose of this is to bring the training policies initiated in various countries together toward the common meta-objectives of customization of courses and development of individual competencies, in order to interpret the challenges of the Industry 4.0.

Competence certification in Italy

In Italy, though delayed in comparison to the rest of Europe, a fertile debate has arisen on competencies along with meaningful standards, causing certain structural and cultural changes in systems of education and training, redefining points of view, roles, and approaches that are more or less established.

Notable value has been given to the problem of evaluation and certification of competencies, to be framed within a complex system, articulated into national standards and

European Credits: essential prerequisites for purposes of effective intersystemic usability of credits acquired (ISFOL, 1998).

Law 30/2003 (Biagi Law) and Law 53/2003 (Moratti Reform) emphasize the links between training, work, and competencies. Their certification takes place according to the methods set out by the regions, based on the list of professional and training standards. The subsequent labor market reform initiated by Law 92/2012 (Fornero Law) sets out a systematic regulatory process to create a national competencies certification and validation framework for formal and non-formal learning. For the first time, this was characterized by an approach based on national and mandatory rules aimed at identifying subjects and procedures for competencies certification. A direct consequence of this was Legislative Decree no. 13/2013, which defines the general standards and essential performance levels, according to the respective spheres of competence of the national and regional governments, as well as the independent provinces of Trento and Bolzano, for the identification and validation of formal, non-formal, and informal learning, with reference to the national competencies certification system. This last is defined as "the set of services for the identification, validation, and certification of competencies granted in compliance with general standards, essential performance levels, and minimum standards." Competencies acquired by the person in formal, non-formal, or informal contexts, which can be demonstrated through evidence and tests, are subject to identification, validation, and certification. The regulatory framework on the issuance of degrees, certificates, and qualifications is therefore transformed, both through the revisiting of the institution of competencies certification and through the introduction of identification and validation of competencies.

The measure therefore arranges under unitary governance various institutions, some previously applicable standards (e.g., certification at the end of formal courses of study), and others that have been newly introduced (e.g. validation of learning acquired in various areas of the person's life). For various reasons, these involve many competent public authorities, central and regional (Authorized Authorities), on the evaluation and issuance of degrees, certificates, and qualifications. Added to these are academic institutions, universities, and advanced art, music, and dance institutions, as well as Chambers of Commerce.

In fact, the essential levels of the process are set out by the national legislature, while implementation is left to the Authorized Authorities, accredited and authorized for the purpose. Legislative Decree no. 13/2013 also specifies the institution of a National List of Educational Degrees, Training, and Professional Qualifications, which will act as the essential reference for competencies certification through the progressive standardization of the essential descriptive elements of degrees and qualifications (ISFOL, 2013).

The regions are enabled to implement systems for the recognition and certification of competencies, focused on the person in a lifelong learning context, to ensure the capitalization of competencies, wherever and however accumulated. Currently, however, a complex and manifold landscape has emerged, since the creation of an organic regulatory framework and the implementation of procedures applies only to a group of "pathbreaking" regions, some of which have also produced guidelines to provide operational instructions for use by those involved.

In particular, to date, eight regions - Valle d'Aosta, Piedmont, Emilia-Romagna, Lombardy, Tuscany, Umbria, Veneto, Sardinia - have already defined a system of competencies certification, and some of these (Veneto, Sardinia, Piedmont) are in the completion phase. Two regions - Molise and Sicily- do not yet have a certification system, and the remaining eleven are engaged in the progressive preparation and implementation of processes. We can say, therefore, that up to this point, the formalization and standardization of systems for the validation and

certification of non-formal and informal learning in Italy has been completed only in some areas.

In Italy, Legislative Decree no. 13/2013 certainly marked an important step forward, first and foremost from a conceptual point of view, concretizing the overcoming of the ancillary position of non-formal and informal learning compared to formal learning. This is in line with the orientation, by now largely shared, toward their necessary equalization in order to holistically integrate systems of education and training, with a view towards lifelong learning. From a more distinctly operational perspective, however, in light of the varying levels of local implementation, an even more fragmented approach emerges and, except for some cases in which the institutional task appears to be complete, indicates the risk of adopting, in extremis, provisions that replicate national guidelines, without taking into account the peculiarities of the relevant context as well as the possibility of adding new functions within territorial governance for training and work (Casano, 2014). The creation of a national list of educational degrees and training, understood as a unitary frame of reference for competencies certification, on the one hand also risks passively being the mere sum of the experiences of regional codifications, and on the other could suffer from excessive bureaucratization, which would hinder the ability of the various professional "families" to reflect the magmatic and multifarious developments typical of the current job market. Italy has not yet succeeded in creating a complete national system of validation of non-formal and informal learning and competencies certification, connected to a national list of qualifications. This hinders attempts to innovate the Italian model of work and training regulation, once again testifying to the lack of fundamental institutional preconditions (Casano, 2015) for responding to the expansion of needs for competencies and training opportunities, which are also essential elements for the support of occupational transitions in the Fourth Industrial Revolution.

The Ontology-based Model in the Fourth Industrial Revolution

In the last few years, the knowledge society has been widely recognised as the key factor for social and human growth in Europe, with education, training, skills, competence and cooperation acting as vital elements in the consolidation of European citizenship.

The focus on these elements is probably due to their ability to facilitate a smooth and guided transition when individuals undertake career changes. Consequently, such aspects as the mobility, interdisciplinary and internationalisation of human capital are increasingly dependent on the creation of learning and training paths rich in different sources of experience and competence that can be adapted to changing demands and conditions and can also be recognised by professional communities and organisations (Malandrino et al., 2017).

Although this issue is still the focus of far-reaching debates in the economic and socio-political sphere as well as in the field of education and training throughout Europe, a number of important goals have still not been reached. These include the introduction of competence recognition and certification systems referring primarily to individual people and based on the implementation of procedures characterised by simplicity, transparency and accessibility so that they will be compatible and consistent with a variety of reference contexts. This makes it extremely difficult to establish a European and national framework that can harmonise efficient standards, processes and procedures so as to ensure measurability and transferability when and where required.

The Italian model for regulating work and training is not yet able to meet the augmented need for competence and training opportunities, which are essential features in supporting career changes.

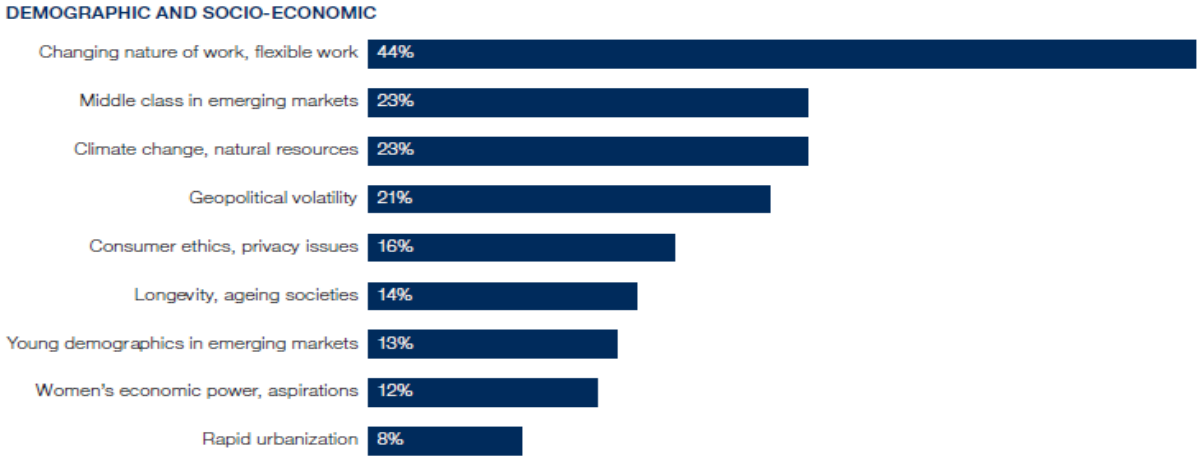
In short, recent decades have seen a growth in the fundamental importance of human capital, now considered to be an essential asset and a powerful driver in the transition towards goals imprinted with such values as sustainable development and social inclusion and cohesion of the Industry 4.0.

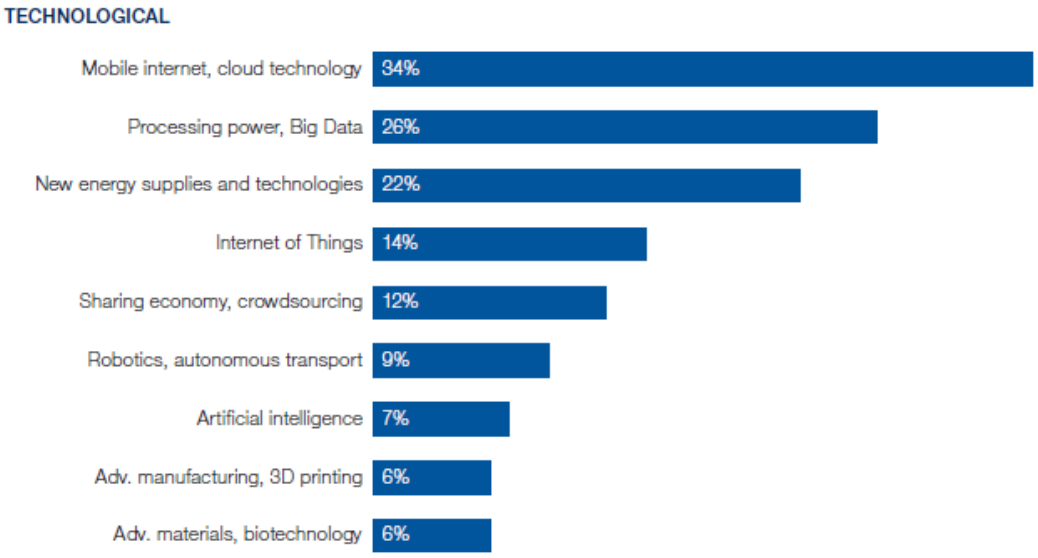
By 2020, the Fourth Industrial Revolution will have brought us advanced robotics and autonomous transport, artificial intelligence and machine learning, advanced materials, biotechnology and genomics. These developments will transform the way we live, and the way we work. Some jobs will disappear, others will grow and jobs that don't even exist today will become commonplace. What is certain is that the future workforce will need to align its skillset to keep pace.

Many of the major drivers of transformation currently affecting global industries are expected to have a significant impact on jobs, ranging from significant job creation to job displacement, and from heightened labour productivity to widening skills gaps. In many industries and countries, the most in-demand occupations or specialties did not exist 10 or even five years ago, and the pace of change is set to accelerate.

Developments in previously disjointed fields such as artificial intelligence and machine learning, robotics, nanotechnology, 3D printing and genetics and biotechnology are all building on and amplifying one another. Smart systems—homes, factories, farms, grids or entire cities—will help tackle problems ranging from supply chain management to climate change (WEF, 2016). Concurrent to this technological revolution are a set of broader socio-economic, geopolitical and demographic developments, each interacting in multiple directions and intensifying each another (Fig. 1).

FIG. 1: CHANGE DRIVER OF FOURTH INDUSTRIAL REVOLUTION





Source: World Economic Forum, 2016.

In this context, in addition to the quantity of jobs, disruptive changes to industries and business models will also affect the quality, skills requirements and day-to-day content of virtually every job. In fact, the accelerating pace of technological, demographic and socio-economic disruption is transforming industries and business models, changing the skills that employers need and shortening the shelf-life of employees' existing skill sets in the process.

Even those jobs that are less directly affected by technological change and have a largely stable employment outlook—say, marketing or supply chain professionals targeting a new demographic in an emerging market—may require very different skill sets just a few years from now as the ecosystems within which they operate change (WEF, 2016).

Beyond hard skills and formal qualifications, employers are often equally concerned about the work-related practical skills or competences that current employees (or prospective new hires) are able to use in order to perform various job tasks successfully.

According to the Report of World Economic Forum (2016) finds that these practical skills, too, will be subject to accelerating change and significant disruption in the immediate future. On average, by 2020, more than a third of the desired core skill sets of most occupations will be comprised of skills that are not yet considered crucial to the job today. In fact, in 2020 the required skills will be the following (Table 1):

TABLE 1: TOP OF 10 SKILLS: 2020 VS 2015

	2020	2015
1	Complex Problem Solving	Complex Problem Solving
2	Critical Thinking	Coordinating with Others
3	Creativity	People Management
4	People Management	Critical thinking
5	Coordinating with Others	Negotiation
6	Emotional Intelligence	Quality Control
7	Judgment and Decision Making	Service Orientation
8	Service Orientation	Judgment and Decision Making
9	Negotiation	Active Listening
10	Cognitive Flexibility	Creativity

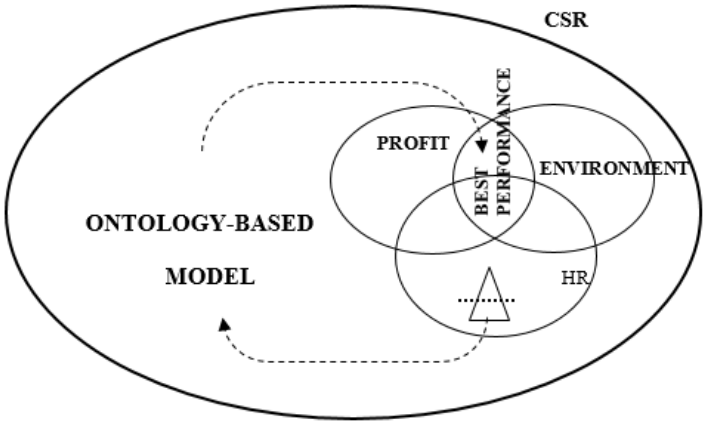
Source: World Economic Forum, 2016.

Creativity will become one of the top three skills workers will need. With the avalanche of new products, new technologies and new ways of working, workers are going to have to become more creative in order to benefit from these changes. Whereas negotiation and flexibility are high on the list of skills for 2015, in 2020 they will begin to drop from the top 10 as machines, using masses of data, begin to make our decisions for us.

Similarly, active listening, considered a core skill today, will disappear completely from the top 10. Emotional intelligence, which doesn't feature in the top 10 today, will become one of the top skills needed by all. In light of this framework, the proposal to use the Ontology-based Model (Miranda et al., 2017) for recognizing, assessing and certifying the competencies acquired by individuals in various areas of learning, especially in non-formal and informal education, is a useful theoretical and conceptual reference for achieving the above-mentioned objectives.

The proposed approach is based on the idea that it is possible to enhance the skills, knowledge and competencies of human capital, in order to increase the competitive advantage of organizations that are interested in the CSR management model, in the Fourth Industrial Revolution (Sessa and Malandrino, 2017).The proposed approach is shown in Figure 2 below:

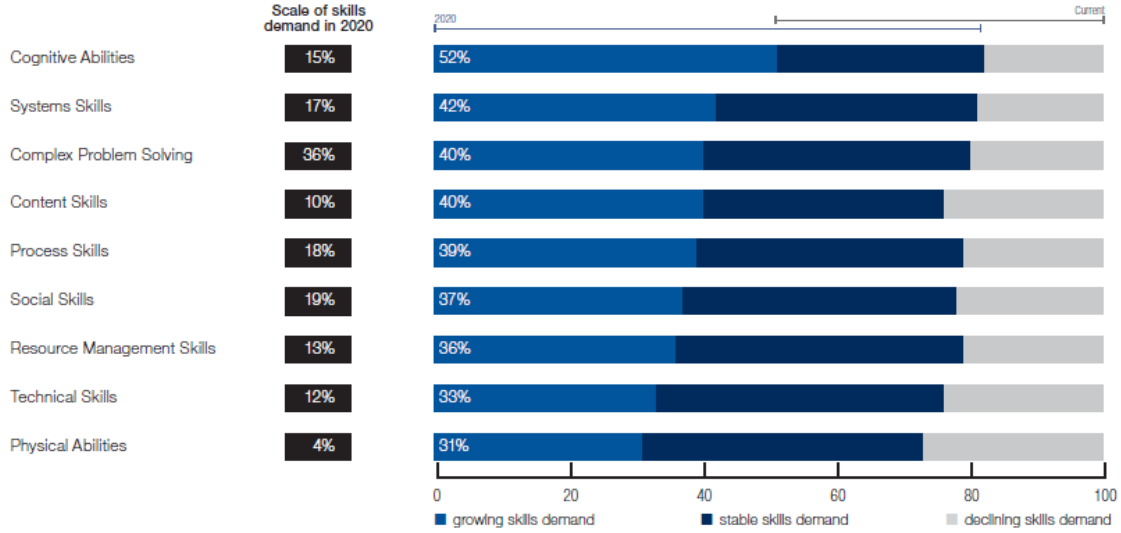
FIG. 2: THE PROPOSED APPROACH



In a scenario where only flexibility and adaptation processes allow organizations to cope with uncertainties and different market conditions, it is necessary and strategic to recognize and value the most dynamic dimension of the organization, that is human capital. Not identify and value a competence is a matter of survival for a small or medium-sized enterprise, in a moment of strong competitiveness and few space on the market. To adapt to the external environment, it is necessary to act on the competence in order to identify those present and usable, those obsolete and the combination of those useful to make possible the organizational behaviours required. For these purposes, it is essential to use policies and practices (like the model based on ontologies) in order to create shared standards for governments, institutions, companies, research groups and international initiatives for defining and implementing competence management systems that, together with the other growth factors formulated by socially responsible organizations, favour best business performance in the Industry 4.0.

The proposed approach will allow to respond to the skills demand that is evolving rapidly at an aggregate industry level. The degree of changing skills requirements within individual job families and occupations is even more pronounced (Fig. 3).

FIG. 3: CHANGE IN DEMAND FOR CORE WORK-RELATED SKILLS, 2015-2020, ALL INDUSTRIES



Source: World Economic Forum, 2016.

Conclusions

The impact of technological, demographic and socio-economic disruptions on business models will be felt in transformations to the employment landscape and skills requirements, resulting in substantial challenges for recruiting, training and managing talent.

It will entail innovating within education and labour-related policymaking, requiring a skills evolution of its own.For businesses to capitalize on new opportunities in the Fourth Industrial Revolution, they will need to put talent and competence development and future workforce strategy front and centre to their growth.

Business leaders, educators and governments all need to be proactive in up-skilling and retraining people so everyone can benefit from the Fourth Industrial Revolution. Therefore, this paper describes an approach which is capable of representing the competencies developed in different areas of learning, especially in non-formal and informal education, by using ontologies.

The main advantages of the proposed approach is that it is able to reduce the gap in the labor market between skill supply and demand and lower the costs of an organization in terms of selection as well those related to the training and management of human resources, since the Ontology-based Model would be able to: identify, represent, evaluate and 'standardize' non-formal and informal competencies, which even if they are the most difficult characteristics to identify, they can provide predictive superior performance measures; improve the match between labour supply and labour demand, and facilitate the marketability and transferability of competencies in the context of job mobility.

References

Becker, G. (1993). *Human Capital*. New York: Columbia University Press.

Bresciani, P.G. (2012). *Capire la competenza. Teorie, metodi, esperienze dall'analisi alla certificazione*, FrancoAngeli, Milano.

Casano, L. (2014). Occupational transitions and competencies certification. Transizioni occupazionali e certificazione delle competenze. *Formazione, Lavoro, Persona* 10: 46-68.

Casano, L. (2015). Quadri nazionali delle Qualifiche: a cosa servono e perché l'Italia è rimasta indietro. [Electronic version] *Bollettino Ordinario ADAPT 23*.

European Commission (2010). Europa 2020: Una strategia per una crescita intelligente, sostenibile e inclusiva. [Electronic version] http://eur-lex.europa.eu/legal-content/IT/ALL/?uri=uriserv:em0028.

Ferrera, M. (2013). Verso un modello UE del capitale umano? *Scuola Democratica 3.*
ISFOL (1998). *Unità Capitalizzabili e crediti formativi. Metodologie e strumenti di lavoro*. Di Francesco Gabriella, Milano: Franco Angeli.
ISFOL (2013). *Validazione delle competenze da esperienza: approcci e pratiche in Italia e in Europa*. ISFOL FSE-Rubbettino.
Malandrino, O., Supino, S., Sessa, M.R., Testa, M. (2017). La certificazione delle competenze quale strumento di integrazione tra filiere formative e mercato del lavoro?, *Scuola Democratica*, vol. 1, ISSN 1129-731X.
Mincer, J. (1958). Investment in Human Capital and Personal Income Distribution. *Journal of Political Economy*, 66, 4: 281-302.
Miranda, S., Orciuoli, F., Loia, V., Sampson D. (2017). An ontology-based model for competence management, *in Data and Knowledge Engineering*, vol. 107, Jan. 2017, 51-66, DOI: http://dx.doi.org/10.1016/j.datak.2016.12.001.
Nigro, C., Petracca, M. (2016). *La CSR dalle origini all'approccio neo-istituzionalista. Focus sui processi di isomorfismo e di decoupling*, Giappichelli editore, Torino.
Proto, M., Supino, S. (2009). *Dal Management Ambientale alla Responsabilità Sociale delle Organizzazioni, Stato del'arte e dinamiche evolutive*, Giappichelli Editore, Torino.
Schultz, T. W. (1961). Investment in Human Capital. *The American Economic Review*, 51, 1: 1-17.
Sessa, M.R., Malandrino, O. (2017). Ontology-based Model sustaining Competence Management within Corporates: Competence certification in CSR", The 17th IEEE International Conference on Advanced Learning Technologies - ICALT2017, July 3-7, 2017, Timisoara – Romania, 525-527, DOI: 10.1109/ICALT.2017.126. ISSN: 2161-377X.
Sessa, M.R., Malandrino, O. (2018). *Semantic Web technology as a Tool for Integrating Training and Job Market Supply Chains*, The 18th IEEE International Conference on Advanced Learning Technologies - ICALT2018, July 9-13, 2018, Bombay Mumbai – India, 441-443, DOI:10.1109/ICALT.2018.00088, ISSN: 2161-377X.
Smith, A. (1976). *La ricchezza delle nazioni*, Roma: Newton Compton Editori.
Squarzoni, A. (2013). Qualità, Assicurazione della Qualità, Valutazione della Qualità, Accreditamento della Formazione universitaria, *Scuola Democratica 2*.
World Economic Forum (2016). [Electronic version] https://www.weforum.org/agenda/2016/01/the-10-skills-you-need-to-thrive-in-the-fourth-industrial-revolution/.
World Economic Forum (2016). The Future of Jobs. Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution. [Electronic version] http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf.

DXB107

GREEN PRODUCT CONSUMPTION PATTERNS IN GCC: AN EXPLORATORY STUDY OF LULU HYPERMARKET, UAE.

Anil Roy Dubey, adubey@skylineuniversity.ac.ae
Associate Professor, Skyline University College, Sharjah, UAE

ABSTRACT

The main purpose of the present study is to conduct an empirical study towards the phenomenon of green product consumption. The intentions of current research is to contribute towards the emerging trends of green product consumption. The associated factors with social and environmental dimensions in UAE context. A non-probability and purposive sampling technique is used to accomplish the objective of current research, as the focus is towards the exploration of green product consumption. It follows qualitative tools for data collection through structured and semi-structured interviews. Interview guide is generated based on the research questions. Based on the data collected from sampling subjects the results highlighted that the most exploratory factors behind the phenomenon of green product consumption are price, product knowledge, quality, environmental consciousness, and social context. Results of current research is novel in terms of an explanatory research as well contributing to the corporate decision makers. It helps the strategists to take guidance from these results while establishing any green consumption product strategies.

Keywords: Green Product Consumption, Price, Product Knowledge, Quality, Environmental Consciousness, Social Context.

Introduction

Numerous research in green marketing stated that the customers do not ordering Green products regularly as businesses are expected (Gleim et.al2013; Polonsky, 2011). The expected market share for Green Product consumption is lesser than 4% globally as well it is decreasing (Gleim et al., 2013). Lin and Huang (2012) concentrated on the client's attitudes and stated that the manufacturers or marketers encourages the customer practices that results less harmful effect for environment.

Life quality and environmental care are regularly considered by green product customers as a support during purchasing decision (Cherian & Jacob, 2012). The emotional aspiration is more related to Green product consumer as compared to functional attributes of products like price (Lin & Huang, 2012). Nielsen (2011) stated that the environmental issues and global warming are contemporary issues of the society. This further revealed that 69% of the researchers in global research showed their strong will in this phenomenon. 3 out of 4 informants were anxious about smog, pesticides (73%) air (77%) and water scarcity (73%). Another research scholar contributed their efforts in these environmental considerations and stated a comparison that, in 2012 these effects enlarged by 13% as compared to 2009 (A. E. Nielsen & Thomsen, 2012)

The role of moral practices in environmental protection is considered as a worthwhile phenomenon (Lai, Cheng, & Tang, 2010; A. E. Nielsen & Thomsen, 2012). The facts of Euro monitor (2015a) highlighted that by emergence of a plan for environmental protection and integration of business principles, US hyper store like Wal-Mart raise their customers spirits through buying of an organic products and usage of solar energy. Hence these results contributing that the green product consumption and moral practices of an individual is related to each other.

Current exploratory research targeted the LuLu Hyper mart for exploring the trends of green product consumption. LuLu industries headquarter is in Abu Dhabi and was founded in 1990s. They have a vision to be No. 1 in retail stores. They are more entitled with their missionary values of unique customer's experience. LuLu hypermarket extended their services by exploring opportunities and covered potential gap in the market. LuLu hypermarket have several promotional plans for targeted customers. They have significant features like; extensive parking area, play lands for children, food courts, retail website, highly exclusive brands, social media integration and responsiveness, unique pick-away service and especially the banking counters. Their products comprise of clothes, electronics, and grocery items etc. LuLu hypermarket has a strong mission dinged into their value to focus on their customers and their needs to ensure the quality products and excellent services provisioning. For data collection UAE states has been targeted because they have a wide network coverage in that area.

Lulu hypermarkets are facing large competitive forces in UAE. More than 33 supermarkets in the emirates are providing their services. Lulu Hypermarket has connected with Dubai Metropolis to allocate 6,000 environmental recyclable baggage in Al Barsha, Dubai. Lulu presently activates 145 stores worldwide and has been constantly supportive government creativities. They launched a new campaign in UAE with a slogan of 'I choose to Reuse' in partnership through Dubai Municipality's Waste Management Department. Lulu hypermarket participated its retail network of business companions, workforce, and shopping clients for sustainable eco-friendly performs. Consequently, the current strategies of Lulu hypermarket regarding green marketing added a vital contribution to deliver green environment and endorse development by latest modes with a considerable influence.

Objectives of the Study

These study objectives are to focus on individual customers of LuLu Hypermarket, who are consuming the green products for the welfare of the environment with their novel services.

- To explore the green product consumption behavior of LuLu, UAE customers
- To explore in-depth aspects related to green product consumption.

Rationale & Significance of Study

The motivation of current study is to put an emphasis over the social welfare of an environment. Secondly its focus is on the competitive success of the green performance business. The environmental and social welfare are the core reason to promote trend and intention towards the green product consumptions. These trends or purchase intentions will become most promising for business competitiveness and sustainability. With this argument the focus of study is to explore the green product consumption phenomenon, specifically in the perspective of LuLu Hypermarkets in UAE. Green product consumption encourages thinking for environment that increases consciousness in the environment. The existing literature is deficient to explore the green product consumption pattern in UAE. With this reason the study is exploring the factors that motivates consumers to take green products. A survey is directing the individuals who have purchased the green products was performed in hypermarket in UAE.

Literature Review

Green products production is becoming a way to reduce environmental effects of developing markets (Mont & Plepys, 2008). The discussion about Green marketing practices is an ongoing phenomenon of research (Hamwey, Pacini, & Assuncao, 2013). No arrangements are allocated to green practices globally; but, the World Trade Organization Commission has reserved debates to lean production, as well opening schedules have been documented (Hamwey, Pacini, & Assuncao, 2013). The tasks related to standards for Green marketing phenomenon revealed the purchaser rewards of these goods (Dangelico & Pontrandolfo, 2010).

Urbanization growth improved the way of living, diversification and growth of products and services that an end user intake. This progress raised up the decline of natural goods and bringing negative effects on environment. It also carries the global warming and deforestation for other living organisms like plants or wildlife (Chen & Chai, 2010). Another past study stated that It's not all about the price, but the worth, luxurious of the intellectual capacity, the use, to build truthful Green that can control the global warming. Hence the Green marketing aids in an effective consequences like cost wounding, employee satisfaction, leftover or waste minimization and the society well-being (Devi,R.Uma, 2015).

McDonald and Oates (2006), stated that marketing strategies and sustainability of business have a significant association among each other. Tsen, Phang, Hasan, and Buncha (2006), observed an empirical relationship between attitude and behavior of green products consumption and results of his sample based in UK reported positive, strong and significant association among the study variables. Latest research contribution of Wiwik Handayani and Rendra Abdi Prayogo (2017) acknowledged the significant influence amid the consumer attitude of green product consumption and purchase intentions

Mostafa (2009) highlighted the most influential factors towards the consumption of green products in context of Kuwaiti market products. Smith and Paladino (2010) explained that behind the consumption of green products there is a strong will of the consumer's motivation level. That motivation can be enhanced through marketing strategies, through social context etc. In addition, Zhaoa, Gaob, Wua, Wanga, and Zhua (2014) conducted an explanatory study regarding green product consumption in china and stated a significant association among the consumer behavior and the consumption level.

Companies transfer green plans over what Lavidge and Steiner (2000) called "image publicity", that emphasis on few steps of creating feelings rather than directly targeting behavioral actions of an end user loyalty. In current sequence of cognitive, emotional and conative ladder green image is associated company image. Simultaneously, it controls emotional reactions from customers (like green satisfaction). Finally, these affective reactions have emotional impact on customer behavioral or conative results, such as repurchase actions (e.g. green loyalty or green products consumption) Lavidge and Steiner (2000).

Environmental technologies and social initiatives are all important to economic sustainability, but their influence rests on achieving changes in actual consumption behavior (Peattie & Charter, 2010). The notion of green products related consumption has emerged phenomenon in academic debates regarding environmental effects of green consumption. The concept of green consumption first became explicit in the 1970s (Peattie & Charter, 2010) and many research articles since then have extended it.

Green consumers prefer those products that not affect the health of human and damage the environment (Tekade & Sastikar, 2015; Xie et al., 2014). The consumer of green products is those who preferred eco-friendly intentions and purchases green products over standard (Boztepe, 2012). Various empirical studies on green consumption have attempted to identify the factors that influence green behavior, including demographics (Diamantopoulosa, Schlegelmilchb, Sinkovicsd, & Bohlen, 2003), environmental knowledge, attitudes (Chan & Sengupta, 2001), values (Mosahab, Mahamad, & Ramayah, 2010), and internal and external moderators (Rylander & Allen, 2001). Numerous models attempt to incorporate internal and external elements of environmental behavior and the attitude-behavior-context model (Stern, 2000).

Research Methodology

Research Method

Research methodology section involves the best or a well-matched research design, data collection tools as well as the data analysis measures for addressing research questions behind the study investigation (Patton, 2002). A qualitative approach has been applied in this study which we believe will be more appropriate to explore the answers of the basic research objectives. According to the current study research questions that discourse of 'how' and in-depth meaning extraction quantitative design is not appropriate. Therefore, for exploring the research questions the researcher use qualitative research methods as they address how phenomena specifically occurred.

Research Philosophy

Research philosophy is relying on three paradigms comprises of positivism, Interpretivism and the critical research paradigms. This particular Researcher led this revision by concentrating on two main conventions of study methodology which includes epistemology as well as the ontology of interpretivist paradigm. (Creswell, Hanson, Plano, & Morales, 2007). Hence, the consumption behavior of individual regarding green product is an exploratory study. Our realties are mediated by our senses. Without consciousness the world is meaningless. The interpretive epistemology is one of subjectivism which is based on real world phenomena. The world does not exist independently of our knowledge of it (Scotland, 2012). The research paradigm behind this current study investigation is an Interpretivism which is a philosophical approach involving reality diverges from one individual to another.

Sampling Technique & Sample Size

This current study is relying on non-probability sampling technique and specifically a purposive sampling technique to accomplish the objective of current revision as the focus is towards the exploration of green consumption behavior of LuLu Hypermarket customers. Sample size is based on the purpose of the study, ease as well as the credibility of using that sample for the study (Patton, 2002).

Data Collection & Analysis

Data was composed by conducting structured and semi-structured interviews of 8 informants who are the customers of LuLu, UAE Hypermarket. Interview guide is generated based on the research questions. Semi-structured interview are used as we also have to create rapport amongst informants. Sometimes informants want to provide some additional information not available to be asked in our interview guide book. This is the communication or announcement process trendy amongst the researcher as well as the informants, generating subjective information shaped by the researcher (Delgado, González-Caballero, Hunter, Koopal, & Lyklema, 2007). By explaining the one of the factor behind green product consumption an informant described that

"*I am willing to use the product of this particular market as I am more satisfied with their provision of better quality life"*

"Taking good care of their customer's health is their priority that's why I am their loyal user"

*"*LuLu *Hypermarket providing us green products that satisfying my material needs as well as I am having a healthy lifestyle"*

Moreover another informant stated that

"Faithfulness and controlling stress as a form of balance is another advantage that I received with the consumption of these particular products".

The study of Lorek and Fuchs (2013) is also in the favor of this statement that while considering the life quality of customers their satisfaction as well stress removal are the major focus with particular consumption of offerings. Another informant stated that:

"*The positive feedback of few society members is now a part of satisfaction. This is not just making me satisfied but as well to inspire other individuals of this state that for the use of products".*

"The consumption of Green Products contributes to our society now and in the future".

Another response just linked up to social context that

"*I hope that the day is no so far when the Upraising trend of green product consumption among society members motivate their families to become a part of green practices for their environment*".

In addition, a loyal informant of LuLu Hypermarket specified about affirmative position towards social context in such a way that

"*Every society have every type of people, according to me I am more motivated about these products through my friends positive word of mouth that also increase my confidence level towards consumption of this store green products".*

While the interpretivist here explored that social circle has also an impact towards the consumption of green products of hypermarket.

"This store is providing me more information about green products that's why I am willing to buy their products".

"I decisions regarding purchase from this store are influences because LuLu *green products are also available with detail information context".*

Another informant explained while asking about the role of information related to product that

"Bulletins and other information about problems drives me for the consumption of green products of LuLu *Hypermarket".*

Studies of Jacob and Furgerson (2012) empirically proved that knowledge and information of product is significantly associated with buying decision of the end user. Hence, an interpreter now acknowledge a new factor with literature support that knowledge context have an impact on green product consumption. When an informants were asked about their willingness to prices as well income level for these green products they provide rich description that:

"For me this thing is more appreciating as well motivating if I buying the green products at the same price as non-green products".

"I am satisfied with the use of green products as these are not just providing me a quality but also a fair price".

Lin and Huang (2012), empirically conducted research regarding green marketing phenomenon and resulted that price and quality both are significantly related concepts regarding product consumption. Hence based on an informants statements as well the literature investigations an interpretation come up with a new factor price context that influence on the green product consumption of end user.

Few additional views of informants labeled that

"When I start using the products of LuLu *I realized that purchasing from this market has not any harmful effects towards my society".*

"Being a good citizen of my state it's my responsibility to use products that make convenience for me and environment as well".

Another potential informant gives detailed about environmental consideration that

"While seeing myself to be part of the environment the use of these products enables me to take all actions that positively impact towards my environment".

Williams and Parkman (2003) stated that reducing the waste of plastic, metals, paper, glass, chemicals, electric power, water and fuels have an impact towards the environmental

wellbeing. Furthermore, Veeravatnanond, Nasa-Arn, Nithimongkonchai, Wongpho, and Phookung (2012) described that buying a green product is good for the environment. Hence, rendering to all of the above rich description analysis regarding green product consumption factors the interpretivist in this research explored that quality, price, social context, knowledge and environment consciousness all have an influence towards green product consumption.

Hence the Results of current exploratory study explain an in-depth meaning of consumption of green product. Results showed that life quality, social contexts, environmental consciousness, price and product knowledge are the factors that customers expected with green product consumption when they purchase. In social context, the results labeled that customers have a sturdy control in the direction of their purchase from LuLu, Hypermarket.

Discussion & Conclusion

The theme of green product consumption in UAE context is chosen for study because past studies highlighted that this phenomenon has been remained unexplored within the context of an exploratory study and need to deliver an in-depth meaning of associated factors with green products consumption in LuLu, UAE hypermarkets end users.

Literature has been found on green marketing practices and the impact towards social or environmental perspective. Unfortunately, no study has been conducted by using interpretivist paradigm approach behind this phenomenon. This study has focus to explore an in-depth meaning and factors behind the UAE LuLu Hypermarket regarding green product consumption.

Results of this study provides an in-depth meaning of green product consumption. The interpretivist categories these results into associated factors. And explored that life quality, social contexts, environmental consciousness, price and product knowledge all are the factors that customers expected with green product consumption while making purchase from LuLu Hypermarket. Informant's described that green products enables us to feel satisfaction with our purchase and intake of these products leads to a healthy lifestyle and the consumption patterns enable stress-free life.

In social context, the results described that customers have a strong impact towards their purchase from LuLu, Hypermarket. Informants labelled that their family and friends motivating them to increase this consumption behavior. Additionally, in information and knowledge context this study explored the newsletters and other information about environmental problems would drive the consumption of green products. The results of this study is an addition to literature as previous researches did not explore this particular phenomenon as an in depth study.

Limitations and future Research Directions

This research has some limitations. The study was based on case study methodology and targeted only LuLu, UAE Hypermarket. In future studies the researchers can explore other green marketing practices with intentions to empirically investigate the other related practices in current scenarios of customers. The researchers further should explore the other behavioral insights like emotional, mental and social value of individual beneficiaries (customer, business) and society beneficiaries (society). Future research scholars should use current research results to investigate these empirically.

Added more few future research questions for researchers are given below:

RQ1: What Social and emotional values a beneficiary produced by green product consumption among customers as well business?

RQ2: What economical as well political supports are involved in developed states for improving green product consumptions?

References

Boztepe, A. (2012). Green marketing and its impact on consumer buying behavior. European Journal of Economic and Political Studies, (1), pp. 5-21

Chan, E., & Sengupta, J. (2001). Observing flattery: A social comparison perspective. *Journal of Consumer Research, 40*(4), 740-758.

Chen, T. B., & Chai, L. T. (2010). Attitude towards the environment and green products: Consumers' perspective. *Management Science and Engineering, 4*(2), 27–39.

Cherian, J., & Jacob, J. (2012). Green marketing: A study of consumers' attitude towards environment friendly products. *Asían social science, 8*(12). doi:10.5539/ass.v8n12p117

Creswell, J. W., Hanson, W. E., Plano, V. L. C., & Morales, A. (2007). Qualitative research designs: Selection and implementation. *The counseling psychologist, 35*(2), 236-264.

Dangelico, E. M., & Pontrandolfo, P. (2010). From green product definitions and classifications to the green option matrix. *Journal of cleaner production, 18*, 1608-1628.

Devi,R.Uma, (2015).Green Marketing - A New Paradigm In Modern Marketing: An Analysis, Ge-International Journal Of Management Research 3(6), 265-281.

Delgado, A. V., González-Caballero, F., Hunter, R. J., Koopal, L. K., & Lyklema, J. (2007). Measurement and interpretation of electrokinetic phenomena. *Journal of colloid and interface science, 309*(2), 194-224.

Diamantopoulosa, A., Schlegelmilchb, B. B., Sinkovicsd, R. R., & Bohlen, G. M. (2003). Can socio-demographics still play a role in profiling green consumers? A review of the evidence and an empirical investigation. *Journal of Business Research, 56*(6), 465–480.

Gleim, M. R., Smith, J. S., Andrews, D., & Cronin, J. J. (2013). Against the Green: A Multi-method Examination of the Barriers to Green Consumption. *Journal of Retailing, 89*(1), 44-61.

Hamwey, R., Pacini, H., & Assuncao, L. (2013). Mapping green product spaces of nations. *Journal of Environment and Development, 22*(3), 1–14.

Handayani, W. (2017). Green Consumerism: an Eco-Friendly Behaviour Form Through The Green Product Consumption and Green Marketing. *Sinergi: Jurnal Ilmiah Ilmu Manajemen, 7*(2)

Jacob, S. A., & Furgerson, S. P. (2012). Writing interview protocols and conducting interviews: Tips for students new to the field of qualitative research. *The Qualitative Report, 17*(42), 1-10.

Lai, K., Cheng, T. C. E., & Tang, A. K. Y. (2010). Green retailing and its success factors. *California Management Review, 52*(2), 6–31.

Lavidge, R., & Steiner, G. A. (2000). A model for predictive measurements of advertising effectiveness. *Advertising & Society Review, 1*(1), 59-62.

Lin, P. C., & Huang, Y. H. (2012). The influence factors on choice behavior regarding green products based on the theory of consumption values. *Journal of Cleaner Production, 22*(1), 11-18.

Lorek, S., & Fuchs, D. (2013). Strong sustainable consumption governance–precondition for a degrowth path? *Journal of cleaner production, 38*, 36-43.

McDonald, S., & Oates, C. J. (2006). Sustainability: consumer perceptions and marketing strategies Bus. *Business Strategy and the Environment*, 15(May/June), 157–170.

Mont, O., & Plepys, A. (2008). Sustainable consumption progress: should we be proud or alarmed? *Journal of cleaner production, 16*(4), 531-537.

Mosahab, R., Mahamad, O., & Ramayah, T. (2010). Service quality, customer satisfaction and loyalty: A test of mediation. *International business research, 3*(4), 72-80.

Mostafa, M. (2009). Shades of green: a psychographic segmentation of the green consumer in Kuwait using self-organizing maps. *Expert Systems with Applications, 36*, 11030–11038.

Nielsen. (2011). *Sustainable Efforts & Environmental Concerns around the World*. Retrieved from United States: http://www.nielsen.com/us/en/insights/reports/2011/sustainable-efforts-environmental-concerns.html.

Nielsen, A. E., & Thomsen, C. (2012). Corporate social responsibility (CSR) management and marketing communication: Research streams and themes. *Hermes-Journal of Language and Communication in Business, 25*(49), 49-65.

Nadaf, Y. B. R. and M. Nadaf, S. M. (2014). Green Marketing: Challenges and Strategies for Indian Companies In 21st Century, IMPACT, International Journal of Research in Business Management, 2 (5), pp. 91-104.

Patton, M. Q. (2002). Two decades of developments in qualitative inquiry: A personal, experiential perspective. *Qualitative social work*, 1(3), 261-283.

Peattie, K., & Charter, M. (2010). Green marketing. *The marketing book, 5*, 726-755.

Polonsky, M. J. (2011). Transformative green marketing: Impediments and opportunities. *Journal of Business Research, 64*(12), 1311-1319.

Rylander, D., & Allen, C. (2001). *Understanding green consumption behavior: Toward an integrative framework*.

Scotland, J. (2012). Exploring the philosophical underpinnings of research: Relating ontology and epistemology to the methodology and methods of the scientific, interpretive, and critical research paradigms. *English Language Teaching, 5*(9), 9-16. doi:10.5539/elt.v5n9p9

Smith, S., & Paladino, A. (2010). Eating clean and green? Investigating consumer motivations towards the purchase of organic food. *Australasian Marketing Journal, 18*, 93–104.

Stern, P. C. (2000). New environmental theories: toward a coherent theory of environmentally significant behavior. *Journal of social issues, 56*(3), 407-424.

Tsen, C.-H., Phang, C., Hasan, H., & Buncha, M. R. (2006). Going green: a study of consumers' willingness to pay for green products in Kota Kinabalu. *International Journal of Business and Society, 7*(2), 40–54.

Tekade, A. B., & Sastikar, S. S. (2015). Present Green Marketing: Importance and challenges in Customer satisfaction. *International Journal for Administration in Management, Commerce and Economics*, (3), pp. 308 - 312

Veeravatnanond, V., Nasa-Arn, S., Nithimongkonchai, W., Wongpho, B., & Phookung, K. (2012). Development of Risk Assurance Criteria to the utilization of natural resources and environment for sustainable development of life quality, economy and society in rural Thai Communities. *Asian Social Science, 8*(2), 189-195.

Williams, J., & Parkman, S. (2003). On humans and environment: the role of consciousness in environmental problems. *Human Studies*, 26, 449-460.

Xie, C., Bagozzi, R. P., & Grønhaug, K. (2014). The role of moral emotions and individual differences in consumer responses to corporate green and non-green actions. Journal of the Academy of Marketing Science, pp. 1-24.

Zhaoa, H.-h., Gaob, Q., Wua, Y.-p., Wanga, Y., & Zhua, X.-d. (2014). What affects green consumer behavior in China? A case study from Qingdao. *Journal of Cleaner Production, 63*, 143-161. doi:https://doi.org/10.1016/j.jclepro.2013.05.021

DXB119

PERFORMANCE MANAGEMENT SYSTEM: A CASE OF XYZ COMPANY IN KINGDOM OF BAHRAIN.

Bangari Naidu Sunkari, sbnaidu@gmail.com
Gulf Petrochemical Industries Company, Bahrain.
Gagan Kukreja, gkukreja@ahlia.edu.bh
Ahlia University, Bahrain.
Omar Albasteki, onb1982@gmail.com
Gulf Petrochemical Industries Company, Bahrain.

ABSTRACT

An ideal performance management system (PMS) is a heart of human resource function of any organization that provide basis for enhancing each and every individual, team and company performance. It also aligns the interest of employees and company. The case, based on descriptive research, focuses on PMS design (in-house) and implementation in Gulf based Petrochemical Industries Company (XYZ) from year 2010, with the help of SAP software.

XYZ's PMS was developed in consultation with senior managers, superintendents, senior supervisors, trade union and other related stakeholders. PMS design is based on inputs of benchmarking study done on other similar organizations. It is a continuous 2-way process (employee – line manager) with 3 stages (setting the objectives, mid-year review and final year rating). It is realized that professional, personal and interpersonal development are continuous requirement for all the employees to achieve employees' and company's target. The responsibility for driving employees' development is a shared between employees and their line managers. It has 4 elements such as quantity-based competencies, core competencies, technical competencies and attendance. The company has received excellent outcome by understanding and managing performance through an agreed framework of planned goals, standards and competency requirements. The case in-depth details provide opportunities for class discussions and foster students' critical and reflective thinking skills on performance management at undergraduate and graduate level. Further, this case can be used for business executive courses in workshops or seminars.

Keywords: Performance management system, goal congruence, career progression, employees' satisfaction, organizational performance, self-assessment, individuals work problems,

Target courses where case can be used

Human Resource Management, Strategic Management & Management Accounting (undergraduate/graduate level)

Intended Learning Outcomes

Upon successful discussion of this case, the participant will have reliably demonstrated the ability to:

1. Design an organization's PMS that supports organizational mission and strategy;
2. Define attributes of effective PMS;
3. Assess how increased employee involvement can contribute to attainment of company's target;

4. Identify and communicate activities with employees (eg training and development, wage growth, promotion, bonus etc.) based on their performance strengths and weaknesses.

© SGBED 2019

Introduction

Performance management (PM) measures consistently effect of achieving effective, efficient and timely targets. It focuses on the performance of an organization, department, employee, or process. If companies want to stay in competition, they should evaluate and develop their performance in all business areas. Employee performance is no exception; especially employees are often considered the company's most important, valuable and complex asset (Coff, 1997; Vaiman and Vance, 2008).

"Comprehensive research is required to understand the effectiveness of performance management systems (PMS) in organizations, especially from employee perspectives" (Dewettinck and Van Dijk, 2013; Mishra and Farooqi, 2013; Simmons, 2002). "The PMS has been gradually evolving from performance appraisal system (PAS)" (Sharma et.al., 2008), and therefore academics and practitioners make extensive use of the term PMS effectiveness (PMSE). They do not exist or are not well defined, but are associated with relevant concepts and operational actions. Hence research in this area is standstill (Andersen et.al., 2014). PMSE is very much important for organizations in succeed (Wendt, 2014; Blizzard, 2014). Practitioner literature warns that PMS will fail when employees suspect its credibility. More than institutional reality, the PMSE is determined by its perception and fairness, employee awareness (Luthra and Jain, 2012). Employee must be placed in a new breed steering mode of PMS (Trosten-Bloom et.al., 2014); Moreover, there is no transperance about PMSE's employee's awareness.

Most of the performance appraisals are a "managerial prerogative" (Biron et.al., 2011) therefore it is a "behavioral performance appraisal" (Snell and Youndt, 1995). Deficiency is biased, inequity and unfair. On the other hand some are of the opinion that there are elements of "employee programs, where some behaviors lead to increased performance" (Wood and Marshall, 2008). It is a strong selection and training program that helps employees (Selvarajan and Cloninger, 2012). Furthermore, "mutually agreed performance parameters that lead to certain agreed performance behaviors and outcomes" (Gruman and Saks, 2011), However, this cannot be expected alone. Armstrong and Baron (1998) defined the PM as a strategic and integrated policy for improving the performance of the public and increasing the impact of the companies by developing teams' capabilities and personal donations. Coordinating individual targets with company jobs and obtaining all employees to increase productivity and profitability of an enterprise can be achieved using coordination and target comparison.

Purpose and contribution of the case

The purpose of this case is to describe PMS which was designed in house and implemented in XYZ. This case can be used by management students and faculty members in reinforcing and applying the concept of PMS. Companies can use this case study for designing or improving their PMS. This case is descriptive in nature and developed based on first-hand experience of PMS at XYZ.

XYZ company PMS

It is a process of management, a cyclical and collaborative process between a line Manager and an employee, that provides direction for the employee, encourages coaching and feedback. It allows companies to integrate department, team and individual goals to ensure that all employees work at the same end to achieve company goals. It is designed to facilitate, organize, develop and help staff.

The system was introduced in year 2010 as a trial period for 2 years (i.e. up to 2012) and from year 2013 it is effective for all the employees on the all 4 elements, 1. Quantity based competencies, 2. Core competencies, 3. Technical competencies and 4. Attendance. It

recognizes the mutual obligations for management and employees to be responsible for their performance. Performance management process is an ongoing communication about organizational goals, encourage and reinforce accountability for meeting those goals, track and evaluate individual, departmental and organizational performance.

The process reflects the collaborative exchange in which organizers are responsible for developing their employees as well as allowing employees to provide significant contributions to the organization. Line Managers will make work expectations clear to their employees and apprise about establish procedures that actively and effectively enable the development of employee's performance.

i. Purpose

- To provide a regular objective and systematic analysis of employee's work performance and skills requirements;
- To recognize personal performance and skills of employees in achieving organizational objectives;
- To provide clear objectives and expectations of personal performance for all employees;
- To provide effective two way communications about work performance between employees and their managers;
- To ensure that all staff knows what potential there is for their own career development and progression within XYZ;
- To build upon any skills and knowledge gaps through training and development;
- To provide a full and detailed analysis of an individual's training and development needs and potential.

ii. Guiding principles

PMS at XYZ is anchored by a number of guiding principles as follows:

- Employees should be rewarded for the 'total contribution' they make at work;
- Assessment of Employee will be on the basis of both how they go about their work and what they achieve;
- 6 questions to employees and Line managers to achieve the most productive performance review summarized in Figure 1 (see appendix).

iii. Procedures

PMS will take place three times a year.

a) Beginning of the year - Between January 1 and 15

A copy of the proposed objectives and targets are set by the line manager for their respective employees. These are discussed and jointly agreed upon. Once agreed, both parties have to sign the hard copy of the PMS form. At this stage (after agreement and signatures are obtained) the information is saved in the SAP system.

The objectives and targets set by line managers for their subordinate(s) to meet are divided into four components:

- ✓ Target Specific Objectives, which are identified as Qualified from employee Job Description;
- ✓ General or Core competencies, as per the agreed company-wide competency list;
- ✓ Technical or functional competencies, which are specific to the job and need to be identified by the line manager as per the competency list;
- ✓ Attendance covers punctuality and unauthorized absence;
- ✓ Sample PMS form created in SAP system in beginning of the year shown in Figure 2 (see appendix).

b) Mid-Year Review - Between July 1 and 15
The employee and his/her line manager will meet to review the progress versus targets and objectives set at the beginning of the year. This meeting will provide a platform to give the employee feedback on how their performance has been for the first six months.
A revision on the set targets and objectives may be carried out, if required. This mid-year meeting is only a review and no rating will be carried out.
A typical Midyear review PMS from in SAP system shown in Figure 3 (see appendix).

c) End of year review and rating - Between December 15 and 31
The final review occurs where the line manager will give the final rating of the employee's performance against the set objectives. During this meeting, the line manager will provide feedback to the employee with regard to their performance for the whole year. Performance is rated on a scale of 0-125, which is as follows:

Performance Scale	Definitions
Outstanding (101-125)	Exceptional performance of *all* goals and exceeds required behavioral competencies **PLUS** *outstanding* performance beyond day-to-day responsibilities, resulting in significant benefits to the team, department or company.
Good (76-100)	Exceeds performance measures of *majority* of goals and demonstrates in some cases behavioral competence exceeding the required level **PLUS** *very good performance* beyond day-to-day responsibilities resulting in benefits to the team, department or company.
Satisfactory (51-75)	*Meets* mutually agreed performance measures for all goals. Demonstrates behavioral competence to the required level.
Improver (0-50)	*Rarely meets* performance measures for one or more goals. Demonstrates behavioral competence across only a minority of competencies.

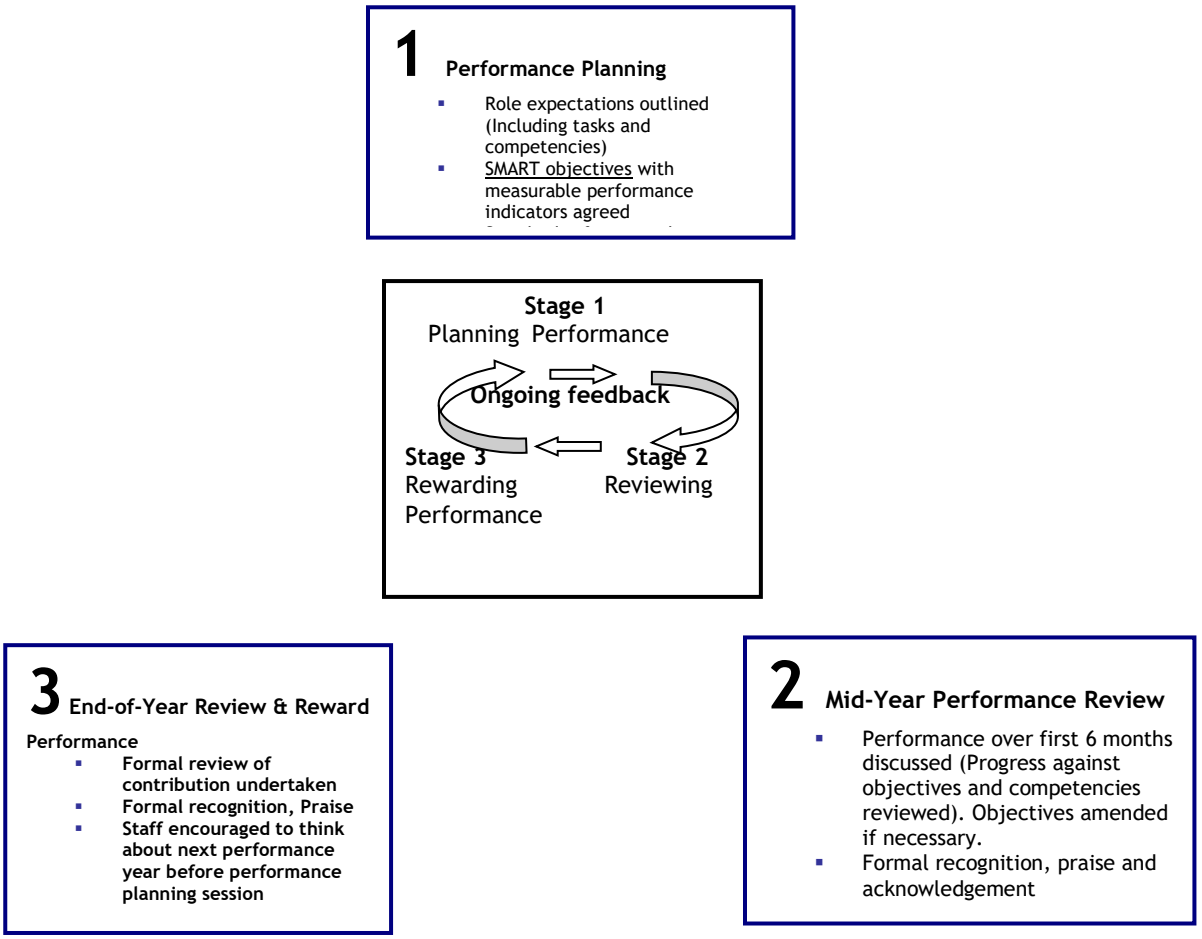
PMS form is the final rating stage shown in Figure 4 (see appendix).
A complete PMS form summarized in Figure 5 (see appendix).

iv. <u>Key Elements of XYZ Performance Management Framework</u>

- An up to date job description and person specification;
- Efficient induction processes that describe and confirm expectations;
- Performance planning which establishes the link between organization, departmental and agreed indicators of individual performance;
- Personal development plan that provides the form of activities to improve employee skills and knowledge to reach targets;
- Performance based rewards recognition system which acknowledges achievements and distributes rewards suitable;
- Opinion and review to facilitate employees and managers to identify areas for development and learning opportunities.

v. XYZ Performance Management Cycle

XYZ's Performance Cycle is a 12-month cycle running from January 1 to December 31. The cycle has 3 recommended stages illustrated in the diagram below:



vi. Responsibilities & Accountabilities

Senior Managers, Superintendents, Senior Supervisors and Employees will be held accountable for ensuring the successful implementation of the PMS. The success of the Managers, Superintendents and Senior Supervisors will be judged on the performance of the department /team.

Senior Management

- Frame and communicate department targets, achievements and key performance indicators. Ensuring that annual business targets are cascaded down into their departments;
- Executives setting an example in terms of desired behaviors and commitment - communicating successes which are consistent with the values, vision and mission of XYZ;
- Ensuring that managers and supervisors fully understand the benefits to be achieved through good performance;
- Engaging department managers and supervisors in the ongoing review of the performance management system (continuous improvement);
- Assist Superintendents/Senior Supervisors in developing individual performance and development plans to their subordinates to achieve department targets;
- Encourage employees to work together "to all pull in the same direction to understand that while individual success is good (and rewarding in the short term), team success provides a stronger and more durable recipe for the future";

- Report results of the PMS to the President through department annual report. Manager's success (rewards) will be judged largely, on the performance of the department/section.

Superintendents / Supervisors

- It is the responsibility of the superintendents/senior supervisors for conducting performance management to their reporting employees;
- Establish consistent implementation and maintenance of the performance management within the principles of XYZ performance including review mechanisium. Have regular one to one session for informal feedback;
- Establishment good relations to individuals and teams to successfully gain XYZ's objectives;
- Ensure all staff actively participates in performance management.
- Arrange induction program to all the new joinees (Vision, Values, and Mission);
- Arrange focused training programs to fill the identified gaps;
- A strong commitment to staff development;
- Received training on coaching and providing the right feedback;
- Superintendents/ senior supervisors give regular and honest feedback;
- Make a healthy workplace culture of the mental health of the employees;
- Superintendents/ senior supervisors are equipped to regularly identify and measure performance (guidelines, resources and tools);
- Superintendents/ Senior Supervisors ensure that each employee has clear job performance objectives or key result areas.

Staff

- Understand how their role contributes to achieving XYZ goals
- Responsible for their own performance and development planning;
- Participate in the performance objectives and the results of their work and XYZ's intentions;
- Adopt a cooperative approach to review performance review and self-reviews of their performance goals and actions against the results of the approval;
- Explore and implement strategies for continuous development (self-development);
- Explore and access personal development and development opportunities.

vii. Reward Policies

- Any link of the PMS final rating and the result to the merit increase for that particular year, depends on the approval received from the Board of Directors;
- The Board of Directors approves the Operating Budget for a particular year. This normally includes details of the percentage of the Merit Increase;
- When the approval for the Operating Budget is received from the Board of Directors, the Management analyses the performance and decides on the merit linked increases to be awarded;
- Based on the Management decision, the Human Resources Section will implement the same by issuing individual merit increase letters to employees;
- Employees who are on probation period or not completes 3 months of service will not be eligible for any merit increase for that year;
- Employees who have joined the company during the year will be eligible for merit increase if he/she completes 3 months of service on pro-rata basis;
- Reward policy is summarized as shown in Table 1 (see appendix).

viii. Process of conflict resolution

If an employee disagrees with his/her line manager on the objectives/targets set or the feedback and rating given at, he/she must still sign the form but can make a comment that he/she is not satisfied with the objective/target/rating given to him/her. In this situation, the following escalation process takes place.

- The employee should communicate with the concerned Superintendent;
- In case a satisfactory reply is not received, the employee should then approach the concerned Department Manager;
- If the Department Manager is unable to resolve the issue satisfactorily, the employee may approach the Human Resources Manager;
- The Human Resources Manager's decision will be considered as final and binding;
- If there are any issues that the HR Manager would like to discuss before a decision is made, the matter will be sent to a committee which comprises of:
    - ✓ Human Resources Manager
    - ✓ Concerned Department Manager
    - ✓ Human Resources Superintendent
    - ✓ Concerned Section Superintendent
    - ✓ Senior Advisor Human Resources
- The committee's decision will be considered as final and binding.

Conclusion and reflection

It is observed that the current PMS is in initial stage which is gradually acknowledged by the employees. XYZ is multi-cultural company where employees from different countries worked. It is noted that cultural differences in people is a main reason causing the disagreement between employees and line managers. However, it is expected to design and implement a transparent, impartial, constructive and efficient PMS. Employees' skills are in line with company's strategic goals and there are behavioral factors that influence performance assessment.

Employee resistance was noticed at the beginning stage of PMS. Initially, employees had disagreement with their line managers. To address this matter, XYZ developed robust conflict resolution program. It is also observed that intensive training and workshops for all employees were critical so that employees could understand and appreciate the system. Ownership of the program is needed to be inculcated in the employees to maximize the satisfaction among the employees. At XYZ, PMS demonstrates that the exhibitions and skills are combined with the company's strategic goals. However, some line managers think that PMS will take time and may not result in an increase in employee performance. In some cases, PMS does not improve overall commitment and performance.

XYZ experience tells that setting objectives are only appropriate when the objectives are as hard as motivating employees without low and easy objectives. Similarly, the targets must be substantial to the employee because they should be able to achieve the situation and be difficult to challenge the worker. Employee performance management is crucial but still has administrative authority to choose how to be appraised, analyzed and managed employee performance.

Concisely, a structured PMS, in isolation, will never enable organizations to achieve their true potential. It must be accompanied by manager's capability to set the objectives appropriately and the employee's commitment to the agreed objectives.

Discussion Questions

1. What do you mean by PMS? What are the attributes of effective PMS?
2. What kinds of professional development or training opportunities embedded in PMS? Give an example.
3. What are your biggest obstacles in PMS implementation?
4. What tools or technology would make PMS easier and users' friendly?

Limitations

This study contains a number of potential limitations. Study is based on a single company. Conclusion and reflections may not be generalizable to all the companies at large. Conclusions and interpretations drawn purely based on the opinions of employees and Line managers only. Despite the aforementioned limitations, we believe our findings are reliable and robust.

Area of future studies

More studies are needed to broaden our understanding of framework of PMS. The generalizability of our findings is limited, as our case was presented based on a single location and industrial sectors in Kingdom of Bahrain. Future studies should attempt to replicate our conclusions in other contexts, both in Gulf countries and to generalize our conclusions.

References

Andersen, B., Busi, M. and Onsøyen, L. (2014), "Performance management practice and discipline: moving forward or standing still?", *International Journal of Business Performance Management*, Vol. 15 No. 2, pp. 117-126.

Armstrong, M. & Baron, A. (1998), *Performance Management Handbook*, IPM, London.

Biron, M., Farndale, E. and Paauwe, J. (2011), "Performance management effectiveness: lessons from world-leading firms", *The International Journal of Human Resource Management*, Vol. 22 No. 6, pp. 1294-1311.

Blizzard, D. (2014), "Effective performance management", *Journal of Accountancy*, 218 (1), p.18.

Coff, R. (1997), "Human assets and management dilemmas: coping with hazards on the road to resource-based theory", *The Academy of Management Review*, 22 (2)374-402.

Dewettinck, K. and Van Dijk, H. (2013), "Linking Belgian employee performance management system characteristics with performance management system effectiveness: exploring the mediating role of fairness", *The International Journal of Human Resource Management*, 24 (4) 806-825.

Gruman, J. and Saks, A. (2011), "Performance management and employee engagement", *Human Resource Management Review*, 21 (2)123-136.

Luthra, P. and Jain, M. (2012), "*India's performance management problem*", available at :http://businessjournal.gallup.com/content/153278/india-performance-management-problem.aspx (accessed 11 May 2018).

Mishra, G. and Farooqi, R. (2013), "Exploring employee satisfaction with performance management and the challenges faced in context of IT industry", *Compensation & Benefits Review*, Vol. 45 No. 6, pp. 329-339.

Selvarajan, T. and Cloninger, P. (2012), "Can performance appraisals motivate employees to improve performance? A Mexican study", *The International Journal of Human Resource Management*, 23 (15) 3063-3084.

Sharma, T., Budhwar, P.S. and Varma, A. (2008), "Performance management in India", in Varma, A., Budhwar, P.S. and DeNisi, A.S. (Eds), *Performance Management Systems*: A Global Perspective, Global HRM Series, Routledge, London, pp. 180-192.

Simmons, J. (2002), "An 'expert witness' perspective on performance appraisal in universities and colleges", *Employee Relations*, 24 (1) 86-100.

Snell, S. and Youndt, M. (1995), "Human resource management and firm performance: testing a contingency model of executive controls", *Journal of Management*, 21 (4),711-737.

Trosten-Bloom, A., Deines, T. and Carsten, T. (2014), "Positive performance management: bold experiments, provocative possibilities", *Performance Improvement*, 53 (5) 26-37

Vaiman, V. and Vance, C. (2008), *Smart Talent Management: Building Knowledge Assets for Competitive Advantage*, Edward Elgar, Cheltenham.

Wendt, L. (2014), *"From measurement to ownership: the evolution and organizational implications of modern performance management, Cornell HR Review"*, available at:www.cornellhrreview.org/from-measurement-to-ownership-the-evolution-and-organizational-implications-of-modern-performance-management/(accessed 25 May 2018).

Wood, R. and Marshall, V. (2008), "Accuracy and effectiveness in appraisal outcomes: the influence of self-efficacy, personal factors and organizational variables", *Human Resource Management Journal*, 18 (3) 295-313.

Appendix

FIGURE 1: 6 QUESTIONS TO ACHIEVE THE MOST PRODUCTIVE PERFORMANCE REVIEW

6 QUESTIONS TO ACHIEVE THE MOST PRODUCTIVE PERFORMANCE REVIEW

EMPLOYEE

1. What do you think went well this year?
2. What do you think I should do differently next year?
3. What could I do to improve my rating in this area next year?
4. How could I be more helpful to other people on the team?
5. What are your most important goals for the coming year?
6. How do you think our business is going to change in the future? What challenges do we face?

LINE MANAGER / SUPERINTENDENT / SUPERVISOR

1. What is one thing you have accomplished since the last review that you are proud of?
2. What are you hoping to accomplish in the coming year?
3. Do you have access to all the tools / resources you need to do your job? If you don't, what are the roadblocks that are keeping you from getting those tools and/or resources?
4. Do you feel like you and your team work well together? If not, what are the problems you are experiencing?
5. What is one area where you feel like you could improve at your job? Is there anything you feel like management could do to help you improve?
6. What do you think the goals of our company are? What do you think the goals of your department are? What ideas do you have to help achieve those goals?

FIGURE 2: PMS CREATION AND SET TARGETS IN THE BEGINNING OF THE YEAY

New XYZ Performance Management Form New

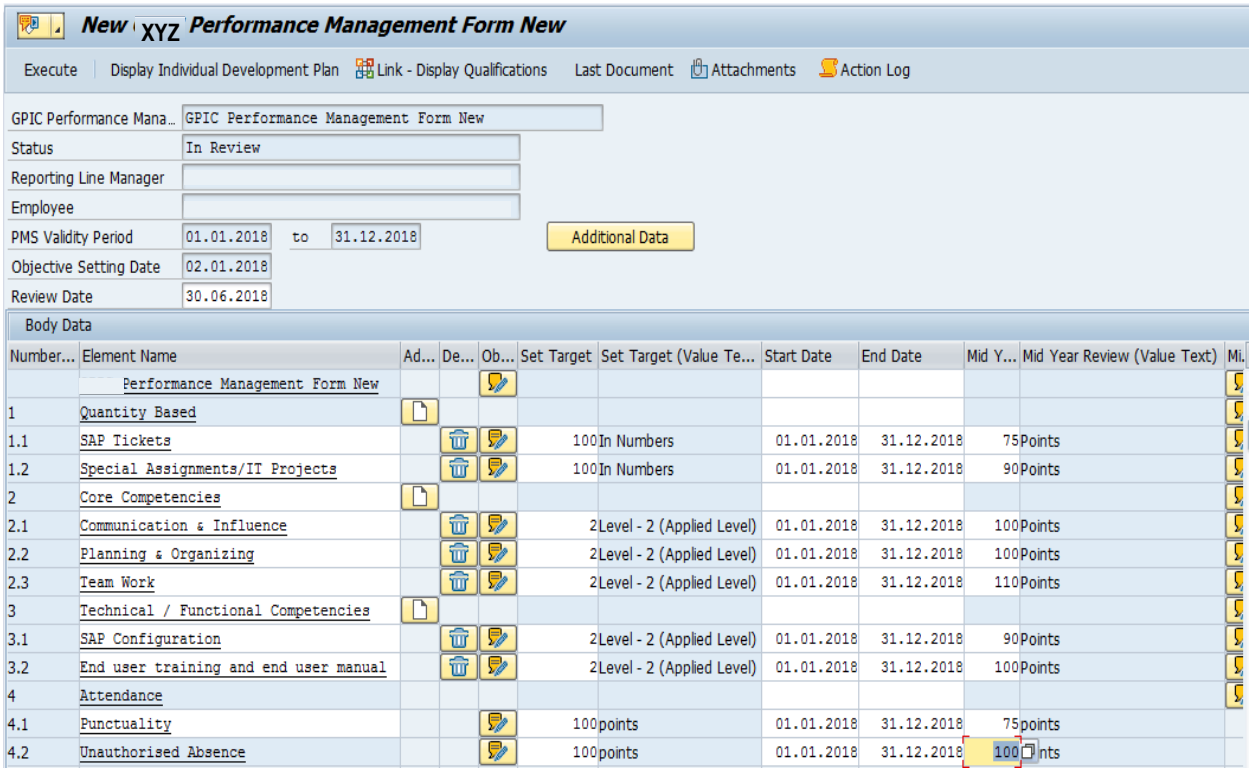
Review | Display Individual Development Plan | Link - Display Qualifications | Last Document | Attachments | Action Log

GPIC Performance Mana...	GPIC Performance Management Form New
Status	In Planning
Reporting Line Manager	
Employee	
PMS Validity Period	01.01.2018 to 31.12.2018
Objective Setting Date	02.01.2018
Review Date	30.06.2018

Additional Data

Body Data

Number...	Element Name	Ad...	De...	Ob...	Set Target	Set Target (Value Te...	Start Date	End Date
	Performance Management Form New							
1	Quantity Based							
1.1	SAP Tickets				100	In Numbers	01.01.2018	31.12.2018
1.2	Special Assignments/IT Projects				100	In Numbers	01.01.2018	31.12.2018
2	Core Competencies							
2.1	Communication & Influence				2	Level - 2 (Applied Level)	01.01.2018	31.12.2018
2.2	Planning & Organizing				2	Level - 2 (Applied Level)	01.01.2018	31.12.2018
2.3	Team Work				2	Level - 2 (Applied Level)		
3	Technical / Functional Competencies							
3.1	SAP Configuration				2	Level - 2 (Applied Level)	01.01.2018	31.12.2018
3.2	End user training and end user manual				2	Level - 2 (Applied Level)	01.01.2018	31.12.2018
4	Attendance							
4.1	Punctuality				100	points	01.01.2018	31.12.2018
4.2	Unauthorised Absence				100	points	01.01.2018	31.12.2018



New XYZ Performance Management Form New

Execute | Display Individual Development Plan | Link - Display Qualifications | Last Document | Attachments | Action Log

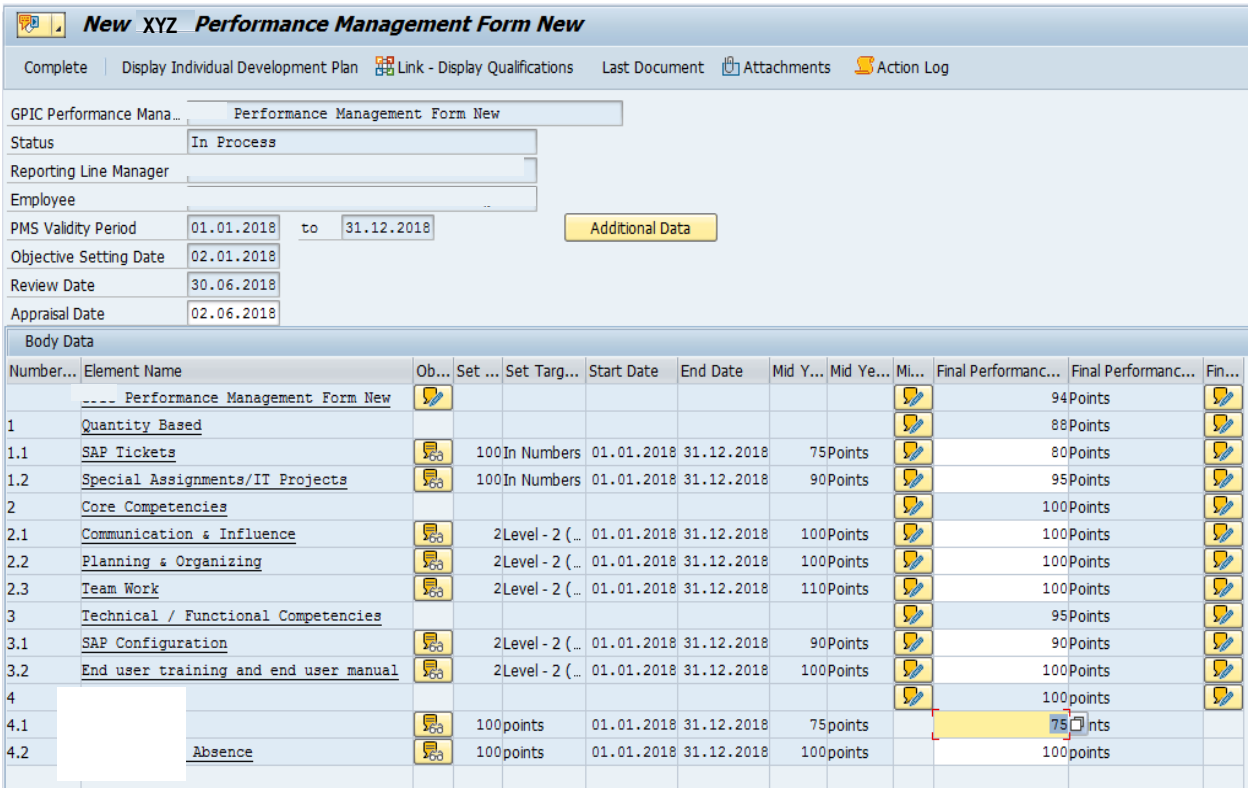
GPIC Performance Mana...	GPIC Performance Management Form New
Status	In Review
Reporting Line Manager	
Employee	
PMS Validity Period	01.01.2018 to 31.12.2018
Objective Setting Date	02.01.2018
Review Date	30.06.2018

Additional Data

Body Data

Number...	Element Name	Ad...	De...	Ob...	Set Target	Set Target (Value Te...	Start Date	End Date	Mid Y...	Mid Year Review (Value Text)	Mi...
	Performance Management Form New										
1	Quantity Based										
1.1	SAP Tickets				100	In Numbers	01.01.2018	31.12.2018	75	Points	
1.2	Special Assignments/IT Projects				100	In Numbers	01.01.2018	31.12.2018	90	Points	
2	Core Competencies										
2.1	Communication & Influence				2	Level - 2 (Applied Level)	01.01.2018	31.12.2018	100	Points	
2.2	Planning & Organizing				2	Level - 2 (Applied Level)	01.01.2018	31.12.2018	100	Points	
2.3	Team Work				2	Level - 2 (Applied Level)	01.01.2018	31.12.2018	110	Points	
3	Technical / Functional Competencies										
3.1	SAP Configuration				2	Level - 2 (Applied Level)	01.01.2018	31.12.2018	90	Points	
3.2	End user training and end user manual				2	Level - 2 (Applied Level)	01.01.2018	31.12.2018	100	Points	
4	Attendance										
4.1	Punctuality				100	points	01.01.2018	31.12.2018	75	points	
4.2	Unauthorised Absence				100	points	01.01.2018	31.12.2018	100	nts	

FIGURE 4: FINAL PERFORMACE RATING



New XYZ Performance Management Form New

Complete | Display Individual Development Plan | Link - Display Qualifications | Last Document | Attachments | Action Log

GPIC Performance Mana...	Performance Management Form New
Status	In Process
Reporting Line Manager	
Employee	
PMS Validity Period	01.01.2018 to 31.12.2018
Objective Setting Date	02.01.2018
Review Date	30.06.2018
Appraisal Date	02.06.2018

Additional Data

Body Data

Number...	Element Name	Ob...	Set ...	Set Targ...	Start Date	End Date	Mid Y...	Mid Ye...	Mi...	Final Performanc...	Final Performanc...	Fin...
	---- Performance Management Form New									94	Points	
1	Quantity Based									88	Points	
1.1	SAP Tickets		100	In Numbers	01.01.2018	31.12.2018	75	Points		80	Points	
1.2	Special Assignments/IT Projects		100	In Numbers	01.01.2018	31.12.2018	90	Points		95	Points	
2	Core Competencies									100	Points	
2.1	Communication & Influence		2	Level - 2 (...	01.01.2018	31.12.2018	100	Points		100	Points	
2.2	Planning & Organizing		2	Level - 2 (...	01.01.2018	31.12.2018	100	Points		100	Points	
2.3	Team Work		2	Level - 2 (...	01.01.2018	31.12.2018	110	Points		100	Points	
3	Technical / Functional Competencies									95	Points	
3.1	SAP Configuration		2	Level - 2 (...	01.01.2018	31.12.2018	90	Points		90	Points	
3.2	End user training and end user manual		2	Level - 2 (...	01.01.2018	31.12.2018	100	Points		100	Points	
4										100	points	
4.1			100	points	01.01.2018	31.12.2018	75	points		75	nts	
4.2	Absence		100	points	01.01.2018	31.12.2018	100	points		100	points	

PERFORMANCE MANAGEMENT FORM

(STRICTLY CONFIDENTIAL)

The purpose of the Performance Management program is to ensure effective communication between the line manager and the employee, encourage quality work performance and identify development opportunities. The Company encourages this to be an ongoing process, but requires that a formal evaluation be done at least twice per year.

Employee Name : **Employee Number :**	**Performance Year : 2018**	**Status : In Process** **Date : 02.06.2018**
Position :	**Service Date: 22.03.2011**	
Department :	**Immediate line Manager :**	

Competencies	Performance Measures	Target	Start Date	End Date	Mid Year Review	Final Performance Ratings
1 Quantity Based						88 Points
1.1 SAP Tickets	PMS Performance Scale: (1- 125) 1- 50 Improver 51-75 Satisfactory 76-100 Good 101-125 Outstanding	100 In Numbers	01.01.2018	31.12.2018	75 Points	80 Points
1.2 Special Assignments/IT Projects	PMS Performance Scale: (1- 125) 1- 50 Improver 51-75 Satisfactory 76-100 Good 101-125 Outstanding	100 In Numbers	01.01.2018	31.12.2018	90 Points	95 Points
2 Core Competencies						100 Points
2.1 Communication & Influence	PMS Performance Scale: (1- 125) 1- 50 Improver 51-75 Satisfactory 76-100 Good 101-125 Outstanding	2 Level - 2 (Applied Level)	01.01.2018	31.12.2018	100 Points	100 Points
2.2 Planning & Organizing	PMS Performance Scale: (1- 125) 1- 50 Improver 51-75 Satisfactory 76-100 Good 101-125 Outstanding	2 Level - 2 (Applied Level)	01.01.2018	31.12.2018	100 Points	100 Points
2.3 Team Work	PMS Performance Scale: (1- 125) 1- 50 Improver 51-75 Satisfactory 76-100 Good 101-125 Outstanding	2 Level - 2 (Applied Level)	01.01.2018	31.12.2018	110 Points	100 Points
3 Technical / Functional Competencies						95 Points
3.1 SAP Configuration	PMS Performance Scale: (1- 125) 1- 50 Improver 51-75 Satisfactory 76-100 Good 101-125 Outstanding	2 Level - 2 (Applied Level)	01.01.2018	31.12.2018	90 Points	90 Points
3.2 End user training and end user manual	PMS Performance Scale: (1- 125) 1- 50 Improver 51-75 Satisfactory 76-100 Good 101-125 Outstanding	2 Level - 2 (Applied Level)	01.01.2018	31.12.2018	100 Points	100 Points
4 Attendance						100 points
4.1 Punctuality	PMS Scale for Punctuality: 0 Days Late = 100% 1-2 Days Late = 75% >2 Days Late = 0%	100 points	01.01.2018	31.12.2018	75 points	75 points
4.2 Unauthorised Absence	PMS Scale for Unauthorized Absence: 0 Day = 100% 1 Day = 75% >1 Day = 0%	100 points	01.01.2018	31.12.2018	100 points	100 points

Final Performance Rating
94 Points

REMARKS:

Employee Signature

REMARKS:

Line Manager Signature

CONCURRENCE:

Superintendent / Department Manager

TABLE1: REWARD POLICY

Performance	Definition
Performance (Excellent)	Exceptional performance of all critical and non-critical goals and exceeds required behavioral competencies PLUS Outstanding performance beyond day to day responsibilities resulting in significant benefits to the team, Department or Company.
Performance (Very Good)	Exceeds performance measures of majority of critical and non-critical goals and demonstrates in some cases behavioral competence exceeding the required level. PLUS Very good performance beyond day-to-day responsibilities resulting in benefits to the team, department or company.
Performance (Good)	Meets performance measures for all critical and non-critical goals. Demonstrates behavioral competence to the required level.
Performance (Improver)	Rarely meets performance measures for one or more critical goals. Demonstrates behavioral competence across only a minority of competencies.
Performance (Unacceptable)	Failure to meet performance measure for one or more critical and non- critical goals. Does not demonstrate behavioral competencies of all majority of competencies.

DXB123

EFFECTS OF SUPPLY CHAIN TECHNOLOGY IN PERSPECTIVE FOR ALIGNMENT WITH REVENUES

Parrakal Satishchandra Menon, satishmenon66@gmail.com
School of Business
Alliance University, Bangalore, India
N. Abhinay Varma, abhinayvarma9@gmail.com
Alliance Ascent College
Bangalore, India

ABSTRACT

The phrase combined supply chain is a community software platform that assurances inter-and intra-firm arrangements and communication distribution to guarantee exceptional implementation of the entire. The situation includes combining assets and systematizing contacts through conventional limitations to construct equally profiting reasonable benefit. Supply chain in the digital age involves convenience of inner actions furthermore extent metrics through exterior vendors by way of fine like optimization of growths on behalf of common development in consumer service, besides discount of inventory level besides related rate, decent trade associations constructed happening faith and reduced self-centeredness, then extended period elasticity plus adaptableness showed through co-creation of commodities beside the value chain. Actually, occurrence takes exposed besides several companies prevent meeting cutting-edge this wide supply chain combination, possibly aimed at anxiety of education struggles. The document observed the present exercise of supply chain through learning the skills and visions of 108 managers/officers, haggard after eight native companies.

The standard on behalf of range stood that the focus necessity remains directly complex in supply chain advantages then paper conferences continued castoff for the assessment. The conclusion tattered inconsistency among the standards of concepts of supply chain and real exercise, not at all agreement around the situation sense, several supply chain association combinations the difficulty similar the additional, plus furthermost periods it might remain hard to encounter the arranged unhappy circumstances. Companies simply hold inner cross-functional combination then avoid inter-organizational combination, possibly since they need to construct exclusive economic benefit. So additional alignments must be completed toward instruct administrators upon the standards of supply chain, particularly upon the zone of deterring egotistic extension of revenues.

Keywords: Supply Chain, Revenues, Co-creation, Digital Age

Introduction

The digital age is right now; all is transformed. Not individual has it altered and/or reformed in what way the whole initiative groups converse and behavior firms however specially in what way the supply chains are functioned and accomplished. The principles of societies of notice/group of firms, combined trade strategic association, B2B, communal software, improved system outcomes, buyer-supplier boundaries, Perpendicular Selling Structure example VSM and operating structure are strong appearances of the budding digital strength that supports suitable inter-firm arrangements and connections to promise unresolved implementation. Implied is that progresses in IT are boundless, they have presently aided supply chains to connect their actions into systems allowing them to connect, cooperate and co-control across Internet construction.

© SGBED 2019

Administrations have insistently efficient and re-engineered their means frequently by incorporating assets and systematizing markets across their conventional borders to increase system associations, to cut costs and create remarkable but demanding to reproduction consumer values.

The reasons and assets of players of sellers, completed goods manufacturers, and facility workers (movers and sellers) are combined to gainfully distribute consumer value. A bell orated that this requirements the alliance of operative and supply-chain associate actions with business scheme and consistent such with logistic configuration, developments, civilization, inducements, and individuals.

Additional, associations currently observation marketplaces as social discussion connecting participative construction throughout which Internet programs are used to assist online populations (producers, traders, dealers, and clienteles) to narrate, to co-associate and to cooperate. Such social software programs permit for energetically imagination, infrastructures, protected materials contribution in actual time, and association among associates of on-line societies. Internet-based info transmission appeals additional interactivity/interconnectivity assembled between supply chain associates by swapping usual supply chain by supply web and with leading professional in global communities. SCM-related info and assessments are combined into a compound although fine distinct Network of relations with several networks and an exposed stream of report thus violation the old patterns of inter-organizational frontiers.

Supply chains alteration from an order-driven-lot-sizing method to one equated to an ability-accessibility-option tactic sustained by applicable search engines. The monetary impending of this combination in relations of enlightening together effectiveness and reasonable situation existed main recognized by Forrester and future operationalized by Wood and probably further theorizers who established that a 10 percent decrease in supply chain's rate assembly might produce 40 percent to 50 percent development in pre-tax revenue. Combined atmosphere authorizes cooperative arrangement to regulate expert, distribution of threat and returns, lasting and communal obligation and targets, isolating of intellectual developments into entwined covers, and joint contribution constructions in a synchronized strength to explain a hitch. Entirely stages in the supply chain after plan to after-sales facility are combined movements.

Slightly than inspecting supply chain conventionally, the requirements of all shareholders dismiss be finest aided done extra tactical loom of optimization. Networking info on behalf of admission to all associates in the supply chain distributes robust source for construction defensible reasonable advantage. For occurrence, Symantec Organization contributed in Website covering numerous dispatch sheets, so displeased consumer's mails, or upright routinely, their setback to the suitable statement sheet and supposes explanation from Symantec's experts or consumer sustenance legislatures. An observed consumer consummation as not existence one-man performance, somewhat it is a composite action connecting efforts from merchants and other sovereign companies and endures uniform by the method the sellers holder and clarify clienteles' objections and uncertainties.

Such association has gradually involved key motivation from association international, maybe outstanding to quick variations in skill, demography, globalization of trades, invention customization, and others, which syndicate to change consciousness on enhancing presentation founded on McCammon and Little's opinion of centrally planned systems slightly than separate associations rushing income growth egoistically. Though skills such as EDI, barcoding, and produce totaling must stood in usage for finished thirty years to produce inter-organizational info movements to the physical program of possessions, Kehoe and Boughton

are of the opinion that the character of separate administrations in the supply chain necessity be re-assessed to replicate existing growths in broadcastings and communication technologies.

Quick modification in technology has optimistic and undesirable monetary impressions; it delivers additional chances for better-quality supply chain exhibition and recommends ineptness. The Internet, Intranet, and, in exact, the use of Extranet suggestion chance for perfections in supply chain in direction to understand the chances of efficient logistics flows, prices discount and better operational competences, usually in obtaining, statement, record property, system association and exploration activities improved consumer facility, improved superiority commodities and facilities and constancy via clearness, value-added info and fresh stages of invention after system externalities and information distribution. Notwithstanding the seeming occasions of eSCM, acceptance by companies remains lethargic, particularly between SMEs. Individual a few companies must have accepted and distributed a proper eSCM description. Several companies show confrontation to info distribution on behalf of hunger of structure exclusive modest benefit. However plentiful wish to be complete, plenty study has remained complete on in what way eSCM contributes to dissimilar commercial divisions. And consequently the resolution of this document is to sort our modest learned influence in this attractive range then towards exactly explosion upon the situation existing stately of acceptance in Nigeria.

This resolve offers information on the amount of thoughtful of in what way eSCM supports in optimization of the rate series over planned retorts to the situation faces. Though, this it will appropriate conduit information cavity currently several Nigeria-established associations extended to re-brand and recover enactment and attractiveness, and to recognize the fences constraining them from connecting the capacities of Internet technologies.

Information technology taken essential deviations that generates reasonable benefit in the supply chain through rate cutting, linking of fresh promotes, and defensive of rational properties. Newman and Thomas distinguished that Information technology continually pitches at us fresh jolt sayings, the inceptions of affected change in conducts businesses establish, invent, and build ethics. The disorderly outcomes of Internet query tried-and-tested commercial replicas, habits of occupied, administrative assemblies, and recognized facts and necessarily deviations the systems of the disposed then the alleged variations are exponential.

The things of Internet on supply chain and supply chain administration are marked in their action, at minimum to the range of translucence and material distance. Assumed that modern shapes of ability might be fitted obsolete donation rather prompt, at minimum for today and in the nearby imminent, Internet technology authority's optimization of the absolute supply chain throughout register price decrease, absolute phase stage density and availability of necessity documents and supply capability statistics for abreast choice. The Internet revolutions in what way supply chain is accomplished, scheduled, and measured.

Supply Chain and Supply Chain Management

The phrase supply chain has variable suggestions vacillating after cross-functional course assimilation in the steady, regressive incorporation with esteemed first-tier providers, and advancing incorporation with respected first-tier consumers, to comprehensive advancing and regressive incorporations. Either approach, misperception immobile surrounds its sense and meaning, possibly because of its increasing possibility and variances in practical interpretations. Its shared motivation reposes on request and supply forecasting and estimating, industrial arrangement, and transference preparation however unusual attention breaks on graphical supply chain modeler and supply chain optimizer.

Supply chain includes all actions related with the flow and alteration of commodities after the raw materials phase, throughout to the conclusion worker as fortunate as all info streams. The extremity contour is the formation of shared ethics demanding not only supervision ingredients assimilated into the drifts through inventiveness-outmoded boundaries then similarly relations and information in instruction to decrease struggles. This description differences Supply Chain Management (SCM), which is often related with resources administration atmosphere as determination to support purposes and incorporate possessions through firm boundaries to bring better standards. Renowned that SCM comprises progressive info tools, quick and receptive logistics facility, actual seller administration, and cumulative consumer association managing.

It is a executive attitude, the application of a executive attitude, and as a usual of executive development. Executive viewpoint brings SCM participating the entire movement of a delivery station from sellers to vital consumers. Application of a executive attitude spreads united performance to join consumers and sellers across exterior combination, and an agreed of executive procedures contains management relations, info, and measurable movements through initiative boundaries to transport improved consumer facility and financial standards concluded harmonized administration of the stream of corporal goods and allied info from obtaining to utilization. The previous presence extra surrounding was extra enhanced by Mentzer et al and furthered by de Burca et al. Mentzer et al observed SCM as the complete, planned co-ordination of the established occupational purposes within a specific firm and through firms inside the supply chain, for the drive of making a supportable modest benefit (SCA) for the separate companies and the supply chain as a entire.

However, de Burca et al saying it as the drive of yields done the supply chain, the administration of related info currents and selling relations, and finally the formation of consumer significance. Ridgeway and McCammon and Little's equated SCM to Upright Promotion Structure and working coordination while they well-known that the monetary practice, precise from the fulfillment of assets and executive concluded developed to the vital feeding, is a incessant procedure connecting, in numerous situations, the monetary stream of, and co-ordination of, actions of numerous sovereign businesses. The association is Supply Chain Management attends as the back-end presentation that relative's sellers, builders, traders, and resellers in a cohesively cooperative manufacture and dispersal systems that document separate businesses to feat its exclusive capability completely and to subcontract non-core actions from extra station associates, who possibly own greater abilities. They are all autonomous businesses occupied cohesively in association through unique extra to method one lengthy structure that essential be directed as a entire moderately than a share, choice by all sub-system/business necessity be steady and equally supportive. The relatives include poignant yields complete the supply chain and making consumer beliefs via efficient administration of info and relations.

Therefore, the evidence of SCM is intensely founded on the proposes of Association Promotion and Consumer Relationship Marketing (CRM) that client fulfillment or making modest benefit(s) prepares not change exclusively on identical manufacture to consultations' requirements (JIT), somewhat it exceeds to a excessive agreement of extra associations with other mutual associates in the value chain. Earlier and conventionally, connection in supply chain motivated on inspecting sellers and possibly suppliers as challengers beside Mainframe and Information Science. Whom to ferociously convert situations and composition one off games to cut restrictions. SCM takes new stroppy approach as allegedly self-governing companies in the sequence exposed the straight and/or unintended welfares of optimization in cooperative relations possibly issue to the organization of the benefits of the unusual businesses.

Internet Technologies and SCM

The Internet is a scientific and commerce revolution with innovative approaches of infrastructures, production businesses, advertises arrangement, instruction, and exertion. Lai et al watched Internet in SCM as an Inter-Organizational Info Structures (IOIS), which simplifies and improves infrastructures, dealings, efficiency, and structure of modest compensations. It means digitalized networks involving an occupational and its exchange associates like sellers, traders, customs, in traditions to improve effective efficiency finished out the value chain mainly with detail to actual period info argument and profitable dealings. Preached that info allocation on the Web assistances occupational administrators and commerce analysts. But previously can simply analyze inner trade copies to regulate a firm's or supply chain's income train; and the later can associate a firm's routine comparative to participants and usage that as a base for evaluating its standard promote capitalization worth, gaining worth, or entire initiative worth.

Conversation of info narrates to the philosophy of bullwhip conclusions. Forrester's theory of bullwhip results shapes that misdeeds and volatility in command sizes rise with the amount of deposits in the chain and the allegation is that approach to stress statistics and supply volume statistics inside the supply chain creates for practical and maybe sensitive reactions to request vacillations. This bullwhip philosophy might not be solely authorized because cooperative association stresses validation and association of supply base as decrease in amount of sellers or traders drive convalesce and excavate relations. Decrease in the instant supply chain tips to modify in erection and the amount of levels in it. In business setting, Humphreys et al witnessed that operationalizing this includes unique equipment builders ordering up accumulated classifications or whole sub meetings slightly than distinctive apparatuses, thus carrying extra equal hooked on the supply chain. These strategies document first-tier providers to supply association structures and to co-ordinate the efforts and additional events of second-tier sellers.

The Internet has transformed the supply chain. Its assets ended EDI e.g. universal and rate efficient connectivity, quick system program and plainness of custom are well enthused through the value chain to decrease encounters and to improve immediate development in consumer facility and system relations. eSCM achieves info movements and signifies an attitude of managing technology and processes to optimize product delivery attributes, and info from sellers over customs. An administration's Enterprise Resource Planning (ERP) necessity be combined with CRM, e-procurement, and others, and applied properly earlier the rewards of eSCM abilities discharge be completely oppressed. Deviations brilliant on organization follows, presentation values, and business procedures essential are completely introduced in the whole supply chain to adapt the different tendency.

Deloitte and Touché defined Internet inside the substructure of supply chain as an essential and unique of the important takes of alteration. Exactly, two main possessions important to the realization of eSCM are frequently accentuated, they are inspecting association as a planned and effective importance to substitute faith, potential, assurances, and affinity between exchange associates; and administration of info in the value chain through firm punishments, strategies, and observing. The last figures important association among revelries and eventually modest benefit since the network possessions of finest follows are common from the argument of correct and up-to-date info. The previous observed teamwork in relations of meaning certain amount of communal software concerning shared meeting and association structure.

It includes convenience of inner actions and metrics by exterior events as thriving as optimization of procedures for shared development in consumer facility, and decrease of record equal and related charge, good commercial relations constructed on conviction and reduced egotism similar as unflawed regulator around associates infrequently occurs, and extensive term suppleness and flexibility demonstrated by co-creation of commodities near the value chain. The growing of e-commerce changes conclusion control to buyers/users and documents better customization and worker association as well as earlier structural dispatch, and eventually development in relations to shape extra consumer faithful performance. Merono-Cerdan et al secret such cooperative apparatuses into electronic communication systems (ECS) and teamwork system. For instance, wiki is a symbol for a fresh era of teamwork and contribution that inspires the whole supply chain opening and excision websites and human-based addition narrates to technology that permits on behalf of concerted difficulties unraveling in the supply chain.

The ECS targets at enabling information and estimation argument, and permits associations to be conventional between workgroups, customs, and institutes/supply chain associates. The communal record appraises info, saves the associations' organizations retention up to date and avoids statistics after actuality recurrent though reality adapted by official individuals in the side or association. The collaboration arrangements pre-define effort procedures and incorporate info, which is categorized, hooked on two- sources and workflow. Sources are significant IDs joining together undeclared and declared information in method of illustrative, stylistic and an illustrative arrangement from scheme authorities and workflow displays the allocation of the assignment between value chain associates. Caretaker ranted that eSCM will shape and bring improved sustainable competitive advantage (SCA) while intentionally coordinated through such outdated causes as measure, human resources, and assets in objective properties, which similarly drama projecting part.

Acquaintance managing in eSCM arrangement includes not equipment only although also its administration by individuals. It adopts not only technology values (ease-of-use, web-based, right multi-media, the usage of broad-band) however also recommended actions (clearness, proximity, contribution, receptiveness, etc. eSMC is familiar for its features of cheering association, information involvement and administration that conclude into boosted efficiency and construction of extended permanent inter-and intra-business dealings, which eventually imitate on consumer fulfillment. It suggests planned grouping later joined meaning numerical data produced concluded record advertising and association promotion may be archived and exploited effectively and mutually by an society and its strategic/trading associates to figure reasonable benefit.

Methodology and Supply Chain Model

Now the bright of the study schedule, authentic info on present business repetition of SCM remained founded on case-study method, connecting the examination of involvement and information of pertinent manufacturing executives, strained through eight Anchorage Harcourt-based native administrations. This impartial of this qualitative examination stood to progress and crash on the reasonable broad-based opinion of in what way directors observe the usage of SCM as planned for construction inexpensive benefit. Exactly, the report loosened whether the actual awareness of SCM differs athwart interior purposes or inter-organizational situations in the network assembly.

The cross-functions and inter-organizational features of SCM indicate border-spanning action. Yin predictable case study as an experiential review, which examines a modern spectacle in its actual lifespan setting after the limitations between occurrence and situation are not obviously assumed. In-depth meeting was accompanied for additional expressive follow-

up inquiring and extra broad results and understandings. The exhaustive meetings continued for 4 months and the objective stood 160 middle and higher-level administrators of buying, logistics, and business divisions of the selected administrations. The inquiries remained organized and consistent to safeguard consistency.

Wherever such situations do not remain in some of the selected administrations, parallels remained expended providing the inhabitants of such places remained straight complex in the application of SCM. The businesses selected for the training as stated in table 1 below is deliberate in footings of actuality occupational innovators and accurately they individual informed upright in supply chain exercise. Information appraisal, pre-survey meetings, and optional efforts from academic associates helped to improve the examination tool. The dissimilar magnitudes of the administrations learned the dissimilar quantity of defendants spoken to. Simply 108 or 67.5 per cent of the allegedly defendants essentially whispered debates with the investigators, similar after frequently stayed were both not initiate on meet, too eventful to join to examinations, or flooded by investigations.

Figure 1 under represents an easy standard of supply chain combination as connecting the autonomous companies and workers running collaboratively as one object to attain shared objectives of client happiness and success. Frequently as of variances in missions, the provisions sellers and facility suppliers are achieved inversely in a synchronized method possibly by different practical parts of a society. Though handling resources providers is the obligation of the acquiring section in maximum administrations, delivery and transport (service providers) duties are frequently controlled by logistics, marketing, and possibly buying divisions. But wherever effectual standards remain and obeyed to, this frequently kind's struggles since apiece of these practical zones understandings structural achievement, success and need development inter-and intra-organizational combination inversely.

Discussion

The symposium of outcomes of this report reproduces the developing environment of Information technology in Nigeria. Integrative efforts by companies measured forcefully propose various amount of functional uncertainty and discrepancy ended its sense and real repetition since of diverse practical opinions of SCM and of integrative environment. This cares Chou et al, Kehoe and Boughton, and Fawcett and Magnan. The associations measured valued SCM on a seven-point measure and designated it a serious policy. On behalf of O7 and O, the logistics directors are improved prepared to incorporation and cooperation since they manufacture a front-office structure, procuring superiors are incredulous, back-office system, doubtful to integrative activities, and additional contented with opponent performs, and the business executives perform on the barrier, frequently answering further to the standards of front-office than to back-office structures

Procuring superiors identify SCM and eSCM as significant modest benefit construction plans although they are infrequently certain of their aptitude to attitude the trials of period. They (procuring managers) occupation value for conventional attitude of non-collaborative performance maybe as of the numerous relations among a fixed and its providers. Finest sellers might similarly be providers to firmest participants, certain dealers might concurrently help as our opponents in further production zones, and occasionally it is problematic to impose severe sentences, plans, and checking circumstances of Norris et al once main sellers interrupts shipment.

For O2, O3, O4, O5, and O6, the standard executive/manager, the classification/procuring supervisor, and the transactions supervisor have analogous considerate of SCM and eSCM. Nevertheless, fraught by exchange associates' and consumers' eagerness,

specially extra vendors, these businesses opinion SCM and eSCM in relations of dropping stock investment and assemble rates, and successful consumer facility and cooperative relations.

This discovery authorized preceding findings example Chan and Swatman, Davenport and Brooks, Raisch. Despites these welfares of inter-logistic combination, this analysis recognized inner cross-operative method addition as the main of supply chain advantages in the associations plotted. Regressive mixing through appreciated first-tier dealers and onward addition with assessed first-tier consumers are the maximum-shared methods of supply chain combination. Downhill and growing rivers combination (see selection three), although verified by establishments as existence skillful by limited companies, stayed certainly not experienced by the companies reviewed. Ultimately, whole onward and regressive addition (the previous choice), uttered from sellers' seller to customers' to customers, is additional of theoretic agenda. Inquiring the defendants to classify some of these sorts of combination in relative to their level of usage through their managers, it was exposed that associations favor interior cross-practical addition to inter-logistic incorporation. Fawcett and Magnan authorized this through the section of problems of undertaking subjects as supporting events, interlocking info schemes, and distribution threats and plunders.

Purpose-to-purpose relatives generate the minimum encounters in the value chain. Agrawal and Pak approved companies' confrontation to info distribution through the value chain to buy it to shape single reasonable advantage. Struggle to info distribution differences the vision that eSCM delivers chances that stay mainly idle, mostly it proposals minor companies reasonable customs to reinforce modest ability beside their superior equals. On behalf of inter-logistic combination, onward addition is functioned extra than retrograde combination and whole addition seldom functions. Logisticians are additional anxious with consumer happiness (front-face), which frequently entices extra of upper administration's welfares than the buyers' back-face structures. Each of the associations learned are at the initial phase of their inter-logistic cooperative relations assumed the developing countryside of Information technology in Nigeria, every steady is at altered phases in the excursion, evincing that the companies plotted sturdily recognize around the planned suggestions of such combination. The main obstruction to asset in cooperative addition is that of matching the benefits of front-face and back-face structures.

Conclusions and Managerial Implications

The creation is currently an international community and maybe, minus expected. This is mainly presented in the method of commercial processes, which must massively alter in favors of companies that are planned and commercial in acceptance the altering drifts. Matching SCM with information technology is a timely growth for structure inter-and intra-organizational consistent sides that work to participate crossways limits to growth efficiency and promote part among globalization, technical break-through, consumer vitality, rivalry, and other ecological hassles. Some operations-based replicas like: JIT, Business Process Re-engineering,

Total Quality Management, etc. impression freshly inundated the commercial situation, numerous of which must no remaining control. Currently SCM is smoke-balled a enhanced prototype accountable aimed at inter-and intra- logistic association in the supply chain although its concrete exercise is at alteration with its academic structures. The situation drive is to enhance presentation and reasonable benefit in the value chain matter to taking the broad-based attitude and the fundamental collective structures. The repetition of SCM strains a usual of essential standards such as enhanced cooperative association, inter-logistic practices, logistic arrangement, common hazards and returns, allied aims and objectives, reliable quantity

metrics, and mutual values.

These initial chunks need to measure, corresponding and allied to procedure an integrative plan that motivation is communally promoting. SCM as a social program and/or a social scheme guides that when a sub-system is fragile, the whole intact converts feeble. Consuming a report sheet on the sets and connecting wired with extra chain associates for causes of opening their actions, eSCM warrants positive and maybe, sensitive management of glitches. Actual and real-time info abilities bring important developments in efficiency and receptiveness in the supply chain and overhead all consumer fulfillment and investment. The preparation of cooperative association exceeds information distribution and discussion to involve info co-ordination to certify their actual period usage in supply chain management.

SCM besides of sequence eSCM need their continuing rule but to be established aimed at it might be problematic to consider that single period rivalry against competitors will vanish and struggle among supply chains for arcade reign fills the space. Companies form perpendicular addition side that contests crossways limits in efforts to advance system outcomes and eventually to take superior worldwide marketplace segment. The principles of SCM perform apparently.
Attractive and blushing maybe for it is a model change from egotism to equally reliable procedures but in real preparation, plentiful pressure occurs among SCMs' modest possible and the essential trouble of association, particularly in the zone of inter-logistic relationship.

Interior cross practical, function-to-function, and front-face integrative relations are additional accepted and occasionally outdated non-collaborative viewpoint still gets. Supply chain is seldom achieved from sellers' seller to clienteles' client, and similar between countless operators of SCM, incorporation distances a triplet of businesses, connecting the business and one-tier up (front-office) and one-tier down (back-office) tributaries. Shortage of perceptual cohesion surrounds SCM and several supply chain partnerships frequently confuse supply chain project and organization since limits and particulars of relations might be unclearly distinct. Alterations occur in the head workforce and back-workforce organizations. The front office loves slightly amount of partnership and addition later of its enormous attention in construction consumer happiness and the back-office considers extra in non-cooperative changes with sellers.

Established on our results, the behind references perform to inspire more positive requests by the companies measured and connected ones.

- Synchronization necessity be through and all meant out earlier pointer to avoid clashes in the value chain.
- Exact and all surrounding correct meaning of SCM as well as metrics of emphasis and dimension must be supposed out and perceptibly sent and connected finished out the value chain to safeguard equilibrium among concept and exercise.
- Faith and empathy must be constructed hooked on the value chain and a broad-based attitude industrialized to demonstration promise to the fundamental cooperative assemblies of SCM in an exertion to assurance its remaining control.
- The front office and back-office structures emphasis on clienteles and sellers individually and separately has dissimilar opinions around SCM. Management the worries of front-office structure and participating and consistent its viewpoints with persons of back-office arrangement will advance the implementation and outcomes of SCM.
- A stable performance by industrial supervisor will certainly animate extra inter- logistic cooperative association.

© SGBED 2019

References:

Shiau, W; Hsu P; & Wang, J (2009). Development of Measures to Assess the ERP Adoption of Small and Medium Enterprises. *Journal of Enterprise Information Management*. 22(1/2), 99-118. Shuen, A. (2008). Web 2.0: A Strategic Guide. First Edition, Sebastopol: O' Reilly Media, Inc.

Tapscott, D. & Williams, A. (2006). Wikinomics: How Mass Collaboration Changes Everything. New York: Portfolio. Businesses.

Van Hoek, S. (2001). E-Supply Chains-Virtually Non-Existing. *Supply Chain Management: An International Journal*. 6 (1) 21-28.

Walton, S. & Gupta, J. (1999). Electronic Data Interchange for Process Change in an Integrated Supply Chain. *International Journal of Operations and Production Management*, 19, 4-21.

Wood, A. (1997). Extending the Supply Chain: Strengthening Links with IT. Chemical Week. Yin, R. (1994). Case Study Research: Design and Methods. Newbury Park, CA: Sage Publications.

Chellappa, R; Barua, A; & Whinston, A. (1996). Looking beyond Internal Corporate Web Server. In Kalakota, R. &Whinston, A. (eds). Readings in Electronic Commerce. Reading, MA: Addison-Wesley.

Chou, D; Tan, X; & Yen, D. (2004). Web Technology and Supply Chain Management. Information Management and Computer Security, 12(4), 338-349.

Chuang, T; Rutherford, M. & Lin, B. (2007). Owner/Manager Characteristics, Organizational Characteristics and IT Adoption in the SMEs, Journal of Management & Enterprise Development, 4(6), 619-634.

Chuang, T; Nakatani, K; & Zhou D. (2009). An Exploratory Study of the Extent of Information Technology Adoption in SMEs: An Application of Upper Echelon Theory. Journal of Enterprise Information Management, 22(1/2), 183-196.

Cook, N. (2008). Enterprise 2.0: How Social Software will Change Future of Work. Farnham Gower Publishing Ltd.

Cooper, M; Lambert, D; & Pagh, J. (1997). Supply Chain Management: More than a new Name for Logistics. The International Journal of Logistics Management, 8(1), 1-14.

Cottrill, K. (1997). The Supply Chain of the Future. Distribution, 96(11), 52-54. Cox, A. (1999). Power, Value and Supply Chain Management. Supply Chain Management: An International Journal,

Czeipal, J. (1990). Service Encounters and Service Relationships: Implications for Research. Journal of Business Research, 20, 13-21. Dabholkar, P. (1992). The Role of Prior Behaviour and Category-based Affect in On-site Service Consumers. In Sherry, T. & Sternthal, B. (eds.) Diversity in Consumer Behaviour. Association for Consumer Research, Provo, UT. 563-569.

Davenpart, T. & Brooks, J. (2004). Enterprise Systems and the Supply Chain. Journal of Enterprise Information Management, 17(1), 8-19.

de Burca, S; Fynes, B; & Marshall, D. (2005). Strategic Technology Adoption: Extending ERP Across the Supply Chain. Journal of Enterprise Information Management, 18(4), 427-440.

de Kare-Silver, M. (1998). E-Shock: The Electronic Shopping Revolution: Strategies for Retailers and Manufacturers. Basingstoke: Palgrave Macmillian.

Dell, M. & Fredman, C. (1999). Direct from Dell: Strategies that Revolutionized an Industry. New York: Harper Business.

Deloitte and Touche (1998). 1998 Vision in Manufacturing (Global Report). Global Manufacturing Survey by Deloitte and Touche & Deloitte Consulting.

Dixon, D. (2004). The Truce between Lean and IT. Industrial Engineer.

Doukidis, G; Poulymenakou, A; Terpsidis, I; Themisticleous, M; & Miliotis, P. (1998). The Impact of the Development of Electronic Commerce on the Employment Situation in European Commerce, Athens University of Economics and Business, Athens.

Du, L. (2007). Acquiring Competitive Advantage in Industry through Supply Chain Integration: A Case Study of Yue Yuen Industrial Holdings Ltd; Journal of Enterprise Information Management.

Dyer, J. (1996). Specialized Supplier Networks as a Source of Competitive Advantage: Evidence from the Auto Industry. Strategic Management Journal.

Esteves, J. (2009). A Benefits Realization Road-Map Framework for ERP Usage in Small and Medium-Sized Enterprises. Journal of Enterprise Information Management.

Fawcett, S. & Magnan, G. (2002). The Rhetoric and Reality of Supply Chain Integration. International Journal of Physical Distribution &Logistics.

Federici, T. (2009). Factors Influencing ERP Outcomes in SMEs: A Post-Introduction Assessment. Journal of Enterprise Information Management.

Ferguson, B. (2000). Implementing Supply Chain Management. Production and Inventory Management Journal.

Fernie, J. (1995). International Comparisons of Supply Chain Management in Grocery Retailing. Service Industries Journal**.** 15 94) 134-147.

Fillis, I; Johanson, U; & Wagner, B. (2003). A Conceptualization of the Opportunities and Barriers to E-Business. Development in the Small Firms. Journal of Small Business and Enterprise Development.

Forrester, J. (1958). Industrial Dynamics: A Major Breakthrough for Decision-Makers. Harvard Business Review. July-August.

Frechlich, G; Hoover, H; Liew, W. & Sorenson, P. (1999). Application Framework Issues when evolving

Applications of Electronic Commerce, Information Systems.

Giaglis, G; Klein, S; & O'Keefe, R. (1999). Disintermediation, Reinter mediation, or Cybermediation? The Future of Intermediaries in Electronic Marketplace.

Handfield, R. & Nichols, E. (1999). Introduction to Supply Chain Management**.** Prentice-Hall, Englewood Cliffs, New Jersey.

Hewitt, F. (1999). Information Technology mediated Business Process Management: Lesson from the Supply Chain. *International Journal of Technology Management*.

House, R; Filley, A., & Kerr, S. (1971). Relation of Leader Consideration and Initiating Structure to R & D Subordinates' Satisfaction. *Organizational Leadership*, 16 (1) 19-30.

Humphreys, P; Mclvor, R; & Cadden, T. (2006). B2B Commerce and its Implications for the Buyer-Supplier Interface. *Supply Chain Management: An International Journal*.

Gengatharen, D. & Standing, C. (2005). A Framework to assess the Factors Affecting Success or Failure of the Implementation of Government-Supported Regional E-Marketplaces for SMEs. European Journal of Information Systems.

Gray, P. & Watson, H. (1998). Decision Support in the Data Warehouse. A Simeon & Schuster Co; Englewood Cliffs, New Jersey: Prentice-Hall.

Johnston, R. & Mak, H. (2000). An Emerging Vision of Internet-enabled Supply Chain Electronic Commerce. International Journal of Electronic Commerce.

Kaplan, S. & Sawhney, M. (2000). E-Hubs: The New B2B Marketplaces. Harvard Business Review. Kehoe, D. & Boughton, N. (2001). New Paradigms in Planning and Control Across Manufacturing Supply Chains: The Utilization of Internet Technologies. *International Journal of Operations & Production Management.* Kennerley, S. & Neely, B. (2001). Enterprise Resource Planning: Analyzing the Impact. Integrated Manufacturing Systems.Koch, C. (2001). ERP and ERP: Realizing a Vision of Process with IT. *Business Process Management Journal*.

Kowath, N. & Choon, T. (2001). Determinants of Website Development: A Study of Electronic Commerce in

Buchanan, R. & Gilles, C. (1990). Value Managed Relationships: The Key to Customer Retention and Profitability. *European Journal of Management*.

Buonanno, G; Faverio, P; Pigni, F; Ravarini, A; Sciuto, D; & Tagliavini, M. (2005). Factors affecting ERP Systems Adoption: A Comparative Analysis between SMEs and large companies. *Journal of Enterprise Information Management.*

Calonius, H. (1988). A Buying Process Model in Innovative Marketing: An European Perspective. Proceedings of the XVIIthe Annual Conference of the European Marketing Academy. Blois, K. & Parkinson, S. (ed.), University of Bradford.

Example table: Sample Size and Response rates

Sector:	**Sample size**	**Response**	**Response Rate (%)**
Home and electronic appliances: • Nexus appliances • Mile Nigeria	 18 17	 12 14	 66.7 82.4
Hypermarkets: • Hubmart stores • Justrite supermarket	 15 15	 9 7	 60.0 46.7
Bakery's: • Macadams • Bakers world	 20 25	 16 18	 80.0 72.0
Oil retailers: • Donanic enterprises • Prince Nigeria limited	 27 23	 15 17	 55.6 73.9
TOTAL	160	108	

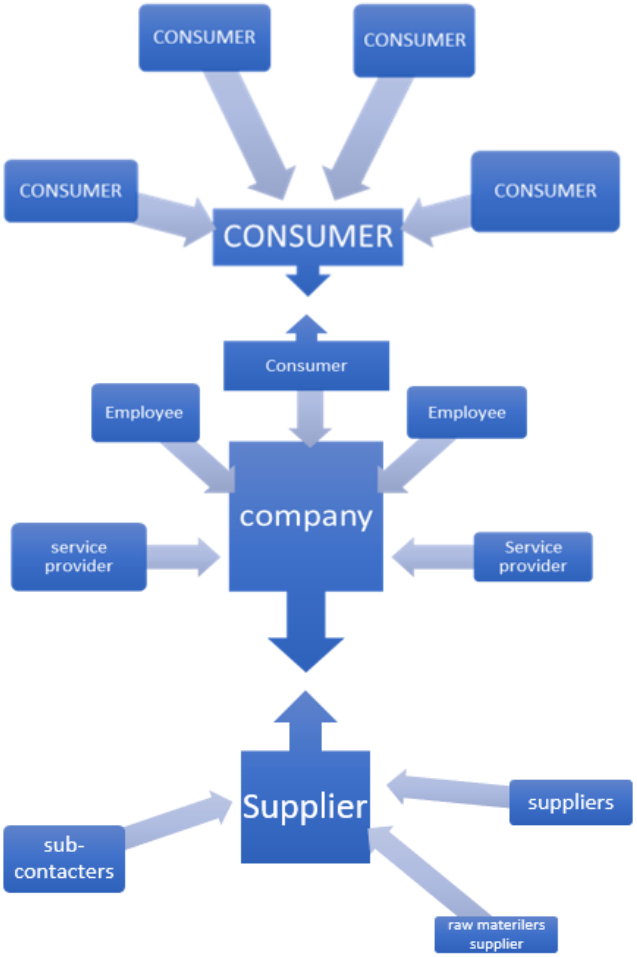


Fig 1: Model of Relationship in Supply Chain

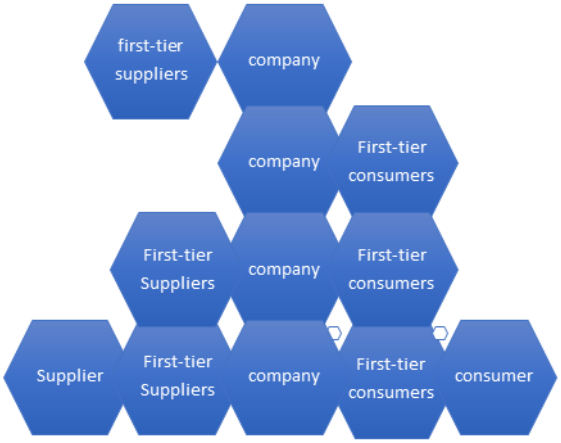


Figure 2. Strategic options in supply chain indicating the status of integration

DXB045

SOCIAL COSTS AND ECONOMIC BENEFITS OF CONTRACT EMPLOYMENT: THE CASE OF INDIA

Sivakumar Venkataramany, svenkata@ashland.edu
Ashland University, USA

ABSTRACT

Fiscal constraints rising from continued welfare measures have resulted in a much needed pension reform in India and reduction of government employment through an increased use of a number of contract workers. While deregulation of labor is difficult to accomplish, entrepreneurship and market reform in products are feasible through open innovation. This paper analyzes the current position of India with comparisons drawn from her peers and select industrialized economies. This paper proposes policy reform measures necessary to accommodate the needs of seniors.

Keywords: Pension reform, contract employment, labor deregulation, open innovation, entrepreneurship

Introduction

India enacted *The Mahatma Gandhi National Rural Employment* Act (MGNREGA) in 2005 to provide for the enhancement of livelihood security of the households in rural areas of the country by providing at least one hundred days of guaranteed wage employment in every financial year to every household whose adult members volunteer to do unskilled manual work. The need for such an Act rises from the country's 50% employment to population ratio, 26% of its youth are not in school or employment or training, and the average monthly earnings of employees range around €100. The Act serves as an ideal social contract resulting shaping the design of social policies [Chopra, 2014]. It certainly guarantees partial benefits to some of the rural poor simultaneously paving ways for bureaucracy, corruption, and inefficiency. The country has had a long history of contract labor force when the employees of the East India Company traded the company's products and engaged in their own private trade [Hejeebu, 2005]. The United Nations' Agenda for sustainable development estimates that over 600 million new jobs need to be created by 2030 to match the rate of growth of the global working population. This translates to creating about 40 million jobs per year. At the same time, about 780 million women and men who are working but not earning enough to lift themselves and their families out of USD 2 a-day poverty need improvement in their conditions. Goal 8 of this agenda emphasizes *decent work* that would promote sustained, inclusive and sustainable economic growth along with full and productive employment for all.

Pension Fund Reform

The need for pension reform is felt by the magnitude of the fiscal burden. Among 1.4 million retired pensioners from the Indian Railways (286,000 of them living past their eighties) cost the central government an annual pension of about €1.1 billion ($1.2 billion). Presently, 100 million (9% of the total population) are over 60 years old and this segment will grow over 12% and 18% respectively in 2030 and 2050. Table 1 presents the picture of increasing reliance of the seniors on their younger generation in select countries.

The probability of people living past 65 is 80% for males and 90% for females highlights the longevity but poses significant challenges for economic, social, and healthcare policies in all countries. The challenge of supporting about five million subscribers with a corpus funding of €4 billion ($4.5 billion) is daunting. Table 2 helps us compare a few countries in their pension funds administration in terms of adequacy, sustainability, and

© SGBED 2019

integrity. Industrialized economies such as the United States, overwhelmed by major risks of global financial crisis, had to resort to enhancement of liquidity programs by their respective central banks. The US Federal Reserve, the European Central Bank, the Bank of England, and the Bank of Japan together pumped in $6.4 trillion into their financial markets between January 2008 and December 2012. The emerging economies such as India and China provide ample benefits to their retiring government employees but, will realize their weakness as to the sustainability in future. The negative change in many countries is caused by a fall in saving rate, increasing life expectancy, decline in the integrity of the system, and lower levels of funding. Since 1995, India is approaching a three-dimensional approach to its welfare measures with budget-financed assistance to older people (National Social Assistance Program – NASP), access to retirement income to low income people (Swalamban, 2010 and Atal Pension Yojana, 2016), and insuance-based hospital care for low income people (Swasthya Bima Yojana).

TABLE 1 INCREASING BURDEN ON WORKING POPULATION

Country	Old to Total Population (%)			Old to Working Age Population (%)		
	2015	2030	2050	2015	2030	2050
India	8.80	12.30	18.30	13.90	19.20	29.50
China	14.90	23.80	32.80	22.30	39.40	62.60
Brazil	11.90	18.70	28.90	18.30	29.80	51.90
US	20.60	25.60	27.00	35.80	46.20	49.20
World	12.20	16.30	21.20	19.80	27.10	36.80

Source: CRISIL Insight 2015 based on UN Population Division

Improved outcomes are possible only through deployment of greater fiscal resources [Asher, Vora, and Maurya, 2015]. The government established the Pension Fund Regulatory and Development Authority (PFRDA) –in October, 2003 to develop and regulate pension sector in the country. The National Pension System (NPS) was launched in January 2004 with the objective of providing retirement income to all citizens. NPS aims to institute pension reforms and to inculcate the habit of saving for retirement amongst the citizens. Initially, the system was available only to the new government recruits and was expanded to all citizens with effect from May 2009. While it is considered a boon to the country's unorganized sector workers, the provision of contribution on voluntary basis did not accomplish the goal.

TABLE 2 GLOBAL PENSION INDEX

Country	2014	2015	2016	2017	Growth in 2017 from 2014
Australia	79.90	79.60	77.90	77.10	-2.80
Brazil	52.40	53.20	55.10	54.80	2.40
Canada	69.10	70.00	66.40	66.80	-2.30
China	49.00	48.00	45.20	46.50	-2.50
France	57.50	57.40	56.40	59.60	2.10
Germany	62.20	62.00	59.00	63.50	1.30
India	43.50	40.30	43.40	44.90	1.40
Japan	44.40	44.10	43.20	43.50	-0.90
Switzerland	73.90	74.20	68.60	67.60	-6.30
UK	67.60	65.00	60.10	61.40	-6.20
USA	57.90	56.30	56.40	57.80	-0.10
Average for 25 countries	**60.60**	**60.50**	**58.10**	**59.10**	-1.50

Source: Melbourne Mercer Global Pension Index, 2015 and 2017

The implementation of the system is subject to political constraints in a higher degree than the fiscal constraints [Bali, 2014]. In the context of managing pension funds, policy-related questions haunt the system as to who bears the risk (individual subscriber or the society collectively), which agencies administer the system, cost of administration, structure of diversification of portfolios, level of government support in the form of tax subsidies [Gupta, 2003].

Labor Laws and Contract Employment

The concept of temporary employment was conceived by William Russell Kelly in 1946 and this industry now is responsible for generating sales revenues in excess of $200 billion per year. In the industrialized nations in Europe and North America, nearly 10% of the total employment is filled by temporary staffing companies. Table 3 shows the size of individual contract workers finding jobs through professional agencies.

TABLE 3: INDIVIDUALS EMPLOYED BY AGENCIES

Country	Agency Employees	
	2015	2017
US	11,000,000	14,490,000
China	10,800,000	8,760,000
France	2,000,000	2,200,000
India	1,300,000	2,100,000
Brazil	613,000	482,186
Russia	303,665	75,767

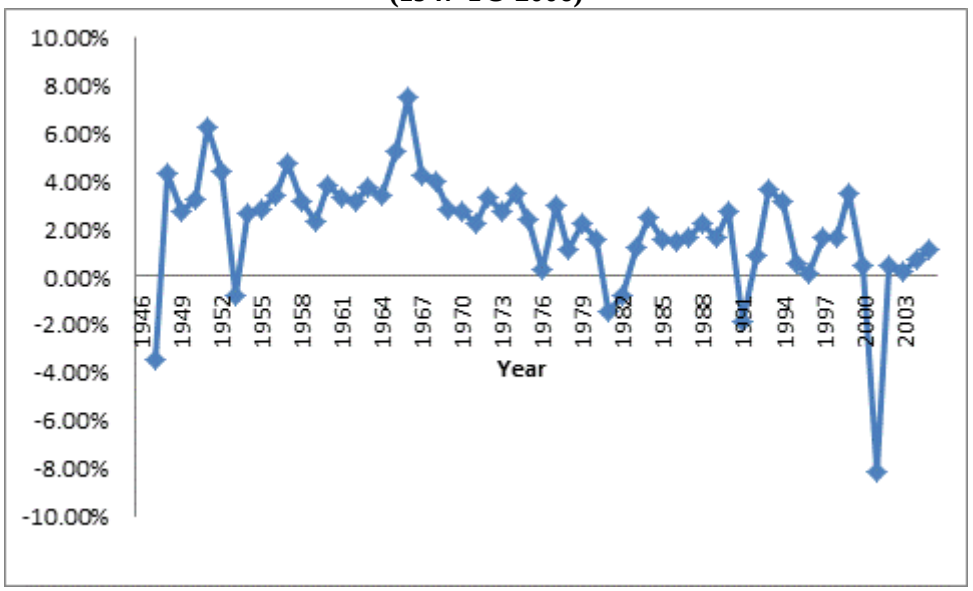
Source: CIETT Economic Report2015 and 2017

India is expected to add 300 million more to the labor market by 2025. In most states, the labor laws are too restrictive to terminate a full-time permanent employee and so, firms tend to fulfill their orders through contractors who hire temporary workers to accomplish the task. This practice helps the firms overcome economic fluctuations [Chaurey, 2015]. When a firm hires contract laborers alongside full-time permanent employees, the wage differential is a big source of conflict and labor unrest [Sen and Anand, 2011]. The country has suffered from more than 300 strikes and lock-outs in various units in different industries and has lost 20 million work-days in each year in the past decade. Firms in the formal manufacturing sector In India have been increasing their use of temporary workers employed through contractors identified as contract workers. Those contract workers are not represented by trade unions and thus, they do not fall under the purview of the labor laws. These laws however can protect only the directly employed workers on long-term contracts known as permanent workers. Firms may mix such contract workers along with permanent workers in such a way as to minimize the bargaining power of permanent employees [Saha, Sen, and; Maiti, 2013]. Figure 1 traces the annual change in government employment in India since independence for 60 years where an increased level of employment in local, state, and central government is recorded. That itself portends the magnitude of burden in future years rendering the system unsustainable. The significant impact of the government's voluntary retirement scheme showed its desirable results in 1999 to 2001 when many employees decided to take the incentives to retire. The government was able to trim its workforce and stay lean from that period forward.

Thus, arises the need for a hiring freeze when the full-time employees retire and replacing them with contract workers. Every other government employee working in central, state and public sector organizations in India, holds a job contract of less than three years. Some of them do not hold even such a contract. The total formal sector employment in India of

close to 50 million, 58 per cent of them is employed in government service. About 12 million are employed on a contract that is with a service horizon of three years or less. They also draw less salary than their counterparts in permanent service. Government data on employment at all levels include only those who are employed on a permanent basis.

FIG 1 ANNUAL CHANGE IN EMPLOYMENT IN LOCAL, STATE, AND CENTRAL GOVERNMENT (1947 TO 2006)



Deregulation of Labor

Empirical evidences suggest employees' commitment, obligation, and relationship to their employers being higher than that of the employers towards employees in the IT industry [Patrick, 2008]. On the other hand, advocates for labor market deregulation are apprehensive about conferring disproportionate powers on the workers and trade unions [Badigannavar and Kelly, 2012]. The protectionism of labor laws in India stemmed from the influence of the Fabian socialist couple Sidney and Beatrice Webb over the policy making of India's first Prime Minister Jawaharlal Nehru and that has been the structural impediment of growth. Continued product market deregulation and entrepreneurship only will generate higher growth in employment in India [Kaufman, 2014].

Open Innovation in the Indian Context

Open innovation, in contrast to the tradition research and development, encourages collaboration and sharing of ideas. Large multinational corporations are embracing open innovation systems as the benefits outweigh the costs thereof such as, intellectual property rights, trade secrets and due diligence [Leung, 2013]. Emerging economies prove that companies may be more profitable from the scientific knowledge of others [Kafouros and Forsans, 2012]. Foreign MNCs such as Solvay, Bosch and Siemens Household Appliances, DKSH, H2O, L'Oreal, and Lowe's have joined India's own MNCs The Tata Group and WIPRO in establishing centers of open innovation in various parts of India. The appeal of Toyota Scion to the younger generation with a low price and customizable accessories suggests that the market has become consumption oriented. So, Indian companies must embrace open system innovation [Shivkumar, 2011]. GVK Emergency Management and Research Institute is a public-private partnership that successfully brought emergency medical response to remote and urban settings. This highlights the need for innovation in organizational design and governance modes. Such a new opportunity will connect the states, private healthcare providers, and the public [George, Rao, Corbishley, and Bansal, 2015].

Conclusion

This study attempts to suggest policy reforms required in the deregulation of labor laws, contract employment, open innovation, and financial inclusion. The need for pension fund reform and the introduction of pension fund for the yet to be formalized sectors. Until the fundamental issues pertaining to distorted tax rules, investment regulations, and permitting market develop products matching the needs of the people, market-based pension reform will not be able to find its right direction [Juurikkala, 2008].

References

Asher, Mukul; Vora, Yutika; Maurya, Dayashankar, (2015) "An Analysis of Selected Pension and Health Care Initiatives for Informal Sector Workers in India", *Social Policy & Administration* 49 (6) 738-751

Badigannavar, Vidu; Kelly, John, (2012) "Do Labour Laws Protect Labour in India? Union Experiences of Workplace Employment Regulations in Maharashtra, India", Industrial Law Journal. 41 (4) 439-470

Bali, Azad Singh, (2014) "The Political Economy of Pension Reforms in India", *Public Administration & Development*. 34 (4) 294-304

Chaurey, Ritam (2015) "Labor regulations and contract labor use: Evidence from Indian firms", *Journal of Development Economics.* 114: 224-232

Chopra, Deepta, (2014) "The Mahatma Gandhi National Rural Employment Guarantee Act, India: Examining Pathways towards Establishing Rights-Based Social Contracts", *European Journal of Development Research*, 26 (3) 355-369

George, Gerard; Rao-Nicholson, Rekha; Corbishley, Christopher; Bansal, Rahul, (2015) "Institutional entrepreneurship, governance, and poverty: Insights from emergency medical response servicesin India", *Asia Pacific Journal of Management* 32 (1) 39-65

Gupta, Ramesh Vikalpa, (2003) "Pension Reforms in India: Unresolved Issues and Policy Choices." The Journal for Decision Makers, 28 (1) 11-26.

Hejeebu, Santhi, (2005) "Contract Enforcement in the English East India Company", *Journal of Economic History*. 65 (2) 496-523

Juurikkala, Oskari, (2008) "Sustainable Pension Reform in India: Towards a Market-Based System", Economic Affairs. 28 (1) 35-40

Kafouros, Mario I, Forsans, Nicolas, (2012) "The role of open innovation in emerging economies: Do companies profit from the scientific knowledge of others?", *Journal of World Business*. 47 (3) 362-370

Kaufman, Bruce E. (2014)"Labor Law Reform in India: Insights from Tangled Legacy of Sidney & Beatrice Webb", *Indian Journal of Industrial Relations*. 50 (1) 2-23

Leung, Peter, "Why some of the world's biggest companies are embracing open innovation", Managing Intellectual Property. Mar2013, Issue 229, pp. 65-65

Patrick, Harold Andrew, (2008) "Psychological Contract and Employment Relationship", ICFAI Journal of Organizational Behavior. 7 (4) 7-24.

Saha, Bibhas; Sen, Kunal; Maiti, Dibyendu, (2013) "Trade openness, labour institutions and flexibilisation: Theory and Evidence from India", Labour Economics. 24: 180-195.

Sen, Sunny, and Anand, J., (2011) "Double Standards", Business Today 20 (15) 34-37

Shivakumar, D. (2011) Business Today. December 11, Vol. 20 (25) 70-72

DXB098

BITCOIN AS AN ALTERNATIVE INVESTMENT: AN ANALYTICAL OUTLOOK

Jennifer Daffodils, Jennifer.daffodils@acd.ae
Aqila Begum, aqila.rafi@acd.ae
Associate Professor, American College of Dubai, Dubai

ABSTRACT

In recent years a new type of tradable asset appeared that had changed the investments patternworldwide. Bitcoin a decentralized digital currency, a leading crypto currency has drawn major attention from the research and academics and completely changed the financial system. This had an impact on the research for Investments and returns. This research study investigates into various characteristics of Bitcoin and examines its volatility. GARCH model is applied to measure the volatility for years 2012 to 2018 for daily returns. The findings also implicate that bitcoin is an ideal short-term investment and can be a part of portfolio management.

Keywords: Digital currency, crypto currency, Bitcoin, GARCH model, Volatility.

Introduction

Worldwide investors face this common dilemma created by the volatility of currency especially when it is cryptocurrency. Investments are integral part of human life. Wealth Managers advice investors to look into a portfolio of investment instead of limiting oneself to few assets. Nonetheless, zillion questions arise in the minds of an individual regarding the returns and security of their investments.

Some consider investment to reap the returns in future and prefer invest in a steady and riskless investments. There are few who prefer to invest in more volatile types of investments in order to gain short term quick returns. The goals and preferences of every person varies with their situation. Similarly, macroeconomic conditions vary leading to an increased speculation among this vast group of people interested in financial investments.

Recently, bit coin has drawn major attention amidst other cryptocurrencies, becoming the largest cryptocurrency by market cap. However, the volatility of this cryptocurrency has challenged the traditional investors who are keen on the trends of stock market. Research studies like Ammous, S., 2018 explain the volatility of bitcoin as a consequence of decreasing supply growth.

This paper is an attempt to identify the possibility of Bitcoin to be considered as top performing and as an attractive investment option. With the emergence of Digital currencies and Blockchain technology as a secured method of transaction, Bitcoin has gained popularity in terms of investment as rates of returns on these investments were higher. The rise in Bitcoin is due to several factors like policy adopted by India and Venezuela for the replacement of old currency notes.

Motivation or research context

As observed the growth of community websites, social media and virtual world has enhanced the culture across the globe for all the aspects including the financial economics. In this context many countries are looking forward for the smart cities, provision of paperless transactions and evolution of fintech driven activities changing the aspects of financial economics.

© SGBED 2019

This paper is an attempt to identify and understand the status of bitcoin as one of the top performing and most attractive investments available and whether it will be an alternative investment to replace the traditional modes of investments. This research work intends to contribute in three aspects First addition to the literature of the cryptocurrencies and can be used as Bitcoin, behavior guide for the investors in indicating the major revolution in the financial system with the dynamics of the market.

There is various reason identified for the growth and emergence of cryptocurrencies to mention like the novelty of internet has boosted the experience and strengthened smart contracts, currency reliability and safety due to block chain technology, innovation in financial instruments in the virtual world, no interference of the government but operated with digital regulation.

With the emergence of Digital currencies and Block chain technology as a secured method of transaction Bitcoin has gained popularity in terms of investment as rates of returns on these investments were higher.

Brief Literature review

There is abundant work on Bitcoin and as it is more in demand. This section provides the information on the bitcoin with several perspectives in order to understand this paper. Cryptocurrencies are seen as the libertarian response to central bank failure to manage financial crises of 2008 (Barivieraetal). According to Estrada (2017) Bitcoin is a digital currency that was created in 2009 by Satoshi Nakamoto with no central issuing authority or physical form, it is intangible. Nakamato designed bitcoin to ultimately create 21 million bitcoins as rewards for solving mathematical algorithms (needed to maintain the bitcoin ledger) in a process called mining. Since then it has caught a lot of attention due to its decentralized characteristics and the technology. Bitcoin is a homogenous, virtual good that is completely identified across all the online markets in which is sold (Pieters and Vivanco 2017) and accessible 24/7 to the global clientele. The markets selling bitcoin operate through out and pricing data is available free of charge. There is no uniform, global regulatory framework for bitcoin depends upon the countries to regulate or ignoreEucador and India banned Bitcoin while Isle of Mann clarified the application of existing tax rules. The nature and extent of these regulatios vary Kaplanov (2012) debated the need for any regulation with a vision to have a currency without any government intervention. Bohme et all (2015) has given a note on technical aspects. Brandvold et al (2015) give brief discussion of major events in the bitcoin history and White (2015) considers the market for cryptocurrency broadly. Kroll et al (2013) examined the process of mining once mined every bitcoin or fraction thereof can be sold used as a payment for retail purchases or can be kept as investment to be traded later. Thus it has a store value and can be used as speculative asset. Ciaian et al. (2014) studied the relationship between the price of Bitcoin and demand and supply fundamentals of this cryptocurrency with global financial indicators (oil price and the Dow Jones index) and Bitcoin's attractiveness for investors (i.e. the volume of daily Bitcoin views on Wikipedia). The study concluded that price of Bitcoin is determined by the interaction of supply and demand but could not find any evidence for effect of financial variables on the prices. Urquhart (2016) discussed its innovative features, simplicity, transparency and increasing popularity. While Dyhrberg (2016) explains that it has posed great challenge and opportunities for policy makers, economists, entrepreneur and consumers. Bitcoin is most successful and controversial virtual currency shceme (ECB,2012) as on June 12, 2017.Seetharaman, A (2017) et al opines that bitcoin with due regulations can be a real challenge to US dollar. However, regulations of digital currency remain a challenge due to its digital existence and the decentralized nature of value transfer. This study continues to highlight the discouragement for few investors due to lack of

regulations. On the other hand, the rise of service providers accepting bitcoin transactions as indicated by the study will encourage the tech savy investors towards bitcoin.

Recent trends in the markets have indicated fluctuations in the prices reflecting the volatility of the bitcoin. Bouoiyour, J. and Selmi, R., 2015 concluded that bitcoin is something between currency and commodity due to its volatility and lack of regulation in bitcoin network. As per this study, returns on bitcoin will be affected by the demand of bitcoin as medium of exchange. Nonetheless the rise of noise traders and speculators in bitcoin trading is a cause of concern as per the research as it leads to increased volatility. In terms of investment option, bitcoin has similarity to gold and has hedging capabilities as indicated by the study.It is used as an investment asset rather than a currency (Glaser et al, 2014; Baek and Elbeck, 2015; Dyhrberg,2016).Grinberg (2011) discussed Bitcoin market to be highly speculative, more volatile and susceptible to speculative bubbles than other currencies which was supported by (Cheach and Fry,2015).Additionally, Glaser et al, 2014 also reveal the real intention of uninformed users is to make use of alternative transaction system instead of an alternative investment vehicle.

Bitcoin has a place in the financial markets and in portfolio management (Dyhrberg,2016 a) and examining its volatility is essential and crucial. Sapuric, S. and Kokkinaki, A., 2014 points out the risk of bitcoin getting stored instead of being a medium of exchange due to its speculative nature. Irrespective of the risk, bitcoin still remains as an attractive option as the transaction fee is considerably reduced in bitcoinnetwork. Moreover, Iwamura, M., Kitamura, Y., Matsumoto, T. and Saito, K., 2014 suggest inclusion of bitcoin in optimal portfolios based on conditional value – at – risk framework assessment.

The presence of long memory and persistent volatility(Barivieraetal.,2017) justifies the application of GARCH-type models. Wijk (2013) examined value of Bitcoin and its relationship to different financial data (e.g. the Dow Jones, FTSE 100, Nikkei 225 and the WTI oil) was and their studies concluded that Dow Jones, the WTI oil price and the euro-dollar exchange to have a significant impact on the price of Bitcoin in the short run but only the Dow Jones has a significant impact on the value of Bitcoin in the long run. On the other hand, they concluded that other variables, like the dollar-yen exchange rate and the Nikkei 225, have no statistically significant effect on the formation of Bitcoin price. factors like usage in trade, money supply and price level were found to be important in the determination of Bitcoin price in the long run according to Kristoufek (2015). Additionally, analyzed the effect of Bitcoin popularity quantifying it with data from Google Trends and Wikipedia searches on the cryptocurrency price and concluded that the prices of bitcoin are driven by the investor's interest in the crypto-currency.Another study by Davies (2014) revealed the relationship between Bitcoin volatility and the popularity y measured by the queries or tweets in Google or Twitter respectively concludes that changes in Google trends of Bitcoin have an impact on the volatility but tweets do not have any impact on Bitcoin. Since its inception in 2009, Bitcoin has been characterized by upward and downward price movement due to high transaction volumes. In November 2013, the price of Bitcoin in plunged 20% on highest volume. Balciliar et al (2016a) examined the predictability of Bitcoin returns and volatility based on trading volume. Diks and Panchenko (2005) applied GARCH models to analyze the impact of volume in Bitcoin returns and volatility. Bitcoin was felt more prominently during late 2013 and early 2014. It was in 2013 USD exchange rate for one Bitcoin (BTC) rose more than five times in one short span of a few weeks.

The GARCH Model of Volatility

Volatility is always associated with announcement depends upon the time approaches and estimation of garch model is to find how fast the data is having an impact. Here few daily observations are submitted with the estimation and real information about the parameters. That is going to be one with about the right persistence (see below), with the alpha1 parameter somewhere between 0 and 0.1, and the beta1 parameter between 0.9 and 1.
We use GARCH(1,1) model due to its availability and estimated maximum likelihood with the application of good amount of data.

The plain vanilla (there are *sooo* many variations of the GARCH model) GARCH model is as follows:

$r_t = \mu + \varepsilon_t$

$\varepsilon_t = \sigma t.zt$

$\sigma^2_t = \omega + \alpha_1 \sigma^2_{t-1} + \beta_1 \varepsilon^2_{t-1}$

$z_t \sim N(0,1)$.

The first line is an equation to model the mean. As presented here there are no ARMA effects, but they could easily be thrown in if you find they are important. There is only an intercept and an error term. The next three lines put more structure on the error term…
Why do we multiply two things to get ϵt rather than add like you would normally see in a regression error term?
To see this, it is important to keep the goal in mind here. We are looking for a model that will give us a changing variance of r_t^{SPY}. Namely, to find a model for r_t^{SPY} that has the following basic form:

$r_t^{SPY} \sim N(\mu, \sigma^2_t)$

So if the basic return model is $r_t^{SPY} = \mu + \varepsilon_t$, it better be the case that $Var(\mu + \varepsilon_t) = \sigma^2 t$.
The next steps rely on the properties of the variance of random variables. Specifically, if a and b are a constants and X is a random variable, $Var(a+bX) = b^2 Var(X)$.

$Var(r_t^{SPY}) = Var(\mu + \varepsilon_t) = Var(\varepsilon_t)$

So if we come up with a model for εt so that it's variance depends on recent volatility and is big when recent volatility is big and is small when recent volatility is small, we will have created a model of conditional heteroskedasticity.
Consider the second line in the GARCH model.

$\varepsilon_t = \sigma_t . z_t$

Notice that σ_t is a constant, it is just a linear combination of past σ^2's and past ϵ^2's, so it is known at time *t*.

$Var(r_t^{SPY}) = Var(\mu + \varepsilon_t)$

$= Var(\varepsilon_t)$ since μ is a constant

$= Var(\sigma_t, z_t)$

$= \sigma^2 t Var(z_t)$ since σ^2_t is a constant

$= \sigma^2_t$

The last line follows since $z_t \sim N(0,1)$, and the $Var(z_t) = 1$. So in the second equation of the GARCH model, multiplying the σ_t and the ϵ_t takes advantage of the properties of variance to get just what we wanted, conditional variance of r_t^{SPY} that will be big when recent volatility is big and small when recent volatility is small. That last part follows because of how the $\sigma^2 t$ is constructed in the third line of the GARCH model, $\sigma^2 t = \omega + \alpha_1 \sigma^2 t-1 + \beta_1 \varepsilon^2 t-1$.

Data

Daily observation was collected from 2013 to 2018 from Bloomberg website for return in terms for 1Btc in terms of USD.

Findings

ARCH AND GARCH ANALYSIS

The ARCH test is necessary to be applied before the GARCH model application. The results indicate that there is an ARCH effect indicating the persistence in the return in the volatility of the bitcoin. It represents the bitcoin return result of ARCH test which reveals that the lagged volatility coefficient is significant 1 % level of significance. The current return volatility of bitcoin is significantly influence by its previous return volatility. The ARCH parameters correspond to α and the GARCH parameters to β.

However, it is recommended that GARCH test gives more robust results in assessing the volatility of a return series. Here the GARCH (1,1) model is applied and this model best describes the volatility of a return series for the bitcoin returns.

Table 1: ***ARCHtest of bitcoin return***

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.193546	0.411019	0.470893	0.6377
Return(-1)	0.998064	0.000715	1395.487	0.0000
R-squared	0.993812	Mean dependent var		1608.022
Adjusted R-squared	0.993807	S.D. dependent var		3067.238
S.E. of regression	241.3790	Akaike info criterion		9.552261
Sum squared resid	75742985	Schwarz criterion		9.584037
Log likelihood	-6210.522	Hannan-Quinn criter.		9.564183
Durbin-Watson stat	1.996767			

Table 2 ***GARCHtest of bitcoin return***

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	1.053522	0.415405	2.536131	0.0112
Return(-1)	0.993786	0.000796	1249.080	0.0000
	Variance Equation			
C	2.941298	0.529934	5.550314	0.0000
RESID(-1)^2	0.302682	0.022076	13.71074	0.0000
GARCH(-1)	0.773935	0.011362	68.11732*	0.0000
R-squared	0.993815	Mean dependent var		1608.022
Adjusted R-squared	0.993810	S.D. dependent var		3067.238
S.E. of regression	241.3244	Akaike info criterion		9.509659
Sum squared resid	75708686	Schwarz criterion		9.529519
Log likelihood	-6185.788	Hannan-Quinn criter.		9.517110
Durbin-Watson stat	1.989136			

Conclusions

The research findings/ conclusions are multifold

- GARCH analysis indicates that ideally the performance of the bitcoin is more dependent upon the previous trend.
- Ideally, a better understanding of price and volatility of crypto currency can regulate the different economies, it can reduce the risk and cost due to the advancement of technology.

- It is safe and secured due to the block chain technology. With the intervention and regulation from government officials could find a better way of using and developing it. Usage of digital currency can help to replace the fiat currencies.
- Bitcoin has a strong potential of replacing the USD as a reserve currency if it is accepted globally.

Implications

With the likelihood function applied it estimates to continue the same trend and there is a possibility of high potential for the growth due to its current form. The positive message indicates that people are ready to accept the technology.

Limitations

The study was limited to only the variable of price of Bitcoin in terms of the value with respect to USD and data was taken only for three years.

Further Scope of the study

The study indicates the greater scope of research with more variables and exchange rate with the other currencies to understand and the interrelationship can be discussed when other crypto currencies like litecoin, etherium are applied.

References

Amato, S., Esposito Vinzi, V., &Tenenhaus, M. (2004). A global goodness-of-fit index for PLS structural equation modeling. Oral Communication to PLS Club, HEC School of Management, France, March, 24, 1-4.

Badev, A. I., & Chen, M. (2014). Bitcoin: Technical background and data analysis.

Baek, C. and Elbeck, M., 2015. Bitcoins as an investment or speculative vehicle? A first look. Applied Economics Letters, 22(1), pp.30-34.

Bariviera, A.F., Basgall, M.J., Hasperué, W., Naiouf, M., (2017). Some stylized facts of theBitcoinmarket.PhysicaA484,82–90.

Bayern, S. (2014). Dynamic common law and technological change: the classification of Bitcoin. Wash. & Lee L. Rev. Online, 71, 22.

Beanland, C., (2013). Bitcoin: The New Gold Standard?. The Independent, 38. ISSN 09519467.

Bedell, D., (2011). Same Old, Same Old. Global Finance, 25(10), pp. 1.

Bhalla, S. S. (2011). Euro and the Yuan: different peas in the same pod. Comparative Economic Studies, 53(3), 355-381.

Blundell-Wignall, A. (2014). The Bitcoin question: Currency versus trust-less transfer technology. OECD Working Papers on Finance, Insurance and Private Pensions, (37), 1.

Bouoiyour, J., Selmi, R., (2015). Bitcoin price: Is it really that new round of volatility can be on way? Munich Pers. RePEc Arch. 6558 (August).

Bouoiyour, J., Selmi, R., (2016). Bitcoin: A beginning of a new phase? Econ. Bull. 36 (3), 1430–1440.

Brière, M., Oosterlinck, K. and Szafarz, A., 2015. Virtual currency, tangible return: Portfolio diversification with bitcoin. Journal of Asset Management, 16(6), pp.365-373.

Bouri, E., Azzi, G., Dyhrberg, A.H., (2017). On the return-volatility relationship in the Bitcoin market around the price crash of 2013. Economics 11 (2), 1–16.

Burnett, & John, (2015). The New Currency Dilemma U.S. News Digital Weekly, p16-16 Casey, M. J., &Vigna, P. (2015). Bitcoin and the Digital-Currency Revolution. The Wall Street Journal, 23.

Chance, G. (2014). WILL THE PEOPLE'S CURRENCY BECOME THE GLOBAL CURRENCY?. Corporate Finance Review, 19(3), 6.

Chatelin, Y. M., Vinzi, V. E., &Tenenhaus, M. (2002). State-of-art on PLS Path Modeling through the available software.

Chavez-Dreyfuss, Gertrude; Connor, & Michael. (2014). Bitcoin shows staying power as retailers chase digital sparkle. Irish Independent [Dublin] 32. Chin, W. W., & Gopal, A. (1995). Adoption intention in GSS: relative importance of beliefs. ACM SigMIS Database, 26(2-3), 42-64.

Christian, Beer, Beat, W. (2014). Bitcoin – The Promise and Limits of Private Innovation in Monetary and Payment Systems.

Colesanti, J. S. (2015). Trotting Out the White Horse: How the SEC Can Handle Bitcoin's Threat to American Investors.

Dyhrberg, A.H., 2016a. Bitcoin, gold and the dollar - A GARCH volatility analysis. Financ. Res. Lett. 16, 85–92.

Dyhrberg,A.H.,(2016b).HedgingcapabilitiesofBitcoin.Isitthevirtualgold?Financ. Res. Lett. 16, 139–144.
Iwamura, M., Kitamura, Y., Matsumoto, T. and Saito, K., (2014). Can we stabilize the price of a Cryptocurrency?: Understanding the design of Bitcoin and its potential to compete with Central Bank money.
Kaplanov, N. M. (2012). Nerdy money: Bitcoin, the private digital currency, and the case against its regulation. Loyola Consumer Law Review, 25(1), 111–174.
Plassaras, N.A., 2013. Regulating digital currencies: bringing Bitcoin within the reach of IMF. Chi. J. Int'l L., 14, p.377.
Sapuric, S. and Kokkinaki, A., 2014, May. Bitcoin Is Volatile! Isn't that Right?. In International Conference on Business Information Systems (pp. 255-265). Springer, Cham.
Seetharaman, A., Saravanan, A.S., Patwa, N. and Mehta, J., 2017. Impact of Bitcoin as a World Currency. Accounting and Finance Research, 6(2), p.230
Zimmarmann, K., Haferhorn, M., Weber, M.C., Siering, M., 2014. Bitcoin - Asset or currency? Revealing users' hidden intentions. In: Twenty Second European Conference on Information Systems, ECIS 2014, Tel Aviv, pp. 1–14 Available at SSRN:https://ssrn.com/abstract=2425247.

DXB021

IMPORTANCE AND UTILITIES OF MATHEMATICAL MODELING IN BUSINESS DECISION MAKING

Haftamu Menker GebreYohannes, haftamu.yohannes@skylineuniversity.ac.ae
Skyline University College, University City Sharjah, U.A.E.

ABSTRACT

Mathematical Modeling is currently at the focus of business decision maker's attention. However; there is limited information about the amount to which values of the Mathematical Modeling lead to business decision making fallacies. The swift improvement and sustainable needs of organizations, bond between organizations and traders has become essential to any business. In addition to all difficulties that will face the business when poor decision is made. Decision makers and managers face challenges when they are about to choose the right suppliers, for obtaining of raw material and components for their manufacturing process. The main purpose of this paper is to explore values and categories Mathematical modeling and to examine its application in business decision making. Normalization process and pair wise comparison of preference criteria were used to select the best supplier. Finally; the conclusion of the paper suggests Mathematical modeling plays a key role in business decision making.

Keywords: Mathematical Modeling, Categories of Mathematical Modeling, Business Decision Making.

Introduction

Decision making is one of the vibrant deeds ever conducted in organizations by managers. It involves numerous contributors and required conflicting resolution as well as multiple information sources. Decision Making involves organized methods using the theoretical and practical advances made in the fields of Mathematics, Operations Research, Cybernetics, Artificial Intelligence etc. The outcomes of decision making process unequivocally affect business performance within businesses. Therefore, auxiliary those verdict makers is highly recommended and desirable. In the recent investigation in business involves the extension to the field of business management more or less be named management science. Researchers working along these lines try to develop a Mathematical representations or "models" of typical decision making problems in business and, where they are given the opportunity to do so, to test and apply these models in actual decision settings. According to (Merton H. Miller Graduate Business School university of Chicago) currently business management is still a relatively small. But with the improvement in Mathematical and computer Technology and Particularly with Artificial intelligence and with the increase in the number of scholars who are being skilled to use the tools efficiently and creatively it is a field that can be anticipated to grow quickly in the years forward. Rather than trying any broad investigation of work to date, this paper will focus on the Utilities and importance of Mathematical Modeling in business decision making.

Construction and Principles of Mathematical Modeling

Mathematical Modeling based decisions will always maintain the managers in their decision-making process. Mathematical modelling is a method for understanding the dynamics of a scheme and for forecasting upcoming outcomes within the system. From a simplified standpoint, any system is composed of two essential things: (1) elements that have certain assets and belongings (2) associations and actions that explain how these elements interact and change (Norris, et al, 1997). Indeed, Mathematical models are a concept of the system they represent. By using such models, the user can study and understand the relationships between

the fundamentals of the system without having to actually operate the system. Thus, Mathematical modelling is a systematic process that attracts on many skills and employs the higher mental activities of interpretation, analysis, and synthesis. Following is a more detailed discussion of different types of Mathematical models. According to (Breithach and Maltas, 2003). The Modelling process is composed of five main stages. Observing an occurrence, defining the problem situation characteristic in the phenomenon, and astute the important factors (variables/parameters) that affect the problem.

Estimating the relationships among factors and understanding them mathematically to obtain a model for the phenomenon. Applying Mathematical Examination to the Model. Obtaining results and reinterpreting them in the context of the phenomenon under study and drawing conclusions. Testing and refinement of the model (Breithach and Maltas, 2003). So, Mathematical models are strengthened by a number of beliefs about the nature of reality and how we can know it, which immediately involves us in a contradiction, since one of those assertions is that such methods are not reflections of underlying belief systems (Scott, 2000).

The objective of this paper is to explore the importance and utility of mathematical models in business decision making.

Methodology

In this paper a systematic literature review is followed to find categories of mathematical modeling and their importance and utility in business decision making. Normalization process will be in the case of linear weightage modeling to avoid the conflicts between all the criteria's that affect the final decision. As far as Analytical Hierarchy process is concerned pairwise comparison between preferences criteria matrix is to express the relative importance of the elements in the hierarchy, followed by computing the weight of each criteria. Moreover, Normalized criteria value matrix, and weight and criteria value matrix will be part of the hybrid model.

Category of Mathematical Modeling in Business decision making

According to Wang, J., & Wang, D. (2017) Considering the practical operation and practices of business management, he categorized the Mathematical models involved in business Management accounting mainly include general Mathematical model, Mathematical analysis model, Input-Output model, Linear Planning model and Probability Statistic model. According to Wang, J., & Wang, D. (2017) General Mathematical Models which are mainly used for calculating enterprise break-even point and carrying out Financial and accounting analysis with algebraic formulas are the most common application models. But the author likes to Classify and mention some types Mathematical Modeling based on their Importance and utilities in Business Decision making.

Mathematical modeling of Weightage

Mathematical Model can be used for making decision for decision makers by allocating weights to the various standards for the goods as well as the dealers which is the beginning process in decision making. Most of the time in Mathematical modeling there are some standards considered as more important than others, such as; the quality product, the price of product, and delivery time. Decision makers should assign weight to each individual standard in order to decide the relative importance of each one. These weights play a vital role in decision making process and extremely affect the final decision. First of all, decision maker has to identify all criteria that are involved in the certain process before performing any other steps. After identifying all the criteria related to supplier selection decision, decision maker has to determine the boundary for each criterion. Generally, result can be divided into two types, i.e. maximum and minimum. To establish a boundary to standard, decision maker should

classify all standards into two groups. The first group known as "larger is better" while the other known as "smaller is better". For example, the delivery time, the distance between manufacturer and supplier location, and product cost can be categories as "smaller is better" where the boundary for this type of standards must be maximum. On the other hand, most of the qualitative standards can be considered as "larger is better" such as warranty, qualities, experience of suppliers, supplier flexibility and technical capability where boundary must be minimum. Based on these two conflicting boundaries, the decision maker cannot take this directly. The decision maker must do the normalization process to overcome this conflict.

According to Dominic, P., Dr, Akashah, E., & Nee, G. K. (2010), The normalization process is explained as maximum of a boundaries for standards is maximum value if a particular attribute minus specific retailer divided by the difference between maximum value and minimum value of particular attribute among supplier similarly he added vendor that ash minimum value can be determined by minimum value if a particular attribute minus minimum value of specific retailer divided by the difference between maximum value and minimum value of particular attribute among supplier . When all values of the criteria matrix are calculated, series of calculations should be achieved by multiplying weights of standards by the whole values within the matrix. The total score should also be calculated by weighted model for each vendor which represents the vendors' scores. The final decision table includes a total score for each supplier and the one who gains the highest score is recommended as the best supplier over all. The limitation of this model is assigning weights to various criteria. Hence Mathematical Modeling can be used in for decision maker's judgment by comparing among the already stated decision criteria.

Mathematical modeling of Analytic Hierarchy Process

This kind Mathematical modeling for business decision making was originally designed by Saaty, T. L. (1980) to evaluate complex multi-criteria decision problem, beside that AHP as Mathematical Model is appropriate whenever a target is obviously declared and a set of relevant criteria and alternatives are given B, O., & B, K. (2005). AHP has been proposed for supplier selection problem to support managers through the decision-making activity, which aims to select the right supplier among a pool of potential suppliers. AHP is a popular Mathematical model to aggregate multiple criteria for decision making F.Y, K. K., & W.L, H. C. (2008). In AHP the problems are usually presented in a hierarchical structure and the decision maker is guided throughout a successive series of pairwise comparisons to express the relative strength of the elements in the hierarchy. In general, the hierarchy structure encompasses of three levels, where the top level represents the goal, and the lowest level has the supplier under consideration. The intermediate level contains the criteria under which each supplier is evaluated.

There are many ways to obtain the preferences from the decision makers, but the measurement scale proposed by Saaty, T. L. (1980) is most commonly used. Based on the pairwise comparison between each criterion, the measurement scale enables the decision maker determines which degree of any single criteria is important to other. This measurement scale includes 1-9 scale point; each point represents different degree of preference. By assigning 1 for equal preferences, assigning 3 for moderate importance, 5 for strong importance, 7 for very strong importance and 9 for extreme importance during pairwise comparison. The values 2, 4, 6, and 8 may be assigned based comparison between the above values. The final score obtain for each supplier across each criterion is calculated by multiplying the weight of each criterion with the weight of each supplier. The supplier who obtained the highest score is suggested as the best supplier and decision maker may consider that one as the best decision choice.

Mathematical Hybrid Model

This kind of Mathematical model is the combination of both the above Models which helps to boost the decision making, Based on the previous discussion about both models, this model provides another alternative way that can support the supplier selection decision and offer a powerful tool which can ultimately produce satisfactory results. This category of Mathematical model concentrates on avoiding all the shortcomings mentioned above. It combines two different aspects from both AHP and linear weightage model. This model uses the measurement scale of AHP model to determine to which degree each single criterion is preferred in comparison with others. Once the pairwise comparisons have been made, decision maker can obtain the weights of the whole criteria when the relative preference of criteria is specified. The next step in this kind of Mathematical model is to assign values to all criteria considering "larger is better" or "smaller is better". First stage is to obtain preference criteria matrix, by means of identifying various criteria against each other. Make pairwise comparison between the criteria by assigning weights in 1-9 scale. By performing three steps like sum the elements in each column, divide each value by its column total and calculate row averages.

Finally, by doing all the three steps we can obtain weightages of each criterion. The second stage is to apply linear weightage model by finding the results from the original supplier data and after normalization process by multiplying the weights obtain from the above process, we can get the final decision table matrix. Calculation of the whole values in the decision table matrix has to be produced by considering the two formulae. If the magnitude is maximum then formula 1 should be used, otherwise formula 2 is applied for minimum threshold. When the whole cells that represent each supplier across only criteria will be filled with a certain value in the decision table matrix, then each column will multiply by the column of criteria weights and obtain the new values of these cells. Now each column represents one of the competitive suppliers, the last step in the proposed model is to compute the sum of each column to get the final scores of all suppliers. The highest score indicates to the best supplier and that supplier will be recommended as the most appropriate supplier among the competitive suppliers.

Conclusion

In general, Mathematical Model can be used in Companies and public Institutions in business decision making, Risk control and Organizations development planning. Mathematical Modeling can provide business and management accounting with crucial management carries and scientific basis. Besides Different organizations can apply Mathematical models for Systematic and Scientific Management and Business Processes.

References

Wollmann, D., & Steiner, M. T. (2017). The Strategic Decision-Making as a Complex Adaptive System: A Conceptual Scientific Model. *Complexity*, 1-13. doi:10.1155/2017/7954289

Novikov, D., Korepanov, V., & Chkhartishvili, A. (2018). Reflexion in mathematical models of decision-making. *International Journal of Parallel, Emergent and Distributed Systems*, *33*(3), 319-335. doi:10.1080/17445760.2017.1413189.

Dominic, P., Dr, Akashah, E., & Nee, G. K. (2010). *World Congress on Engineering, Vol I WCE 2010, June 30 - July 2, 2010, London, U.K.).*London: World Congress on Engineering.

D, N., & M, R. (2009). Mathematical modelling of decision making processes in construction projects. In: Dainty, A.R.J. (Ed) Procs 25th Annual ARCOM Conference. 85-94. Retrieved September 7, 2009, from www.arcom.ac.uk/.../ar2009-0085-0095_Nishiyami_and_Radosavljevic.pdf.

Wang, J., & Wang, D. (2017). APPLICATION OF MATHEMATICAL MODELING IN MANAGEMENT ACCOUNTING ITALIAN JOURNAL OF PURE AND APPLIED MATHEMATICS. *38*, 573-580. Retrieved from ijpam.uniud.it/online issue/201738/49-Jiaxin Wang-DonglinWang.pdf.

NECULA, S. C. (2010). Discussions on Applied Mathematics in Decision-Making Modelling with Decision Support Systems and Knowledge Based Systems. (978-960-474-263-9), 85-90. Retrieved October, 2010, from https://core.ac.uk/download/pdf/18425174.pdf.

Saaty, T. L. (1980). Saaty TL 1980 the Analytic Hierarchy Process Planning. Retrieved 1980, from https://www.sciencedirect.com/science/article/pii/0270025587904738.

B, O., & B, K. (2005). An AHP application in vendor selection. ISAHP, pp.1–21. Performance evaluation on quality of Asian e-government websites 239. Retrieved from https://www.researchgate.net/publication/220412681_Performance...

F.Y, K. K., & W.L, H. C. (2008). Software vendor selection using fuzzy analytic hierarchy process. A new hybrid model for the supplier selection decision, IAENG International journal of computer science. *35*(3), 267-274. Retrieved 2008, from https://www.researchgate.net/publication/220412725_A_new_hybrid...

DXB126

FINANCIAL PERFORMANCE OF MICROFINANCE INSTITUTIONS IN ASIA: A COMPARATIVE ANALYSIS

Nizar Sahawneh, Professor, School of Business, Skyline University College, Sharjah
Nandini Kaul, Assistant Professor, Faculty of Business, University of Wollongong in Dubai
Namrata Gupta, Assistant Professor, Faculty of Business, University of Wollongong in Dubai

ABSTRACT

This study attempts to compare the financial performance of 220 selected microfinance institutions (MFIs) in Asia. We argue in this paper that, to sustain microfinance and other support services, Microfinance Institutions (MFIs) should be able to sustain themselves for a long period; they need to be economically viable and sustainable in the long run but this is not often considered in academic literature. Further, in order to sustain their operations, MFIs must generate enough revenues from their operations to cover financial and operating costs and, in many cases, build institutional capital through profits. Analysing their financial performance, therefore, is of utmost importance to maintain this process of poverty reduction; the failure of which would have grave consequences. MFIs must be able to sustain themselves financially in order to continue pursuing their social objectives, through good financial performance. The results of our study show that out of 5 ratios we chose to analyse the financial performance of selected MFIs, 3 differ significantly between our sample Asian countries.

Keywords: Asia, Microfinance Institutions, Financial Performance and Sustainability.

Introduction

One of the eight Millennium Development Goals of the United Nations is the "eradication of extreme poverty and hunger." The UN defines extreme poverty as living on U.S. $1.25 or less per day. In 2005, 1.4 billion people worldwide were declared extremely poor; their situation remains unchanged despite global political and policy rhetoric (Luiz, 2006). The UN's target was to halve the proportion of the extreme poor by 2015 using the year 1990 as a basis, however, this did not materialise as was expected. Nevertheless, Microfinance is considered to be one of the measures that will help reach that goal (United Nations, 2008). The institutions that are providing microfinance services such as savings, credit, insurance and remittance to the poor have also been evolving in the response to global economic challenges (Rosser, 2002).

In Asia, microfinance sector has undergone a tremendous transformation since the implementations of the financial sector reforms which started in 1990's. The industry has experienced a fast growth in terms of the number of firms, geographical area covered, and the number of customers served. The importance of microfinance sector in the region has increased recently due to a number of reasons. First, due to the recognition of the sector by governments as the powerful means for poverty alleviation and economic development (Tucker & Lean, 2003). Second, more than half of the population in these countries live in rural areas, which are not yet reached by banking sectors making Microfinance sector as the only reliable source of financing (Khan, Azid & Toseef (2012). Lastly, the lending methodologies and approaches used by Microfinance institutions in the region have made them more favoured source of finance among the low income household in both rural and urban areas (Nkundabanyanga, et.al. 2014).

© SGBED 2019

Most of the empirical studies (Bhanot & Bapat, 2015; Akram & Routray, 2013; Fatima, 2009) on the performance of Microfinance institutions in the region have focused on the social impact of the microfinance services to the communities. Similarly, studies which have focused on the institutional performance (Hartungi, 2007), have much dealt with financial performance of the institutions in terms of efficiency (Block, 2012), sustainability (Siwar & Talib, 2001) and profitability (Kyereboah-Coleman & Osei, 2008). Although not much is known about the financial performance of the Microfinance institutions in the region, there is no doubt that unless MFIs become sustainable financial institutions, they can never fully realize their social objective of reducing poverty and reaching out to poor people. Equally important is that, the financial performance of MFIs should be monitored and improved if they have a sound risk management in place which aims to strike a balance on which risks are worth taking for them and how to minimize losses generated by those risks.

What is already known?

There is plethora of literature on performance of micro finance institution across the globe, though only few studies have been carried out on their financial performance. One such study done by Bayeh Asnakew Knide (2012), on *Financial sustainability of microfinance institutions in Ethiopia* aimed at identifying factor affecting financial sustainability of MFIs in Ethiopia. The study has followed a quantitative research approach using a balanced panel data set of 126 observations from 14 MFIs between 2002 and 2010. The study indicators were: financial sustainability, subsidy and sustainability, breadth of outreach, depth of outreach, capital structure and efficiency. The data was analysed using descriptive statistics and econometric test. The study found that microfinance breadth of outreach, depth of outreach, dependency ratio and cost per borrowing affected the financial sustainability of micro finance institutions in Ethiopia. The study concluded that capital structure of micro finance institutions and staff productivity created significant impact on financial sustainability of MFIs in Ethiopia during the study period.

Agarwal and Sinha (2010) also found in their study that the sustainability of microfinance institutions is important in order to pursue their objectives through good financial performance. This paper studies the various players in the microfinance sector which range from not-for-profit organizations which work towards a developmental objective to commercial banks which view microfinance as a good source of deposits with sound banking and as a measure to reach their priority lending targets.

Qayyum and Ahmad's (2006) study on "Efficiency and sustainability of microfinance institution in South Asian" aimed to identify the most efficient/best practice of MFIs in South Asian region. Their study evaluated the efficiency of 85 MFI from south Asia as follows: 15 Pakistanis, 25 Indians, and 45 Bangladeshi MFIs. Data envelope analysis was used to analyse the efficiency of microfinance institution in these selected South Asian countries. The performance indicators used in their study were: outreach, institutional characteristics, financing structure, overall financial performance, efficiency and productivity; and risk and liquidity. They also found that 10 MFIs from Pakistan, 9 from Bangladesh and 9 MFIs from India were not sustainable. They also found from sustainability indicator that Indian MFIs are better than Bangladeshi MFIs. Also, that study reveals inefficiencies in Pakistan, India and Bangladesh MFIs mainly due to technical factors. It is possible that similar weaknesses may be found in other developing economies; it is important therefore, for MFIs in those systems to improve efficiencies, by heightening their managerial expertise and improving technology in their operations.

Further lessons could be learned from Tucker and Miles' (2003) study on "Financial performance of Microfinance Institutions – A comparison of performance of Regional commercial banks by geographic regions." Their work analysed and compared the performance of regional commercial banks with MFIs five financial ratios from three different categories -the first category measured efficiency through operating expenses to assets ratio; the second category, gauged profitability including returns on assets, return on equity and net profit margin and the final category focused on leverage, measured through debt to equity ratio. Their study found that there were 57 self-sufficient MFIs, which are profitable and even performing better than developing world Commercial banks in the sample. This implies that there are useful lessons that could be learned from MFIs. What these studies did not talk about is risk taking among MFIs, which are operationally smaller than commercial banks, a subject we consider next.

Risk Management in MFIs

Risk taking is an inherent element and integral part of financial services in general and of microfinance in particular and, indeed, profits are in part the reward for successful risk taking in business (Falkner & Hiebl, 2015). On the other hand, excessive and poorly managed risk can lead to losses and thus endanger the safety and soundness of microfinance institutions and safety of microfinance institution's depositors. Consequently, microfinance institutions may fail to meet its social and financial objectives. This implies that proactive risk management is essential to the long term sustainability of microfinance institutions (Mertzanis, 2014).

It is believed that effective risk management allows MFIs to capitalize on new opportunities and to minimize threats to their financial viability. Accordingly, MFIs need to place significant emphasis on the adequacy of an institution's management of risk. Microfinance institutions consciously take risk as they perform their role of financial intermediation in the economy. Consequently, they are exposed to a spectrum of risks, which include credit risk (Jacobs, et. Al., 2016), interest rate risk (Ferranti, 2002), liquidity risk (Arif & Anees, 2012), and operational risk (Thirlwell, 2002). Managing these risks is essential for MFI's survival and sustainability.

Rather than focusing on current or historical financial and operational performance, management and regulators now focus on an organization's ability to identify and manage future risks as best predictor of long term success of these financial institutions.

MFIs have proved that the poor are bankable and that small loans can make ahuge difference in the poor households' lives as noted in various studies (see for example Toindepi, 2016; Nkammebe & Idemobi, 2011; Siwar & Talib, 2001). With their expansion and growth, specifically Asian MFIs stand out in terms of breadth and depth (Hartungi, 2007). In fact, Stephens and Tazi (2005) had earlier shown that the total number of active borrowers in East Asia and South Asia amounts to some 3.8 million and 11.8 million respectively. Compared to South Asia with USD 959 million, East Asia dominates in mobilising savings. Their gross portfolio is around USD 1,832million.

Robinson (2001) cited in Ejigu (2009) defined microfinance as small scale financial services – primarily credit and saving provided to people who farm or fish or herd; who operate smallenterprises or micro enterprises where goods are produced, recycled, repaired, or sold, who provide services, who work forwages or commissions; who gain income from renting outsmall amounts of land, vehicles, draft animals, or machineryand tools; and to

other individuals and groups at the local levelsof developing countries, both rural and urban. From this broad definition we can safely describe Microfinance as a useful tool to fight poverty by providing financial services to those who do not have access to or are neglected by the commercial banks and other financial institutions. At least development literature from elsewhere supports this thinking (see for example Toindepi, 2016; Turvey, 2013). The poor, having no or very little income, cannot offer any collateral which banks require, have no credit history, banks are too far away to verify and observe their behaviour (there is little information) and the loans are generally far too small compared to transaction costs (Dokulilova et al, 2009).

Scope of the Current Study

The scope of this research is limited to 220 selected microfinance institutions in Asia (which include Bangladesh, China, India, Indonesia, Nepal, Philippines, Pakistan, Sri Lanka and Vietnam) for the period 2010 to 2016. These institutions were accessed from the Microfinance Information Exchange (MIX, 2017) {On-line}. Analysis in this study is based on the sample. There is value in stating that we are not alone in the use of this secondary approach. In fact, Gras, Moss & Lumpkin (2014) had earlier used this technique to analyse 3 large-scale datasets i.e. the PSED II, GEM and non-profit tax collections and found it useful for social entrepreneurship scholars.

It is worth noting that the current study does not take into account the smaller MFIs in Asia whose data was not available on MIX including MFIs in other geographical regions in the world. It is also important to note that Macro-economic indicators are not included in this study.

The comprehensive financial performance indicators model used byMicrofinance Information Exchange (MIX) was chosen for obvious reasons i.e. (a) it presents copious indicators that is regarded as comprehensive enough to aid our analysis (b)their information is readily available. Performance, here, is determined by calculating the financial ratios. In other words, variables, such as overall financial performance indicators, revenue and operational self-sufficiency were considered in analysing the financial performance (Zeller, et al., 2016).

Methodology

Source of Sample Data

To reiterate an earlier point, the study is primarily based on secondary data. The data is obtained from MIX Market (a database of MFIs information present in the world). MIX MARKET ™: MIX market is a global, web-based, microfinance information platform. It provides information to sector and the public at large on microfinance institutions (MFIs) worldwide, public and private funds that invest in microfinance, MFI networks, rating agencies/external evaluators, advisory firms, and governmental and regulatory agencies.

Techniques of data collection and analysis

The secondary data collected is analyzed using various statistical tools and techniques such as one-way ANOVA and descriptive analysis (Noor, et. Al., 2009). The technique is used to identify if there exist a significant difference in the financial performance of MFIs operating in Asia.

Limitations of the Study

The study is subject to the following limitations:
The data collected is limited to only 220 Asian MFIs that lodged their financial annual reports with MIX. Most of the MFIs in Asia do not report data to MIX due to the accounting practices followed by them (Tuanmat & Smith, 2011). The reverse would have been the case if accounting practices were harmonized as advocated in some academic literature (see for example Ali, 2006).

The financial performance of MFIs in Asia is analyzed based on certain parameters. The results obtained would help us to identify if there exists a significant difference between the financial performance of MFIs in Asia based on those parameters. The findings of the study will also be of benefits to all stakeholders in the MFIs as it will show the level of financial performance MFIs operating in Asia have reached. This will encourage MFI managers to step up their operations and to achieve higher goals and profitability.

Hypothesis:

H0: There is no significant difference between the financial performances of MFIs in Asia.
H1: There is significant difference between the financial performances of MFIs in Asia.

Financial performance of selected MFIs in Asia is analysed keeping in mind the five financial ratios from three different categories i.e. Operational Sustainability, Profitability and Revenue generation from loan portfolio. In the first category, the ratio of OSS measures efficiency. The second category, gauging profitability, includes the return on assets, return on equity, and net profit margin. The final categoryis represented by Yield on gross portfolio ratio which measures the ability of MFIs to generate Financial Revenue from its Loan Portfolio. These ratios (described below) reflect the financial performance of MFIs and also measure their ability to operate and grow.

Operational Self Sufficiency (OSS):

(Financial Revenue / (Financial Expense + Impairment Losses on Loans + Operating Expense).OSS Measures how well an MFI can cover its costs through operating revenues. It is the most basic measurement of sustainability, indicating whether revenues from operations are sufficient to cover all operating expenses.

Return on Assets (ROA):

(Adjusted Net Operating Income - Taxes) / Adjusted Average Total Assets. Return on Assets is a measure of the productive use of the company's assets.

Return on Equity (ROE):

(Adjusted Net Operating Income - Taxes) / Adjusted Average Total Equity. ROE measures an MFI's ability to reward shareholders' investment, build its equity base through retained earnings, and to raise additional equity investment. By excluding donations and non-operating revenues, ROE demonstrates aninstitution's ability to generate income from its core financial service activity.

Profit Margin (PM):

(Net Operating Income / Financial Revenue). Net profit margin measures how much of each dollar earned by the MFI is translated into profits. Net profit margin is an indicator of how efficient MFI is and how well it controls its costs. The higher the margin is, the more effective the MFI is in converting revenue into actual profit.

Yield on Gross Portfolio (YGP):

(Adjusted Financial Revenue from Loan Portfolio / Adjusted Average Gross Loan Portfolio). Yield on gross portfolio measures the ability of MFIs to generate Financial Revenue from its Loan Portfolio. Therefore, the higher Yield means the higher interest rate the MFIs are charging from its borrowers. Higher the ratio also indicates high profitability and efficient utilization of funds advanced to various borrowers.

Data Analysis

Average growth rates of ROA, ROE, OSS, PM and YGP were observed over a 7-year period from 2010 – 2016 for 9 Asian countries.

Table 1 - Average Growth Rates (2010 – 2016)

Country	ROA	ROE	OSS	PM	YGP
Bangladesh	10.5%	-33.9%	0.5%	-0.5%	1.0%
China	-3.0%	18.0%	26.5%	11.5%	22.1%
India	86.9%	-66.1%	101.7%	-14.9%	5.4%
Indonesia	-1.8%	-20.7%	-108.4%	17.1%	14.7%
Nepal	25.3%	-24.2%	16.4%	-31.5%	7.1%
Pakistan	-185.2%	-146.1%	-120.2%	159.5%	28.5%
Philippines	-45.3%	-112.7%	-24.0%	0.3%	-2.0%
Sri Lanka	-171.5%	-249.0%	-372.0%	2.6%	21.1%
Vietnam	243.0%	372.2%	-81.9%	29.9%	13.2%

On an average, the growth rate of ROA, ROE, PM and YGP for Vietnam is much higher compared with the other countries. Even though the growth rate of OSS is negative for Vietnam, it is still higher than Sri Lanka, Pakistan and Indonesia. The average growth rates of all indicators for Bangladesh, China and Nepal are not only low but also do not show much difference between them.

Figure 1 – Growth rate of ROA (2010-2016)

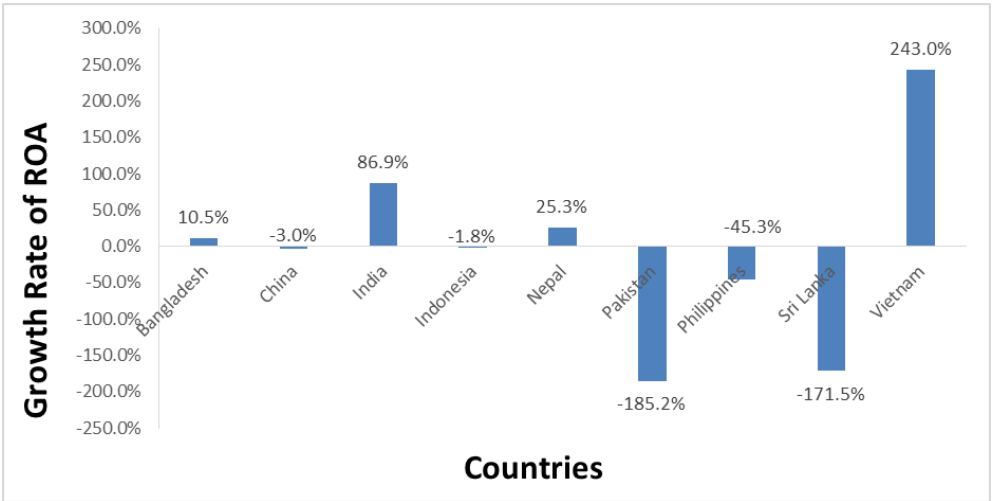
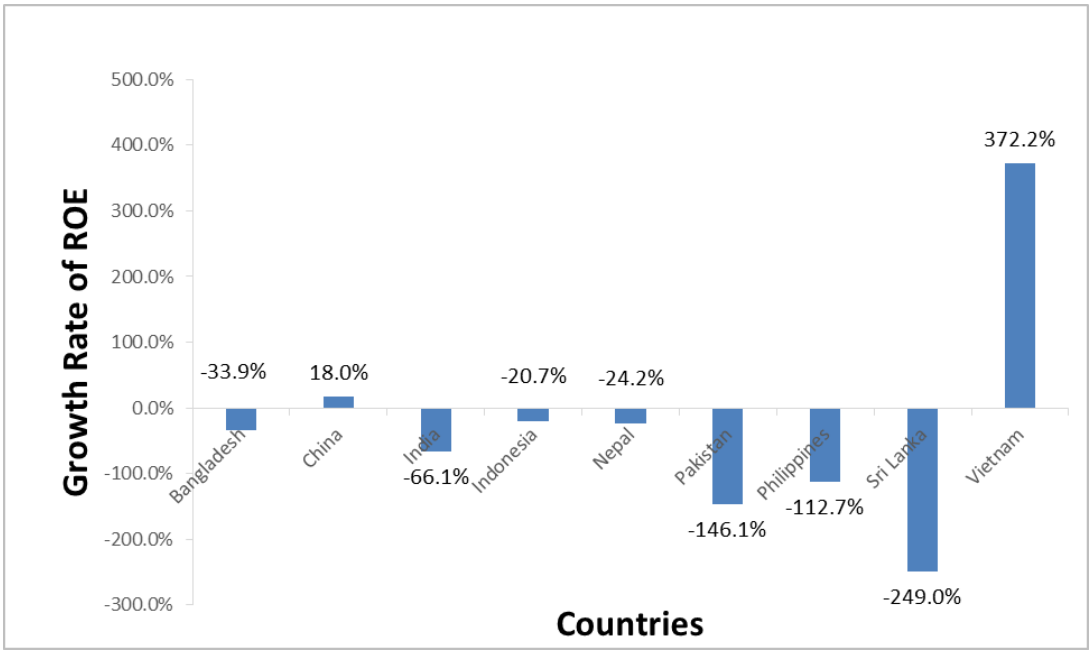


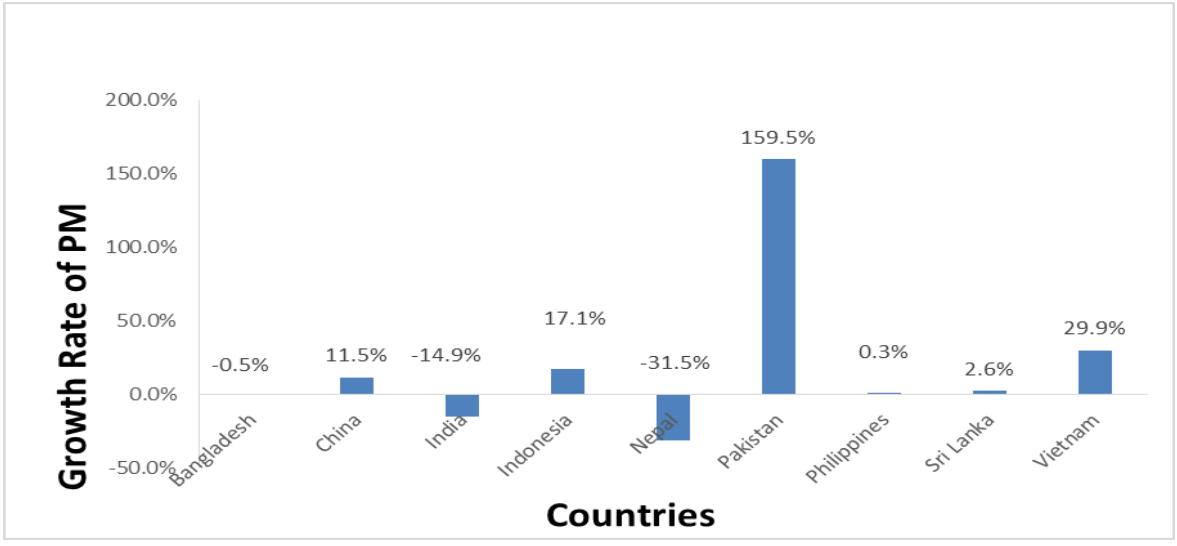
Figure 1 suggests that Vietnam has the highest growth rate of ROA (243%) compared to other countries. India's ROA also increased at the rate of 86.9%. However, Pakistan's and Sri Lanka's ROA decreased by 185.2% and 171.5% respectively over the 7-year period (2010 - 2016).

Figure 2 – Growth rate of ROE (2010-2016)



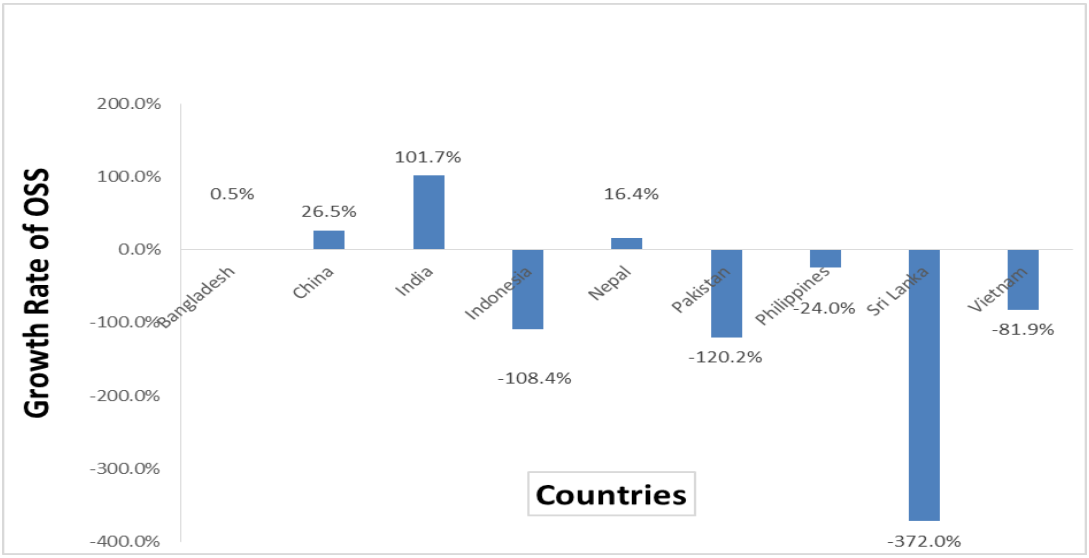
Growth rate of ROE shown in figure 2 again suggests a very high rate of growth for Vietnam (372.2%). All other countries except Vietnam and China show a negative growth rate of ROE with Sri Lanka and Pakistan showing a decline of 249% and 146.1%, respectively.

Figure 3 – Growth rate of PM (2010-2016)



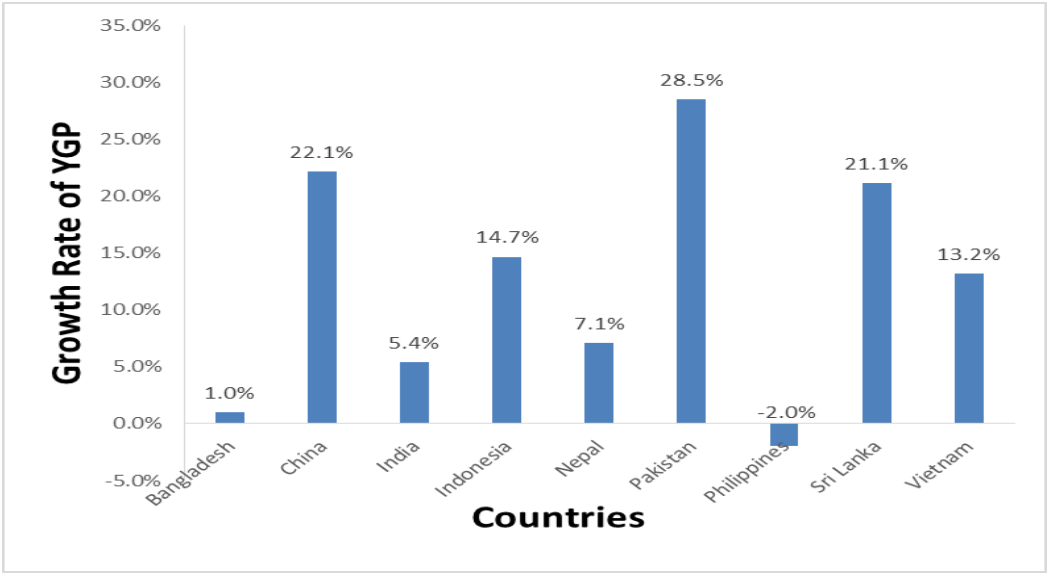
Pakistan shows a remarkable increase in the growth rate of PM (159.5%) over the 7-year period. All the other countries, except Bangladesh, India and Nepal show a positive growth rate even though it is very small increase.

Figure 4 – Growth rate of OSS (2010-2016)



Growth rate of OSS is shown in figure 4. It shows a negative growth rate for Sri Lanka, Pakistan, Indonesia and Vietnam with Sri Lanka's rate being the lowest at (-372%). Among all countries, India shows the highest increase of 101.7%.

Figure 5 – Growth rate of YGP (2010-2016)



All countries, except Philippines show a positive increase in the rate of growth of YGP. Pakistan, China and Sri Lanka show an increase of 28.5%, 22.1% and 21.1% respectively. Country wise, for each average growth rate, it shows that all the countries have a positive growth in YGP,

except Philippines. Average growth rates in ROA and ROE have been negative for most of the countries, except Vietnam with ROA and ROE increasing at 243% and 372.2% respectively. Comparing the average growth rates for OSS across countries, Sri Lanka's growth rate of OSS has declined by 372%, followed by Pakistan (120.2%) and Indonesia (108.4%). However India's average growth rate of OSS has increased by 101.7%. It is worth noting that Pakistan's average growth rate of PM shows a remarkable increase of 159.9% with the next in line being Vietnam with 29.9% increase. Nepal and India both show a decline in the average growth rate of PM.

After analysing the growth rates of the 5 financial ratios across 9 Asian countries, one- way ANOVA was used to test the hypothesis whether there exists a significant difference between the average financial performances of MFI's across 9 Asian countries in each of the 5 ratios for the period 2010 - 2016. Tukey – Kramer multiple comparisons procedure (Meyer, 1999) was further used to determine which of the countries are different, if there was a significant difference between the average financial ratios across 9 countries in Asia.

Table 2 – One way ANOVA for OSS

	Sum of	d	Mean Square	F	Sig.
Between Groups	.404	8	.051	5.852	.000
Within Groups	.311	36	.009		
Total	.715	44			

The p-value = 0, i.e. < 0.05 results in rejecting null hypothesis. It may be inferred based on the analysis that there exists significant difference between the average financial performances of MFI's across 9 countries in Asia in terms of OSS.
Tukey – Kramer multiple comparisons procedure was further used to determine which of the countries are different. The average OSS for both China and Vietnam is significantly higher than India, Indonesia, Pakistan and Sri Lankafor the years 2010 – 2016.Though Vietnam has higher average OSS than China, but there is no statistically significant difference between the two countries.

Table 3 – One way ANOVA for PM

	Sum of	d	Mean Square	F	Sig
Between Groups	4.256	8	.532	2.950	.012
Within Groups	6.491	36	.180		
Total	10.747	44			

The p-value = 0.012, i.e. < 0.05 results in rejecting null hypothesis. It may be inferred based on the analysis that there exists significant difference between the average financial performances of MFI's across 9 countries in Asia in terms of PM. The graph below shows that 3 countries – India, Pakistan and Indonesia have negative average PM for the period 2010 – 2016, with Indonesia having the lowest negative PM.

Tukey – Kramer multiple comparisons procedure was further used to determine which of the countries are different. It was observed that only Indonesia's average PM for the years 2010 – 2016 is significantly lower than Bangladesh, China, Nepal and Vietnam, with no statistical significant difference between Indonesia and India; and Indonesia and Pakistan.

Table 4 – One way ANOVA for YGP

	Sum of	d	Mean Square	F	Sig
Between Groups	.393	8	.049	26.582	.000
Within Groups	.066	36	.002		
Total	.459	44			

The p-value = 0, i.e. < 0.05 results in rejecting null hypothesis. It may be inferred based on the analysis that there exists significant difference between the average financial performances of MFI's across 9 countries in Asia in terms of YGP.

Tukey – Kramer multiple comparisons procedure was further used to determine which of the countries are different. The average YGP for both Indonesia and Philippines is significantly higher than Bangladesh, China, India, Nepal, Pakistan, Sri Lanka and Vietnamfor the years 2010 – 2016. Though Philippines has higher average YGP than Indonesia, but there is no statistically significant difference between the two countries.
Vietnam has the lowest YGP. Its average YGP is significantly lower than even Pakistan and Sri Lanka.

Table 5 – One way ANOVA for ROA

	Sum of	d	Mean Square	F	Sig.
Between Groups	.010	8	.001	2.117	.060
Within Groups	.021	36	.001		
Total	.031	44			

The p-value greater than 0.05 indicate that null hypothesis is accepted and concludes that there exists no significant difference between the average financial performances of MFI's across 9 countries in Asia in terms of ROA.

Table 6 – One way ANOVA for ROE

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.969	8	.246	.820	.591
Within Groups	10.808	36	.300		
Total	12.777	44			

The p-value greater than 0.05 indicate that null hypothesis is accepted and concludes that there exists no significant difference between the average financial performances of MFI's across 9 countries in Asia in terms of ROE.

Discussion

A strand in this discussion was the position that in other for microfinance institutions (MFIs) to sustain their operations, they must generate enough revenues from their operations to cover financial and operating costs and, in many cases, build institutional capital through profits. Some commentators (e.g. Elahi and Danopoulos, 2004) tend to ignore this economic principle when critiquing MFIs, especially, those working in developing countries. Those analyses doubt the ability and efficacy of MFIs to contribute to sustainable poverty alleviation in the third world citing neo-liberal underpinnings of MFIs. Micro-finance Institutions are neither charities and must

survive. What those literature does over-look or do not talk about is the complex nature of poverty alleviation. we argue that poverty occurs in different shades and colours and must therefore be approached in a holistic manner. MFI's needs to re-think their policy approach to poverty alleviation in developing countries if their aim is to in-deed alleviate r reduce poverty.

Arguably, poverty is a major problem in Asia. In most Asian country's economies, it is argued among other factors, that, lack of access to credit is a major cause of poor people's inability to come out of poverty. Lending to the poor involves high transaction cost and risks associated with information asymmetries and moral hazards. Microfinance is a strategy that consists of developing technical assistance centres by microfinance institutions (MFIs) that aid poor micro entrepreneurs, often with training and consulting, to create self-employment and income-generating activities by providing them financial services like credit, savings and insurance.

We agree with Elahi and Danopoulos (ibid: 644) that 'popularity of an idea has both reward and cost'. There is an economic cost to a popular product, which might not necessarily be an effective tool. If the product is perceived as such, then its implementers owe it a duty to ensure that it meets 'local' litmus test devoid of any political machinations with long term cost implications. Often, governments in developing countries tend to use micro-finance programs as their political tool induced internally or externally regardless of its cost (Hartarska, 2009). This is not to say that MFIs are a sham. Evidence abounds in some developing countries of their usefulness (set for example Toindepi, 2016; Mukherjee, 2014; Ahmed, 2009; Akoijam, 2013). What we are concerned about is its cost implications that need careful management.

The difference in MFIs as noted in our data could partly be due to differences in their values and norms (Hudon, 2008). Some MFIs may operate as for-profit organisations whilst others may be non-profit. Some may also have a policy of plough-back (as in the case of India) whilst others may repatriate their profits to wherever their headquarters is situated. This will be dependent on their operational policy. This sort of classification is needed to understand what happens in the MFI sector other than offering a generic module for MFIs in developing countries. In fact, Gentil, et al's (2000) work offers a better and in-depth understanding of MFI classification. We recommend that students of microfinance an entrepreneurship studies could avail themselves with this knowledge.

Conclusion

Microfinance has been accepted not only as a financial means to target specific people who are excluded from the formal financial system to gain access to sources of financing, but it comprehends also a social aspect contributing to poverty reduction, women empowerment, economic development and employment creation. In order to survive negative shocks and maintain a good financial stability; financial managers and policy maker should analyse the financial performance of MFIs periodically.

The current study used secondary data for an empirical framework to compare the financial performance of Asian MFIs from 2010 to 2016. To attain its objective the researchers began by reviewing academic literature and then identified the ratios affecting financial performance that could apply to the empirical data. After collecting these data, the researchers formed a basic sample of 220 MFIs operating throughout Asia (9 Asian countries). The information was processed and analysed; the data was tested to determine whether there is a

significant difference in financial performance of MFIs in selected Asian countries or not. Based on descriptive and empirical evidence obtained from the ANOVA results, the researchers generally concluded that financial performance of microfinance institutions is significantly different as far as OSS, PM and YGP ratios are concerned. ANOVA results show that ROA and ROE of Asian MFIs do not differ significantly with each other. This is an indication that MFIs in Asia are more focused on poverty reduction than profit motivation as some researchers want us to believe (see for example Sama & Casselman, 2013; Hoque, et. Al., 2011). To reiterate an earlier pint, we are not by this, advocating MFIs as charities, rather MFIs should not negate their political and social implication of whatever they do in Asian communities (Astha & Hannam, 2014) Operational efficiency in microfinance is an important and key determinant of financial performance and therefore MFIs have much to gain if they improve on their managerial practices and put more emphasis on efficient cost management to improve their financial performance.

References

Ahmed, S (2009). 'Microfinance institutions in Bangladesh: achievements and challenges'. *Managerial Finance* 35 (12): 999 – 1010

Akoijam, S. L. S (2013). 'Rural credit: a source of sustainable livelihood of rural India'.
International Journal of Social Economics 40 (1): 83 – 97

Akram, S & Routray, J. K (2013). 'Investigating causal relationship between social capital and microfinance: Implications for rural development'. International *Journal of Social Economics* 40 (9): 760 – 76

Alemayehu, Y (2008). 'The performance of Micro Finance Institutions in Ethiopia: A case of six-microfinance institutions'. M*Sc thesis*, Ethiopia: Addis Ababa University

Ali, M. J (2006). 'Disclosure harmonization of accounting practices: the case for South Asia'. *Asian Review of Accounting* 14 (1/2): 168 – 86

Arif, A & Anees, A. N (2012). 'Liquidity risk and performance of banking system'.
Journal of Financial Regulation and Compliance 20 (2): 182 - 95

Astha, A & Hannam, M (2014). 'Hinduism and microcredit'. *Journal of Management Development* 33 (8/9): 891 - 904

Ayayi, A. G & Sene, M (2010). 'What drives microfinance institution's financial sustainability'. *Journal of Developing Areas* 44 (1): 303 - 24.

Barres, I (2006). Financial self-sufficiency'. The Micro Banking Bulletin vol. 13, Washington, D.C.: Microfinance Information exchange Market, Inc. Pp. 21-22.

Barres, I., Bruett, T., Curran, L., Escalona, A., Nelson, E &Norell, P (2005). *Measuring performance of microfinance institutions - A framework for reporting, analysis, and monitoring.* Washington, D.C.: The SEEP Network

Bhanot, D & Bapat, V (2015). 'Sustainability index of micro finance institutions (MFIs) and contributory factors'. *International Journal of Social Economics* 42 (4): 387 - 403

Block, W. E (2012). 'Micro-finance: a critique'. *Humanomics* 28 (2): 92 - 17 Dayson, K & Quach, H (2006). 'Toward a Performance Assessment of Microfinance
Institutions in Europe'. *Finance and The Common Good* # 25. Autumn.

Dissanayake, D. M. (2012). 'The determinants of Return on Assets: Evidence from Micro Finance Institutions'. Sri Lanka: University of Kelaniya. (DOI: http://doi.org/10.4038/kjm.vlil.6446)

Elahi, K. Q & Danapoulos, V. P (2004). 'Microcredit & the Third World'. *International Journal of Social Economic*, 31 (7): 643 – 54

Falkner, E. M & Hiebl, R. W. M (2015). ' Risk Management in SMEs: a systematic review of available evidence'. *The Journal of Risk Finance* 16 (2):122 – 44

Fatima, A (2009). 'Socio-economic constraints to demand for borrowing among rural females of Pakistan'. *International Journal of Social Economics*, 36 (11): 1050 – 70

Ferranti, K (2002). 'ABN AMRO: managing interest rate risk'. *Balance Sheet* 10 (1): 43
– 46

Gaul, S. (2011). 'Defining responsible financial performance: The role of profits'. *Micro Banking Bulletin* (MIX). REF ID: 34

Gras, D., moss, T. W., Lumpkin, G. T (2014). 'The Use of Secondary Data in Social Entrepreneurship Research: assessing the Field and Identifying Future Opportunities'. In: Jeremy Short (ed.) *Social Entrepreneurship and Research Methods (Research Methodology in Strategy and Management, Volume 9)* [Pp.49
– 75]. London: Emerald Group Publishing Limited

Hartungi, R (2007). 'Understanding the success factors of micro-finance institution in a developing country'. *International Journal of Social Economics*, 34 (6): 388 – 401

Hartarska, V (2009). 'The impact of outside control in microfinance'. *Managerial Finance* 35 (12): 975 – 89

Hoque, M., Chishty, M & Halloway, R (2011). 'Commercialization and changes in capital structure in microfinance institutions: An innovation or wrong turn'? *Managerial Finance* 37 (5): 414 – 25

Hudon, M (2008). 'Norms and values of the various microfinance institutions'.
International Journal of Social Economics, 35 (1/2): 35 – 48

Jacobs, M (Jr.). Karagozoglu, A. K., Layish, D. N (2016). 'Credit risk signals in CDS market vs. agency ratings'. *The journal of Risk Finance* 17 (2):194 - 217

Jørgensen, N. A (2011). 'The profitability of microfinance institutions and the connection to the yield on the gross portfolio'. MSC *thesis*, Copenhagen: Copenhagen Business School.

Khan, R. E. A., Azid, T & Toseef, M. U (2012). 'Determinants of food security in rural areas of Pakistan', *International Journal of Social Economics*, 39 (12): 951 – 64

Kyereboah-Coleman, A., Osei, K. A (2008). 'Outreach and profitability of microfinance institutions: the role of governance'. *Journal of Economic Studies* 35 (3): 236 – 48

Luiz, J. M (2006). 'The wealth of some and the poverty of Sub Saharan Africa'.
International Journal of Social Economics, 33 (9):625 – 48

Mertzanis, C (2014), 'Complexity Analysis and Risk Management in Finance'. In: Jonathan A. Batten, Niklas F. Wagner (ed.) *Risk Management Post Financial Crisi: A period of Mnetary Easing (Contemporary Studies in Economic and Financial Analysis, Volume 96)*. [Pp. 15 – 40]. London: Emerald Group Publishing Limited

Meyer, A., Chase, R. Roth, A., Voss, C., Sperl, K. U., Menor, L & Blackmon, K (1999). 'Service competitiveness – An international benchmarking cmparison of service practice and performance in Germany, UK and USA'. *International Journal of Service Industry Management* 10 (4): 369 – 79

MIX (2016), 'Micro Finance Institutions'._ [Available: https://www.themix.org/] [Accessed: August 18, 2016]

Mukherjee , A. K (2014). 'Microfinance and credit to the ultra poor'. *International Journal of Social Economics*, 41 (10): 975 – 93

Nelson, S (2011). 'Performance Assessment of Micro Finance Institution in the Ashaiman Municipality'. MSc thesis.

Nkamnebe, A. D & Idemobi, E. I (2011). Recovering of micro credit in Nigeria: Implications for enterprise development and poverty alleviation'. *Management Research Review* 34 (2): 236 – 47

Nkundabanyanga, S. K., Kasozi, D., Nalukenge, I., Tauringana, V (2014). 'Lending terms, financial literacy ad formal credit accessibility'. *International Journal of Social Economics*, 41 (5): 342 – 61

Noor, R. M., Mastuki, N & Bardai, B (2009), 'Book-Tax Difference and Value Relevance of Taxable Income: Malaysian Evidence'. *Journal of Financial Reporting and Accounting 7* (2): 19 – 40

Rosser, M. V (2002). 'Experiences of economic transition in complex contexts'.
International Journal of Social Economics 29 (6): 436 – 52

Sama, L. M & Casselman, R. M (2013). 'Profiting from poverty: ethics of microfinance in BOP'. *South Asian Journal of Global Business Research* 2 (1): 82 – 103

Singh, P (2011). 'Performance analysis of Microfinance Institutions in India, what drives their valuation'. *Prajnan* 1 (XL): 7 – 35.

Siwar, C & Talib, B. A (2001). 'Micro-Finance Capacity Assessment for Poverty Alleviation: Outreach, Viability and Sustainability'. *Humanomics* 17 (1): 116 - 33

Tchakoute-Tchuigoua, H (2010). 'Is there a difference in performance by the legal status of microfinance institutions'*? The Quarterly Review of Economics and Finance* 50
p. 436. REF ID: 33

Thirlwell, J (2002). 'Operational risk: the banks and thee regulators struggle'. *Balance Sheet* 10 (2): 28 – 31

Toindepi, J (2016). 'Investigating a best practice model of microfinance for poverty alleviation: Conceptual note'. *International Journal of Social Economics43* (4): 346 – 62

Toindepi, J (2016). 'Investigating a best practice model of microfinance for poverty alleviation: Conceptual note'. *International Journal of Social Economics43* (4): 346 – 62

Tuanmat, T. Z & Smith, M (2011). 'Changes in management accounting practices in Malaysia'. *Asian Review of Accounting* 19 (3): 221 – 42

Tucker, J & Lean, J (2003). 'Small firm finance and public policy'. *Journal of Small Business and Enterprise Development* 10 (1): 50 – 61

Turvey, C. G (2013). 'Policy rationing in rural credit markets'. *Agricultural finance Review* 73 (2): 209 – 32

Zeller, T. L., Kostolansky, J., Bozoudis, M (2016). 'have changes in business practices and reporting standards changed the taxonomy of financial ratios'? *American Journal of Business* 31 (2): 85 - 97

DXB127

RISK, PROFITABILITY AND GROWTH INDICATORS- A COMPARATIVE ANALYSIS OF UAE'S LARGE AND SMALL BANKS

Nandini Kaul, Assistant Professor, Faculty of Business, University of Wollongong in Dubai
Nizar Sahawneh, Professor, School of Business, Skyline University College, Sharjah
Namrata Gupta, Assistant Professor, Faculty of Business, University of Wollongong in Dubai

ABSTRACT

Over the past few years, the banking industry of UAE has registered an outstanding and enormous growth. This paper attempts primarily to consolidate the summarized financial statements of main banks operating in UAE during the year 2016, to form a Standard Large Bank (SLB) and a Standard Small Bank (SSB). The risk, profitability and growth indicators of these standard banks are analyzed through financial ratios. For this purpose, the financial statements of six banks have been selected. Three of them are Large Banks of UAE and the other three are Small banks of UAE. These indicators show a difference between the large and small banks' performance. In particular, smaller banks realized higher profitability and generated comparatively more revenue; they were more capitalized in relative terms and relied relatively more on interest income and also were found to be more cost efficient. Larger banks relied relatively less on interest income and held relatively a higher proportion of liquid assets. Finally, marginal differences were found in internal growth rate for both types of bank groups. The study findings can be helpful for management of these banks in UAE to improve their performance.

Keywords: UAE Banks, Comparative Analysis, Risk, Profitability, Growth, Financial Ratios.

Introduction

Banking system plays an important role in the economic development of a country. A banking institution is indispensable in a modern society. The economic condition of a country depends on the soundness of its banking system (Teker, et al. 2011). A bank in a country is so important that the economy of a country may come to a standstill without these banking activities. Just as without heart the existence of any human being can't be thought, economic activities without the help of banking system is unthinkable (Stankeviciene and Mencaite, 2012). Banking sector is actually fueling the engine of development of a country by giving financial support to business startups, providing loans to corporates and individuals, supporting modern trade and commerce, affecting spending and saving tendencies, providing capital for innovation and infrastructure, facilitating foreign trades and so on. Thus any disturbance to this banking sector will surely have a severe impact on the country's economic growth (Aspal and Malhotra, 2013).

The banking sector of UAE is continuously growing over the past few years. Banking industry is one of the most vibrant and growing industry of UAE. Today there are 23 local and 26 foreign banks, with 942 branches between them operating in the country (Quarterly Economic Review of UAE Central bank – Q3 2017). All banks in the country operate under full control and supervision of UAE Central Bank. An appropriate evaluation of performance of selected banks require a range of financial, operational and economic indicators to be applied (Chowdhury, 2002). Evaluation of performance measures the rate of growth in the banking system. Therefore, this study has been conducted to compare and discuss the risk, profitability and growth of some selected large and small banks of UAE through financial ratios for the year 2016.

© SGBED 2019

Literature Review

The trend of commercial banking is changing rapidly. Competition is getting stiffer and, therefore, banks need to enhance their competitiveness and efficiency by improving profitability, reducing risk and ensuring the growth prospects. With the deteriorating health of the banking institutions across the world, it is justified that bank performance receives increased investigation from both academicians and industry experts. The measurement of bank performance particularly commercial banks is well researched and has received increased attention over the past years (Seiford and Zhu, 1999). Traditionally accounting methods are based on the use of financial ratios for assessing bank performance (Ncube, 2009). There have been a large number of empirical studies on commercial bank performance around the world (see Yeh, 1996; Webb, 2003; Lacewell, 2003; Halkos and Salamouris, 2004; Tarawneh, 2006). However, little has been done on the bank performance in UAE. Review of literature comprises of existing literature and research related to the present study with a view to find out what had already been studied.

Fraser (1990) has said that the performance of a commercial banking organization is obviously better if its profits are higher and the risk is lower. In practice, high profit generally necessitates accepting greater amount of risk. There are many dimensions of risks encompassing credit, interest rate, liquidity, etc. the net effects of these types of risk are reflected in the number of banks' failure which has become problems and subject to increased supervision by the regulatory authorities. He has pointed out that major factors affecting performance. These are advances in technology, more sophisticated customers, securitization, and deregulation.

Bhatt and Ghosh (1992) have said that the most common indicator of performance of any organization is its profitability. Higher profitability indicates better performance whereas lower profitability indicates poor performance. But the measurement of bank's profitability is quite different from any other sector of business because it is only bank which works with loan and deposit. The loan-to deposit ratio works as a very good indicator of banks' profitability as it depicts the status of asset liability management of banks (Jahangir et al. 2007).

In the Gulf, Samad (2004) investigated the performance of seven locally- incorporated commercial banks during the period 1994-2001. Financial ratios were used to evaluate the credit quality, profitability, and liquidity performances. The performance of the seven commercial banks was compared with the banking industry in Bahrain which was considered a benchmark. The article applied a Student's *t*-test to measure the statistical significance for the measures of performance. The results revealed that commercial banks in Bahrain were relatively less profitable, less liquid and were exposed to higher credit risk than the banking industry, in which wholesale banks are the main component.

Like other businesses bank is also evaluated in perspective of future profit and loss potential which is one of the key indicators. The bank is said to be successful when the shareholders of the bank get more profit than the bank. If relevant risks are effectively controlled, banks can attain success. It requires the professional use of bank's assets anon-professional maintenance of assets of any sort of bank is regarded as the main cause for loan default problem (Alam and Jahan, 1999). As profit earning is the main target of any private commercial bank, it's earning capacity shows how much capable the bank is to earn profit. This earning capacity can be measured by profitability ratio. Among profitability ratios, return on equity (ROE) is one of the most popular indicators of earning capacity.

Tarawneh (2006) in his study measured the performance of Oman commercial banks using financial ratios and ranked the banks based on their performance. The study utilised FRA to investigate the impact of asset management, operational efficiency and bank size on the performance of Oman commercial banks. The findings indicated that bank performance was strongly and positively influenced by operational efficiency, asset management and bank size.

Ramlall (2009) and Sufian (2009) discovered a positive relationship between the size of the bank and profitability – the larger the bank is, the more profitable it is in comparison with a smaller bank, thus demonstrating the effect of economy of scale. In contrast, Kosmidou (2008) states that large size of the banks may leave a negative impact on bank profitability, and Luo (2003) and Hannan and Prager (2009) note that small banks can earn higher profit because they have lower expenses and better performance efficiency.

At the same time, Sayilgan and Yildirim (2009) maintain that bank liquidity declines along with the growth of the number of debtors and interest rate increase.

Bintawim S. (2011) paper objective was to provide performance analysis comparison of Saudi banks as well as to examine the impact of banks' internal characteristics indicators on financial performance. A total of eleven banks are financially analysed between 2005 and 2009. The methodology is used including ratio analysis and panel data regression to test the research hypothesis. The results show that large banks performance has reached the mature growth unlike medium-size banks. They are growing to compete against large banks. Meanwhile, small-size banks are facing some difficulties to achieve a better growth. The results indicate all Saudi banks are doing well to maintain the stability of banking sector. In addition, regression results show that banks' size has a negative impact on financial performance, while asset utilization has a positive impact on Saudi banks profitability.

The above discussion indicates that the risk, profitability and growth indicators of UAE banks can be analyzed through financial ratios. To conduct this research, some ratios have been identified which will help us to do the comparative analysis of these indicators of UAE small and large banks.

Methodology

The ratio analysis method has been used to study the risk, profitability and growth indicators of UAE's SLB and SSB banks. This method is very simple and has been commonly used by many previous researchers. For example, (Libby in 1975 and O'Cornor in 1973, Shimerda & Chen in 1981, Sabi in 1996, Samad in 1999, Ahmed, Hassan in 2007, Ashraf and Rehman in 2011)

used this method in their research work. Six commercial banks (NBAD, ENBD, FGB, Mashreq, RAK and UNB) have been considered for this research. The Financial Statements for the year 2016 of all six banks were used for data analysis.

Data Collection

The data for this study has been gathered from secondary sources that are bank's annual reports /financial statements for the year ended 2016.These financial statements have been used to compute key financial ratios of the selected commercial banks of UAE for the mentioned period. This study has used a descriptive analysis to study the risk, profitability and growth indicators of the selected SLB and SSB banks of UAE.

Sample Design

For this study, a sample of six commercial banks has been chosen. They are:

1. National Bank of Abu Dhabi (NBAD)
2. Emirates NBD (ENBD)
3. First Gulf Bank (FGB)
4. Mashreq bank (Mashreq)
5. Union National Bank (UNB)
6. Ras Al Khimah Bank (RAK)

The year ending Balance Sheet and Income Statement figures were summed up as follows:

• NBAD, ENBD and FGB were consolidated to form a SLB; and

• Mashreq, UNB and RAK were consolidated to form a SSB.

Descriptive Analysis

Summarized Financial Statements for SLB and SSB are shown below in Tables 1 and 2. Each figure shown below in two tables is a summation of the balance for the component banks that form SLB and SSB.

Table 1
Summarized Balance Sheet (SLB and SSB) (as on 31st December 2016)

	AED Billions	**AED Billions**
Assets	**SLB**	**SSB**
Loans	626.26	156.40
Other Assets	414.36	101.20
Total Assets	**1040.62**	**257.60**

Liabilities and Equity	**SLB**	**SSB**
Deposits	663.50	167.85
Other Liabilities	246.84	45.65
Equity	130.27	44.11
Total Liabilities	910.35	213.50
Total Liabilities and Equity	**1040.62**	**257.60**

Table 2
Summarized Income Statement (SLB and SSB) (as on 31st December 2016)

	AED Billions	AED Billions
	SLB	SSB
Net Interest Revenue	21.93	8.65
Other Operating Income	13.29	5
Overheads	(10.727)	(4.984)
Loan Loss Provisions	(5.796)	(2.834)
Tax	(0.413)	(0.121)
Net Income	18.37	5.71

Table 3
Key Ratios for SLB and SSB
(as on 31st December 2016)

	SLB	SSB
Profitability/Operations		
Net Interest Margin	3.61%	6.34%
Net Interest Revenue / Average Assets	2.30%	4.28%
Net Interest Revenue / Net Income	119.91%	156.45%
Other Operating Income / Average	0.39%	0.36%
Non-Interest Expenses / Average	1.27%	2.84%
Return On Average Assets	1.97%	2.61%
Dividend Pay-Out (See Note b)	42.33%	41.68%
Cost To Income Ratio	22.57%	19.78%
Overheads / (Net Interest Revenue +	52.29%	62.05%
Other Operating Income)		
Capital		
Equity / Total Assets	13.02%	17.54%
Equity / Net Loans	21.33%	28.21%
Equity / Customer and Short Term	20.55%	26.68%
Equity / Liabilities	15.05%	21.31%
Internal Capital Generation Rate =	7.99%	7.78%
Asset Quality		
Impaired Loans / Gross Loans	4.08%	4.20%
Loan Loss Reserves / Gross Loans	0.83%	1.80%
Loan Loss Provisions / Net Interest	25.08%	29.06%
Loan Loss Reserves / Impaired Loans	22.61%	44.11%
Liquidity		
Inter-bank Ratio = Money Due from	104.37%	187.01%
Net Loans / Total Assets	61.01%	62.65%
Net Loans / Customer and Short Term	95.80%	94.54%
Liquid Assets / Customer and Short	22.20%	20.95%

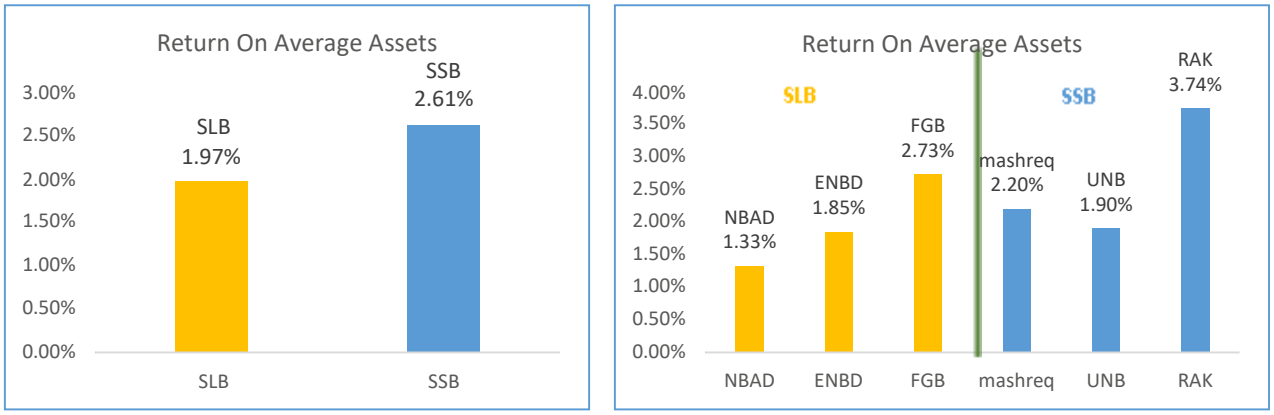
Following the consolidation of the Balance Sheet, Income statement and also the key ratios of the individual banks, we now focus on analyzing the performance of these banks in terms of risk, profitability and growth.

Profitability

To determine the profitability of banks, it is important to know how efficiently a bank is using its assets and equity to generate profits. Profitability is a very important measure to know the performance of a bank. Based on a review of the literature, we identified various variables with which to measure the bank's profitability: return on assets (ROA), return on equity (ROE), and net interest margin (NIM). The NIM, ROA, and ROE are the three most commonly used indicators of profitability of banks. For this purpose, we analyzed the following three key profitability ratios:

Return on Assets (ROA): This ratio explains the net income (profits) that is generated by the bank on its total assets. It measures how the assets are utilized. A larger ROA is the result of the ability of the management to obtain deposits at a reasonable cost and invest them in higher earning assets resulting in increased profits for the bank. ROA for SSB is higher (2.61%) than SLB (1.97%) as shown in figure 1. The higher ROA for SSB is attributed to RAK's better performance.

Figure 1

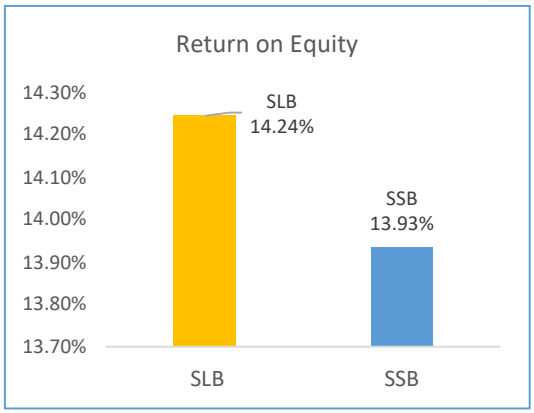


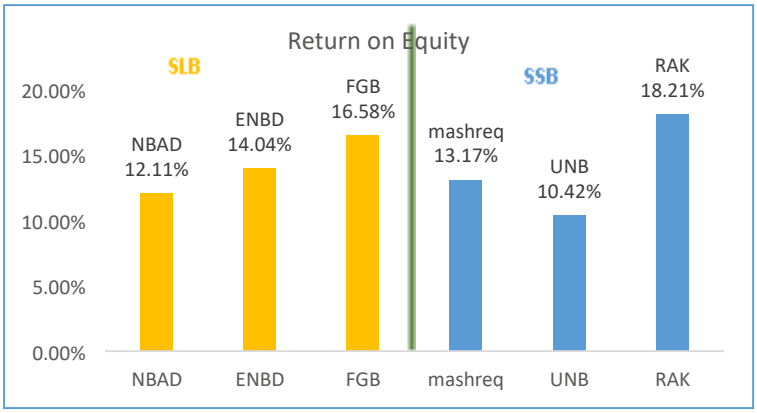
Return on Equity (ROE): This ratio explains the returns earned by the bank on its total equity or the percentage return on each AED of equity invested in the bank. It measures how much profit a company generates with the money shareholders have invested. It can be described as the rate of return to shareholders. Since ROE measures the return on the stockholder's investment, it is not considered an effective measure of earnings performance from the bank's standpoint.

It measures the ability to augment capital internally (increase net worth) and pay a dividend. As a result, a higher ROE indicates growth and this is an incentive to the shareholders to invest more in the business.

Figure 2 below shows ROE for both SLB and SSB. Here the picture is different from what is shown by ROA. It is SLB group which has performed better than SSB, thus attributing to their growth. A bank with a high return on equity is more likely to be capable of generating cash internally. Because of a higher ROE, SLB shows a higher dividend pay- out with 42.33% compared to 41.68% for SSB. Although SLB's higher ROE is due to FGB, it is RAK, from the SSB group which has a higher ROE (18.21%) as compared to FGB's ratio (16.58%).

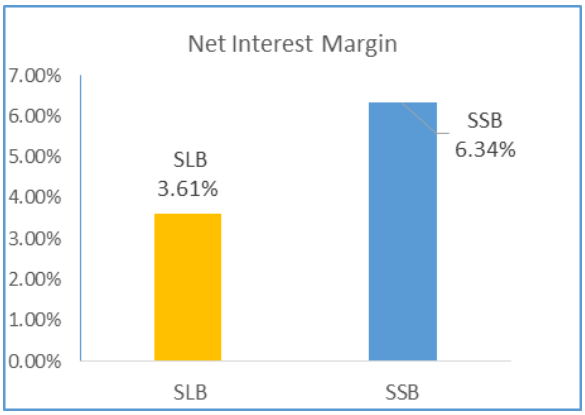
Figure 2

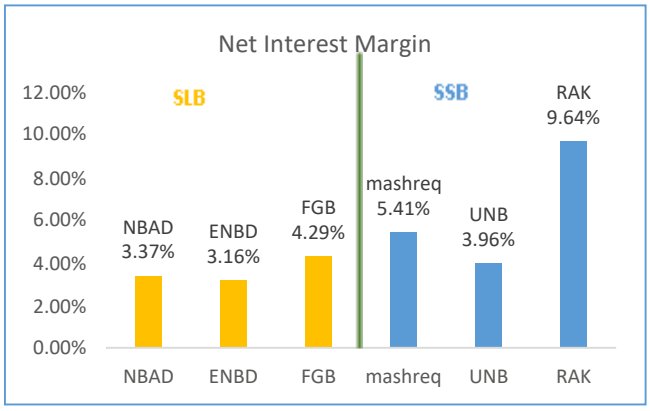




Net Interest Margin (NIM): This ratio explains the net profits of a bank on intrest earning assets. It indicates how well management employed the earning asset base. It is an important indicator of a bank's profitability. Higher margins generally indicate a more profitable bank. Considering NIM as another profitability ratio, we observe SSB's ratio being higher than SLB as shown in figure 3 below. Again a higher NIM for SSB is attributed to RAK's exceptional performance compared to the other two banks in its group and even the individual performance of the banks in the SLB group.

Figure 3



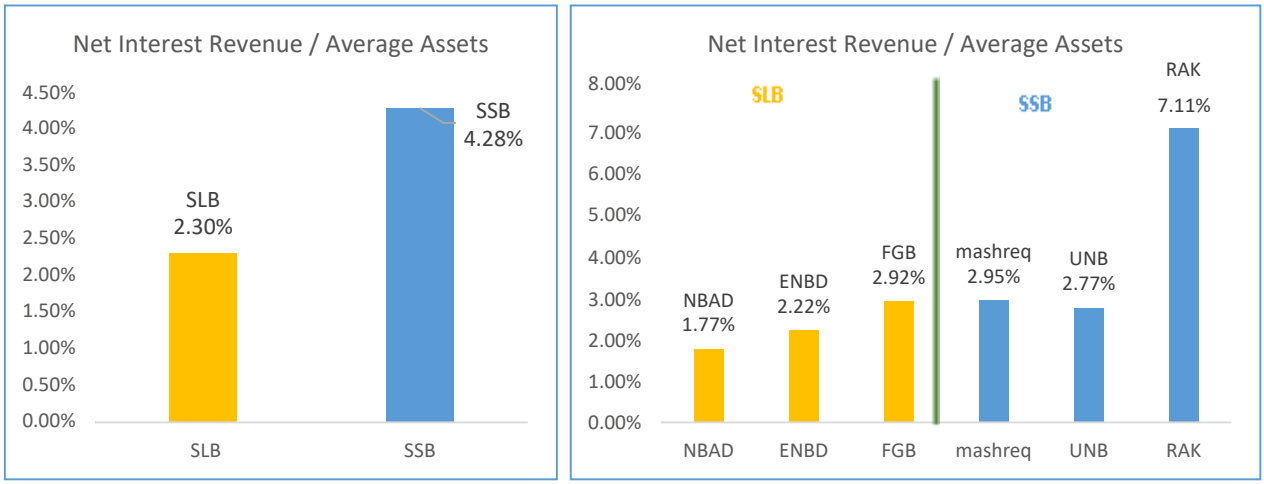


A number of factors that could impact the profitability of banks for all measures of profits are - efficient utilization of assets, cost efficiency, maintaining a high capital adequacy ratio, and improving asset quality.

Efficient utilization of assets

The Net Interest Revenue (NIR) to Average Asset ratio is a measure of asset utilization. This ratio is higher for SSB (4.28%) as compared to 2.30% for SLB as shown in figure 4. It represents the bank's largest revenue component. However, this higher ratio for SSB is attributed to RAK Bank (7%) when compared with the other two banks (around 3% each). It could have been the result of the bank making a large number of "high-interest, high-risk loans reflecting a greater degree of risk within the asset base. In terms of the other ratio of Asset utilization, Other Operating Income (OOI) to Average Assets, SLB stands at 0.39%, performing better than SSB (0.36%).

Figure 4



Capital Adequacy

Capital Adequacy refers to the ability of the present capital to support the further growth of assets. Capital adequacy is the level of capital that banks require to withstand risks such as the credit, market, and operational risks to which they are exposed; to absorb potential losses; and to determine their expansion into risky but profitable ventures or areas. Capital adequacy is considered to be positively associated with profitability. Looking at the capital ratios in figure 5, it is observed that SSB is well capitalized compared to SLB. SSB's equity to total assets ratio is 17.54%, whilst the same ratio for SLB is 13%.

Cost efficiency

Cost efficiency plays a very important role in the overall profitability of banks. A cost-efficient bank would be able to generate more profitability. Hence, the banks with high expense-to-income ratios were considered to have low profitability. It is SSB which is more cost-efficient than SLB as shown in figure 9 below. Cost to Income (C/I) ratio for SSB stands at 19.78% as compared to 22.57% for SLB.

Asset quality

Asset quality has a positive impact on overall company profitability. Asset quality is measured by the relationship of the impairment loans to the gross loans. The higher the ratio, the more problematic the loans are and vice versa. A higher ratio would be problematic for a bank, resulting in the deterioration of its profitability. Even though this ratio is slightly higher for SSB (4.20%) in comparison to SLB's ratio of 4.08%, SSB has provisioned itself very well against these impaired loans. Loans loss reserves to impaired loans for SSB (44.11%) is twice that for SLB with 22.61%.

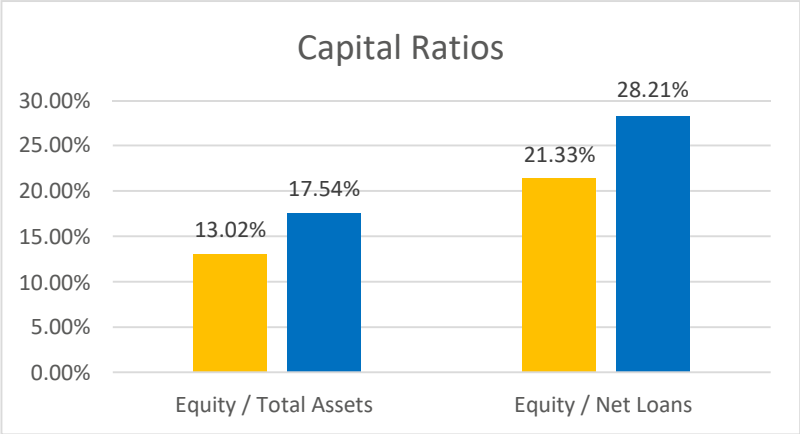
We may thus summarize that SSB as a group has performed better in terms of ROA and NIM resulting in higher profitability, because they are cost efficient with a higher capital base as compared to SLB. Even though their asset quality is a little lower than SLB, they have maintained sufficient loan loss reserves to allow the writing off of all bad loans. However, it is mainly the contribution of one bank – RAKBANK. In terms of costs, it is due to RAKBANK that the Cost to Income ratio is lower, making the average lower for SSB.

Risks

Most business activities and operations are driven by considerations of profitability. However, the search for profits exposes the businesses to risks. Also risks escalate and multiply with returns sought - banks are no different. Banks are exposed to different types of risks. Leverage, Credit, Liquidity, Interest Rate and Operational risks are the primary risks that have a substantial bearing on the performance of banks. It is very important to evaluate the profitability of banks in the context of these risks.

Leverage Risk: The Equity to Net Loans ratio measures a bank's financial leverage. It calculates how much equity an institution is using to finance its assets relative to the amount of debt. The comparative data indicates that SSB stands higher in capital base in relative terms, hence having a lower leverage risk. The Equity to Net Loan ratios for SSB is 28% as compared to 22% for SLB as shown in figure 5 below.

Figure 5

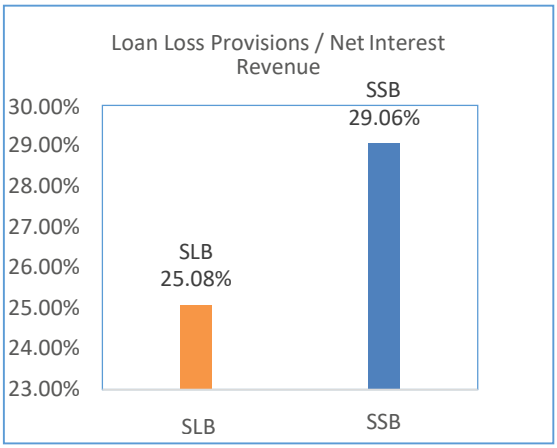


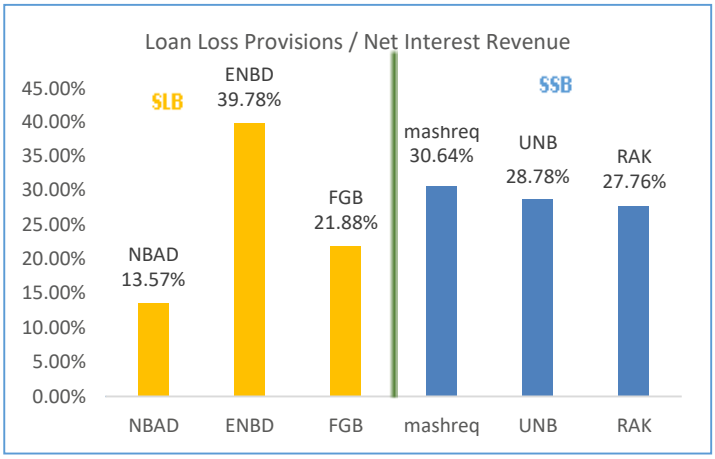
Credit Risk: Asset quality (known as "portfolio quality") remains a key aspect of financial performance for banks. The higher the quality of a bank's assets, the more stable and consistent is its profit potential.

The Asset quality of SLB (4.08%) is marginally better than that of SSB (4.20%) as indicated by the ratio of impaired loans to gross loans as given in Table 3. Yet, SSB is adequately provisioned for loan losses than SLB as shown in figure 6 below. In terms of Loan Loss Provision (LLP), SLB's ratio stands at 25% compared to 29% of SSB. This 25% ratio for SLB is higher due to ENBD's (40%) conscious efforts of providing for loan losses adequately as compared to its counterparts NBAD (14%) and FGB (22%). Another ratio to measure credit risk is Loan Loss Reserves to Impaired Loans, which stood at around 23% for SLB as compared to SSB's 44% as shown in Table 3 above.

© SGBED 2019

Figure 6

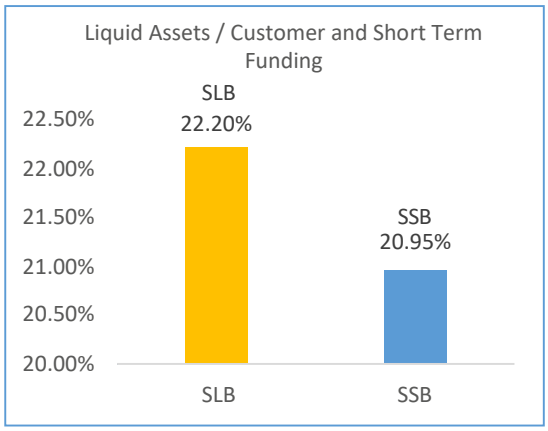


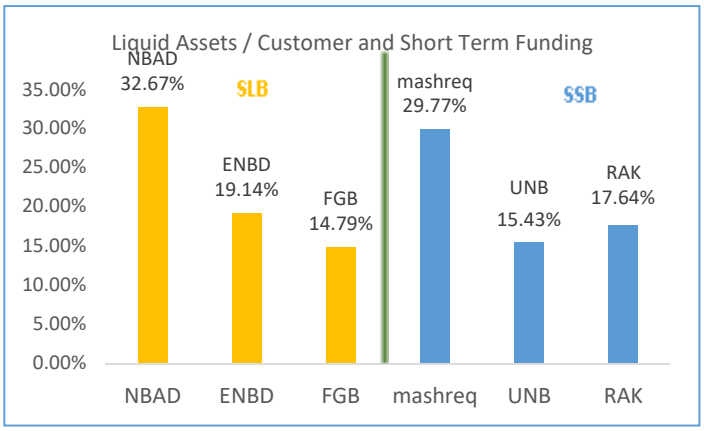


Liquidity Risk: The relationship between liquidity and profitability has mixed reviews. The high liquidity of the banks negatively affects their profitability because high liquidity blocks the funds that could have been invested in the more profitable ventures. Liquid assets generated lower returns, so a negative relationship with bank profitability was expected. On the other hand, some surveys found liquidity to be positively linked to profitability. Generally, the banks that held reduced levels of liquid assets faced the risk of not being able to finance their daily operations (Guru, Staunton, & Balashanmugam, 2002).

SLB holds higher proportion of funds in liquid assets as given by the ratio of liquid assets to customer and short term funding in figure 7 below. This shows the percentage of customer and short term fund which could be met if they were withdrawn suddenly, indicating higher liquidity for the SLB group. It is NBAD (33%) within SLB group which is responsible for a higher ratio, although Mashreq as an individual bank in SSB group also represents a higher ratio of 30%.

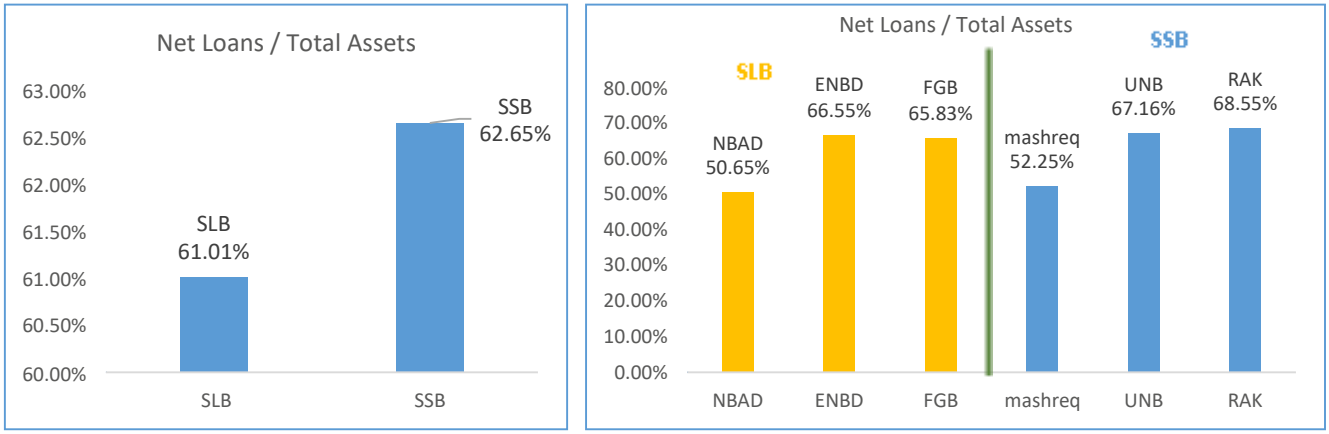
Figure 7





The ratio of net loans to total assets measures liquidity which is higher in case of SSB (63%) as compared to SLB (61%) indicating that a smaller percentage of the assets of the SLB group are tied up in loans compared to SSB group as shown in figure 8.

Figure 8



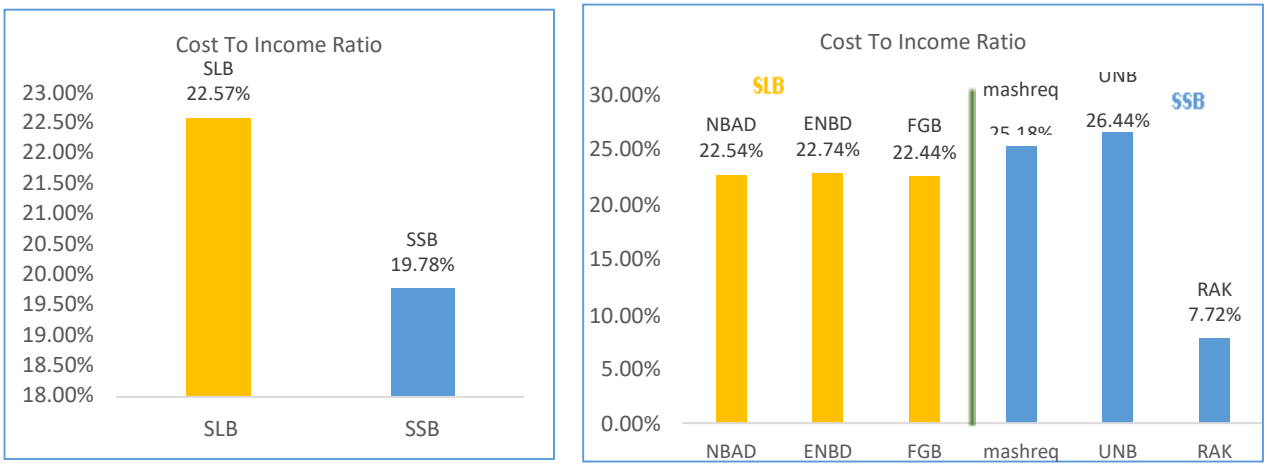
Interest Rate Risk: Net Interest Margin (NIM) and the Net Interest Revenue to Net Income (NIR/NI) ratio are the two criteria used for assessing interest rate risk. SSB has a higher NIM as compared to SLB, shown in figure 3 above. NIM indicates how well management employed the earning asset base. SSB's NIM stands at 6.3%, approximately double of that of SLB at 3.6%, which we noticed above was mainly due to RAK's exceptional performance in the SSB group. This means that SSB has higher earnings on its deposit loan function, making SSB less prone to interest rate risk.

On the other hand, SSB has a higher NIR/NI ratio, indicating that SSB's profit depends to a great extent on interest earnings, hence making SSB group more exposed to interest rate risk. This is mainly due to RAK's very high NIR/NI ratio of 190%. Whilst, SLB's relatively lower ratio indicates that the group is less dependent on interest earnings as they have income coming from alternative sources of business, like fee-based banking services such as service charges on deposit accounts, consulting and advisory fees, rental of safe deposit boxes and other fee income, fiduciary, brokerage and insurance activities. It is evident by SLB's other Operating Income (OOI) to Average Assets ratio at 0.39%, hence performing better than SSB (0.36%).

Operating Risk: Operating risks depend on the bank's operating costs. The higher the operating costs, the lower the Net Income. We may look at the bank's operating risk by observing the three indicators, such as the Cost/Income ratio, Non-interest expense to Average Assets ratio and Overheads to Revenue ratio.

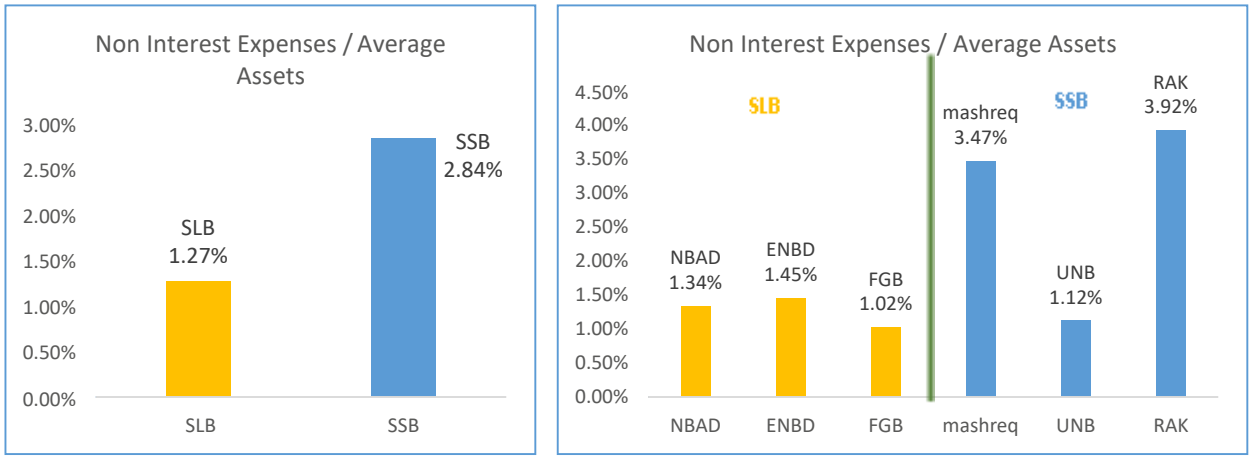
Cost-to-income ratio (or 'efficiency ratio') which takes the bank's operating expenses as a percentage of its total income. SSB's Cost to Income (C/I) ratio stands at 19.78% as compared to 22.57% for SLB as shown in Figure 9. This lower C/I ratio for SSB group reveals its ability to control its cost more effectively.

Figure 9



Non-interest expense to Average Assets ratio is another factor affecting the operating costs of banks. These expenses are related to salaries and employees' benefits, expense of premises and fixed assets and other non-interest expenses. This ratio is lower for SLB (1.27%) as compared to 2.84% for SSB as shown in figure 10. A relatively lower level of overheads for SLB is also noticed which is attributed to economies of scale concepts – benefits of large scale production, such as investment in technical expertise, risk management functions. These costs are higher for SSB as they are expanding the network by increasing the number of branches.

Figure 10



Growth

The growth in banking sector can be internal growth or external growth (Fin cope survey, 2012). External growth of banks is the outcome of considerable benefits from merging, including economies of scale. However, if a business can use its existing resources more efficiently, the firm can generate internal growth. Growth-oriented strategy and funding availability are two aspects which are required to achieve growth. This section focuses on the latter aspect. Growth may be financed through internal sources or external sources.

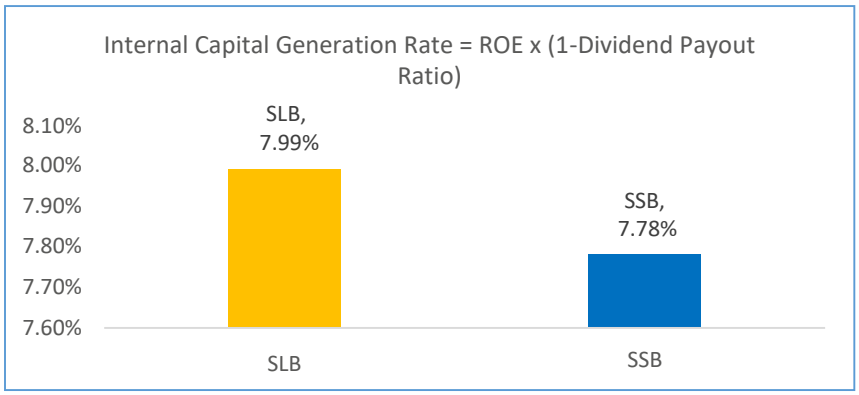
The main internal sources of funds are liquid assets and fresh capital generated by the business. External sources of funds are interbank loans, and debt or equity issues. Irrespective of the choice of funding source, the bank should remain sufficiently capitalized at all times. An assessment of the capital adequacy of SLB and SSB banks was undertaken above.

As regards the banks' liquid assets, SLB has higher liquidity as discussed above. They hold a higher proportion of funds in liquid assets which is very importan to pursue growth strategies.

The internal Capital Generation Rate (ICGR) is an indicator of the "fresh" funds generated by the business. It is observed that there is no major difference in the ICGR of SLB (7.99%) and SSB (7.78%), shown below in figure 11, which implies that the bank's ability to grow, largely depends on the management style and the general performance of the specific bank.

As SLB has relatively higher liquidity and ICGR, it can be concluded that larger banks in UAE have better ability to grow.

Figure 11



Banks with insufficient internal sources of funds, like SSB, may still finance growth through external sources such as inter-bank loans, debt issues and equity issues. The inter-bank ratio for SSB is high and shows that it should not be a problem for SSB to obtain more funds from other banks. However, these banks might prefer to leave their interbank credit unconsumed and might consider it optimal to finance growth through more permanent funding sources, like issuing equity and debt.

Conclusion

This paper analyzed the risk, profitability and growth indicators of UAE banks for the year 2016. The findings are summarized below:

- ✓ SSB has performed better in terms of ROA and NIM indicating higher profitability.
- ✓ Although SLB's ROE ratio is higher than SSB, it is not considered an effective measure of earnings performance from the bank's standpoint. The higher profitability of SSB is due to their efficient utilization of assets, cost efficiency and a higher capital base as compared to SLB. They have a higher NIR to Average Assets ratio and a lower Cost to Income ratio, which is mainly attributed to RAK's exceptional performance in the SSB group.

© SGBED 2019

- ✓ As SSB is more capitalized in relative terms it has a lower leverage risk compared to SLB, whilst SLB faces a lower operating risk because of a relatively lower Non interest expense to Average Assets ratio and also a lower level of overheads to Revenue ratio. However, a lower C/I ratio for SSB as a group also indicates a lower operating risk which is mainly attributed to RAK's increased efficiency.
- ✓ Both SSB and SLB face lower interest rate risk because of different reasons. A higher NIM, that is, having higher earnings on its deposit loan function makes SSB less prone to interest rate risk, whilst a lower NIR/NI ratio indicates that the SLB group is less dependent on interest earnings as a source of income and hence less exposed to interest rate risk.
- ✓ SLB has a lower liquidity risk compared to SSB as they hold a higher proportion of funds in liquid assets. They do not face the risk of not being able to finance their daily operations. Although SLB's asset quality is marginally better compared to SSB, indicating a lower credit risk for the SLB group, it is SSB which has adequately provisioned themselves against loan losses.

To summarize, the performance of SSB is better than SLB. Their profits are higher and their risks are lower. As given by Fraser (1990), the performance of a commercial banking organization is obviously better if its profits are higher and the risk is lower. Being well capitalized, SSB has the ability to grow as they tend to attract several customer deposits because of its future prospects and going concern. SSB's lower Loan to deposit ratio depicts good asset liability management indicating higher profitability. Bank growth in terms of capital ratios tends to decrease bankruptcy costs and interest expenses hence increasing their profitability.

References

Alam, N. and Jahan, B. (1999), Default culture in banking sector in Bangladesh, Bank Parikrama, 24: 261-273.

Al-Shammari, M. and Salimi, M. (1998), Modelling the operating efficiency of banks: A parametric methodology, Journal of Logistic Information Management, 11: 27-41.

Aspal, P.K. and Malhotra, N. (2013), Performance Appraisal of Indian Public Sector Banks, World Journal of Social Sciences, 3: 71 –88.

Barros, C., Ferreira, C. and Williams, J., (2007), Analysing the determinants of performance of best and worst European banks: A mixed logit approach, Journal of Banking and Finance, 31: 2189–2203.

Bhatt, P.R. and Ghosh, R. (1992), Profitability of Commercial Banks in India, Indian Journal of Economics, 3: 14-27.

Bintawim, S.S. (2011), Performance Analysis of Islamic Banking: Some Evidence from Saudi Arabian Banking, Ritsumeikan Asia Pacific University (APU) (MBA Program), P.3. http://rcube.ritsumei.ac.jp/bitstream/10367/2589/1/Bintawim%20Samar%20Saud%20S.pdf

Chowdhury, A. (2002), Politics, Society and Financial Sector Reform in Bangladesh, *International Journal of Social Economies*, 4: 963 –988.

DeYoung, R. and Rice, T. (2004), Non-interest income and financial performance at US Commercial Banks, Financial Review, 39 (1) 101-127.

Dickson, P. and Marobhe, M. (2012), The influence of capital adequacy on asset quality of banks in Tanzania, *International journal of finance and economics*, Canadian educational Centre.

Dickson, P. and Janeth, P. S. (2013), The Relationship between Bank Growth and Profitability, Empirical Evidence from EAC: Panel Data Analysis, European Journal of Business and Management, vol.5, no.26.

Fraser, Donald R. and Lyn M. Fraser (1990), Evaluating Commercial Bank Performance: A Guide to Financial Analysis, Rolling Meadows, Illinois: Bankers Publishing Company.

Guru, B. K., J. Staunton and B. Balashanmugam. 2002. "Determinants of Commercial

Bank Profitability in Malaysia." Working Paper, Multimedia University.

Hannan, T.H., Prager and R.A. (2009), The Profitability of Small Single-market Banks in an Era of Multi-Market Banking, *Journal of Banking and Finance*, 33: 263–271.

Halkos, G. and Salamouris, D. (2004), Efficiency measurement of the Greek commercial banks with the use of financial ratios: a data envelope analysis approach, Management Accounting Research, 15 (2) 201-224.

Horne, J.C.V. and Wachowicz, J.M. (2005), "Financial Statement Analysis," in Fundamentals of financial

management, 11th ed., Delhi, India: Pearson Education Asia, pp. 125-168.

Jahangir, N., Shill, S. and Haque, M. A. J. (2007), Examination of Profitability in the Context of Bangladesh Banking Industry, ABAC Journal, 27 (2) 36-46.

Kosmidou K., (2008), The determination of Banks' Profits in Greece during the period of EU financial integration, Emerald Group Publishing Limited, Managerial Finance, 34 (4) 146-159.

Lacewell, S., K. (2003), Do Efficient Institutions Score Well Using Ratio Analysis? An Examination of Commercial Banks in The 1990s, Journal of Commercial Banking and Finance, 2: 17-33.

Luo, X. (2003), Evaluating the Profitability and Marketability Efficiency of Large Banks: An Application of Data Envelopment Analysis, Journal of Business Research, vol. 56(8), 627-635.

Muhammad R. Uddin and Jannatul F. Bristy (2014), Evaluation of Some Private Commercial Banks in Bangladesh from Performance Perspectives, International Journal of Managing Value and Supply Chains (IJMVSC), 5 (4).

Ncube, M. (2009), Efficiency of the Banking Sector in South Africa, African Economic Conference 2009, Fostering Development in an Era of Financial and Economic Crises, Addis Ababa.

Ramlall, I. (2009), Bank-specific, industry-specific and macroeconomic determinants of profitability in Taiwanese banking system: under panel data estimation, International Research Journal of Finance and Economics, vol. 2(34), 160-167.

Samina, H. (2013), The Performance Analysis of Private Conventional Banks: A Case Study of Bangladesh, IOSR Journal of Business and Management (IOSR- JBM), 12 (1) 19-25.

Samad, A. (2004), Bahrain Commercial Bank's Performance during 1994-2001, Credit and Financial Management Review, 10 (1) 33-40.

Sayilgan. G, and Yildirim. O. (2009), Determinants of Profitability in Turkish Banking Sector: 2002-2007, International Research Journal of Finance and Economics, ISSN 1450-2887, 28: 207-214.

Seiford, L., M and Zhu, J (1999), Profitability and Marketability of the Top 55 U. S. Commercial Banks Management Science, vol. 45 (9), 1270-1288.

Silvio, J. C. (2005), An Analysis of the Profitability, Risk and Growth Indicators of Banks Operating in Malta, Bank of Valletta Review, No. 31.

Stankeviciene, J. and Mencaite, E. (2012), The evaluation of bank performance using a multicriteria decision making model: a case study on Lithuanian commercial banks, Technological and Economic Development of Economy, 18: 189-205

Sufian, F. (2009), Determinants of Bank Profitability in a Developing Economy: Empirical Evidence from the China Banking Sector, Journal of Asia Pacific Business, vol.10(4), 281-307.

Tarawneh, M. (2006), A comparison of financial performance in the banking sector: some evidence from Omani commercial banks, International Research Journal of Finance and Economics, 3(3) 101-112

Teker, D., Teker, S., and Sönmez, M. (2011), Economic Value Added Performances of Publicly Owned Banks: Evidence from Turkey, International Research Journal of Finance and Economics, 75:132–137.

Webb, R.M. (2003), Levels of efficiency in UK retail banks: a DEA window analysis, International Journal of the Economics of Business, 10 (3), 305-322.

Yeh, Q. J. (1996), The Application of Data Envelopment Analysis in Conjunction with Financial Ratios for Bank Performance Evaluation, Journal of the Operational Research Society 47: 980-988.

DXB044

PERFORMANCE MEASURES AND THE CAMEL RATING OF THE BANKING INDUSTRY: THE CASE OF INDIA

Sivakumar Venkataramany, svenkata@ashland.edu
Ashland University, USA

ABSTRACT

While global financial crisis has led to a contraction of performance of the banking industry worldwide and a series of bank failures in the United States, Indian banks have remained robust. As the government of India is encouraging private banks through its liberal chartering policy, its nationalized banks are able to generate equity funds through the country's dynamic stock market. Despite cost prohibitive efforts in the introduction of a range of new products and services, banks in India are striving to emerge from an era of development banking into consumer oriented supermarkets. This paper studies the strong performance measures of the Indian banking industry and its readiness to adopt the CAMELS rating.

Keywords: India, Banking Industry, Emerging market, CAMEL Rating

Introduction

The global financial crisis witnessed the failure of more than 500 banks in the United States and the US government had to use unprecedented bail out procedures to salvage some of its major institutions. All of the central banks of the industrialized economies (the US Federal Reserve, the Bank of England, the European Central bank, and the Bank of Japan) had to resort to an indirect means of monetization through their steps of quantitative easing. Their purpose was initially slated for stimulating their economies but later was expanded into including reaching inflation target and keeping unemployment low. They all uniformly accomplished their singular goal of taking their currencies to their bottom. However, India's banking industry has remained strong through the era of boom and bust of the Latin American debt, East Asian Financial Crisis, Russia's sovereign default, and the currency problems of Argentina and Brazil. Some scholars have attributed the absence of failure of India's banking industry to its past nationalized institutions and to the country's administered interest rate environment. India is world's largest democracy and the legacy of the British raj has helped the country with strong linkages with the West through its proficiency of the English language particularly in the country's legal framework accepting contracts only in English for enforcement purposes. India has consistently introduced steps of economic and financial liberalization starting with the floating of the Indian Rupee in 1991.

A wide range of financial institutions exist in the country to provide credit to various sectors of the economy. These include (not counting the branches or affiliates) 183 commercial banks, 133 regional rural banks (RRBs), numerous financial institutions, 13,014 non-banking financial companies, and 1,853 urban cooperative banks. In addition to these sources of credit, short-term rural credit at the grass root level is emphasized through 31 state co-operative banks, 367 district central co-operative banks (DCCBs), 108,779 primary agricultural cooperatives. State cooperative and agricultural rural development banks (20) and primary cooperative and agricultural rural development banks (727) serve long term credit needs in rural India. The

© SGBED 2019

present landscape of the India banking industry comprises four major groups. First, the State Bank of India group is the largest network across the nation as it plays the role of the country's central bank, The Reserve Bank of India in almost all places where the central bank does not have its office. This group consists of eight institutions. The second group comprises its major nationalized banks, twenty of them in total. There are 30 private sector banks in the third group which includes some of the newly licensed banks. The last and the fourth group represents 35 foreign banks with most of them located in large metropolitan cities.

Literature Review

The banking industry in India has been the focus of select research topics for various scholarly studies. The country's readiness to adopt the modernized risk management frameworks on the foundations of the Basel agreements has been established [Venkataramany and Bhasin, 2012]. The banking regulators in the United States have consistently used the CAMEL (Capital Adequacy, Asset Quality, Management Quality, Earnings Capacity and Liquidity Management) rating criterion to assess and evaluate the *safety* of the assets of banks and their soundness of the value as stated in the financial statements. performance and financial *soundness* of the activities of the bank. The CAMEL rating of the State Bank of India group has been reported through the group's annual financial statement ratios for select years [Sharma, 2017]. Another study identifies the profit per employee as the most impacting factor on the industry's return on assets (ROA) [Kaur, 2015]. The introduction of banking reforms has raised the bar for banks in India to include sensitivity to market risk as the sixth element to make it qualified for CAMELS rating [Sarathbabu and Mehrotra, 2015].

Methodology

This paper analyzes the banking industry of India through two important dimensions of profitability and efficiency through panel data. It includes all performance based ratios for eleven years from 2005 to 2015. It considered all the banking performance ratios for the span of eleven years from 2005-2015 pertaining to the four types of banks namely the State Bank of India (SBI) group, nationalized banks, private sector banks and foreign banks. At the first instant, we intended to find the existence of significant difference among the business performance ratios among the four categories of banks. This attempt would enable us to microscopically identify the difference in the business performance in the span of eleven years from 2005-2015. One-way analysis of variance is applied for four groups of banks and banking performance ratios. It is found that the f-values are significant for several measures. Our study of profitability and efficiency were based on the following model wherein the whole industry is analyzed as an integrated whole with each group being examined distinctively.

Hypothesis 1:

ROA = α (constant) + β_1 (cost of deposits) + β_2 (cost of borrowing) + β_3 (cost of funding) + β_4 (return on loans adjusted to cost of funds) + β_5 (return on investments) + β_6 (intermediation cost of funds)

Hypothesis 1A:

ROA = α (constant) + β_1 (cost of deposits) + β_2 (cost of borrowing) + β_3 (cost of funding) + β_4 (return on loans adjusted to cost of funds) + β_5 (return on investments) + β_6 (intermediation cost of funds) + β_6 (Dummy variable for foreign banks)

© SGBED 2019

Hypothesis 2:
ROA = α (constant) + β_1 (term deposits to total deposits) + β_2 (priority sector credit to total credit) + β_3 (term liabilities to total liabilities) + β_4 (secured credit to total liabilities) + β_5 (net interest margin to total assets) + β_6 (non-interest income to total assets) + β_7 (operating profit to total assets)

Hypothesis 2A:
ROA = α (constant) + β_1 (term deposits to total deposits) + β_2 (priority sector credit to total credit) + β_3 (term liabilities to total liabilities) + β_4 (secured credit to total liabilities) + β_5 (net interest margin to total assets) + β_6 (operating profit to total assets) + β_7 (Dummy variable for foreign banks)

Hypothesis 3:
ROA = α (constant) + β_1 (term deposits to total deposits) + β_2 (priority sector credit to total credit) + β_3 (term liabilities to total liabilities) + β_4 (secured credit to total liabilities) + β_5 (net interest margin to total assets) + β_6 (operating profit to total assets)

Hypothesis 3A:
ROA = α (constant) + β_1 (term deposits to total deposits) + β_2 (priority sector credit to total credit) + β_3 (term liabilities to total liabilities) + β_4 (secured credit to total liabilities) + β_5 (net interest margin to total assets) + β_6 (operating profit to total assets) + β_7 (Dummy variable for foreign banks)

Hypothesis 4:
ROE = α (constant) + β_1 (Interest income to total assets) + β_2 (Net interest margin to total assets) + β_3 (Non-interest income to total assets) + β_4 (Intermediation cost to total assets) + β_5 (Wages to total income) + β_6 (intermediation cost of funds)

Hypothesis 4A:
ROE = α (constant) + β_1 (Interest income to total assets) + β_2 (Net interest margin to total assets) + β_3 (Non-interest income to total assets) + β_4 (Intermediation cost to total assets) + β_5 (Wages to total income) + β_6 (intermediation cost of funds) + β_7 (Dummy variable for foreign banks)

Discussion of Results

The results that we derived were consistent with regards to expected signs. As evidenced by Table 1, the return on loans adjusted to cost of funds and the intermediation cost of funds were highly significant for the entire industry in producing the Return on Assets (ROA). Neither of this variable was significant for the SBI group but were significant for the other three groups. Similarly, net interest margin and operating profits to total assets were two highly significant variables contributing to the ROA as shown in Tables 2 and 3 for the entire industry. Operating profit displayed its significance for the four groups but net interest margin was significant only to foreign banks. The nationalized banks displayed their unique place among the four groups as the priority sector loans to total loans turned out to be highly significant thereby asserting that they are the implementers of the central government's policies of financial inclusion. Table 4 testifies

© SGBED 2019

that the five variables, namely interest income to total assets, net interest margin, non-interest income to total assets, intermediation cost to total assets, and wage bills to total income.

TABLE 1 REGRESSION RESULTS FOR THE INDIAN BANKING INDUSTRY, 2005-2015

Dependent Variable: **ROA**	Model 1	Model 1A for SBI Group	Model 1B for Nationalized banks	Model 1C for Private Sector banks	Model 1D for Foreign Banks
Constant	1.148 (6.268)***	0.171 (0.970)	0.508 (2.688)**	0.239 (0.678)	1.743 (5.980)***
Cost of Deposits	-0.094 (-2.989)**	-0.383 (-1.772)*	-0.188 (-3.297)**	0.651 (1.801)*	-0.077 (-1.738)*
Cost of Borrowing	0.000 (-1.475)	0.016 (2.224)*	0.000 (-2.099)*	0.000 (-1.346)	0.028 (1.856)*
Cost of Funds	-0.089 (-2.832)**	0.313 (0.147)	0.046 (0.818)	-0.721 (-1.854)*	-0.096 (-1.792)*
Return on Loans adjusted to cost of funds	0.085 (4.275)***	0.259 (5.562)***	0.301 (8.324)***	-0.148 (-1.854)*	0.073 (2.640)**
Return on Investments	0.068 (2.840)**	0.004 (0.112)	0.053 (1.971)*	0.181 (2.608)*	0.028 (0.782)
Intermediation cost of funds	0.183 (9.842)***	-0.014 (-0.164)	-0.164 (-2.504)*	0.399 (3.189)**	0.143 (5.484)***
Adjusted R^2	0.185	0.452	0.314	0.062	0.117
Number of observations	950	75	223	254	395

t-statistics appear in parentheses for each variable; * = significant at 90% confidence level; ** = significant at 95% confidence level; *** = significant at 99% confidence level

TABLE 2 REGRESSION RESULTS FOR THE INDIAN BANKING INDUSTRY, 2005-2015

Dependent Variable: **ROA**	Model 2	Model 2A for SBI Group	Model 2B for Nationalized banks	Model 2C for Private Sector banks	Model 2D for Foreign Banks
Constant	0.624 (4.100)***	-0.080 (-0.475)	0.461 (2.711)**	0.321 (0.874)	0.807 (3.506)**
Term loans to total loans	-0.002 (-1.117)	0.015 (3.651)**	0.006 (3.817)***	0.004 (0.733)	0.000 (-0.117)
Priority sector loans to total loans	-0.004 (-1.682)*	-0.003 (-0.700)	-0.003 (-0.908)	0.011 (1.038)	-0.006 (-1.748)*
Secured loans to total loans	-0.002 (-1.198)	-0.003 (-1.079)	-0.012 (-6.432)***	0.003 (0.559)	-0.001 (-0.348)
Net interest margin	-0.148 (-4.637)***	-0.122 (-1.579)	-0.012 (-0.256)	-0.303 (-2.217)*	-0.183 (-4.049)***
Non-interest income to total assets	0.019 (1.220)	0.136 (1.633)	0.049 ().653)	-0.288 (-1.571)	0.012 (0.619)
Operating profit to total assets	0.636 (22.617)***	0.354 (3.503)**	0.630 (9.319)***	0.668 (4.850)***	0.635 (17.217)***
Adjusted R^2	0.495	0.495	0.553	0.097	0.520
Number of observations	950	75	223	254	395

t-statistics appear in parentheses for each variable; * = significant at 90% confidence level; ** = significant at 95% confidence level; *** = significant at 99% confidence level

© SGBED 2019

TABLE 3 REGRESSION RESULTS FOR THE INDIAN BANKING INDUSTRY, 2005-2015

Dependent Variable: **ROA**	Model 3	Model 3A for SBI Group	Model 3B for Nationalized banks	Model 3C for Private Sector banks	Model 3D for Foreign Banks
Constant	0.695 (4.787)***	-0.071 (-.397)	0.485 (2.857)**	0.262 (0.729)	0.881 (4.113)***
Demand deposits to total deposits	-0.004 (-1.594)	0.001 (0.334)	-0.005 (-1.598)	0.032 (3.656)***	-0.005 (-1.817)*
Priority sector loans to total loans	-0.003 (-1.090)	-0.002 (-0.358)	0.006 (3.997)***	0.011 (1.128)	-0.004 (-1.086)
Term loans to total loans	-0.002 (-1.258)	0.015 (3.534)**	-0.012 (-6.454)***	-0.005 (-1.094)	-0.001 (-0.295)
Secured loans to total loans	-0.002 (0.166)	-0.004 (-1.181)	-0.012 (-6.454)***	0.002 (0.280)	-0.001 (-0.405)
Net interest margin	-0.149 (-4.819)***	-0.159 (-1.797)*	-0.011 (-0.239)	-0.456 (-3.224)**	-0.177 (-4.102)***
Operating profit to total assets	0.664 (27.192)***	0.443 (4.972)***	0.660 (12.572)***	-0.456 (-3.224)**	0.662 (20.394)***
Adjusted R^2	0.496	0.476	0.557	0.134	0.524
Number of observations	950	75	223	254	395

t-statistics appear in parentheses for each variable; * = significant at 90% confidence level;
** = significant at 95% confidence level; *** = significant at 99% confidence level

TABLE 4 REGRESSION RESULTS FOR THE INDIAN BANKING INDUSTRY, 2005-2015

Dependent Variable: **ROE**	Model 4	Model 4A for SBI Group	Model 4B for Nationalized banks	Model 4C for Private Sector banks	Model 4D for Foreign Banks
Constant	1.861 (1.048)	1.571 (0.370)	0.416 (0.141)	-1.433 (-0.293)	0.609 (0.477)
Interest income to total assets	1.895 (8.475)***	0.803 (1.361)	-0.074 (-0.204)	0.641 (0.838)	1.612 (7.320)***
Net interest margin	-1.594 (-5.074)***	2.933 (1.785)*	7.849 (8.552)***	-1.455 (-0.829)	-1.039 (-4.254)***
Non-interest income to total assets	1.056 (4.004)***	15.178 (6.419)***	10.566 (8.464)***	4.559 (1.675)*	1.148 (7.835)***
Intermediation cost to total assets	1.056 (4.004)***	-9.343 (-2.094)*	-12.980 (-6.756)***	-5.086 (-1.976)*	-0.965 (-5.521)***
Wage bills to total income	0.181 (4.517)***	0.054 (0.109)	0.521 (2.978)**	1.810 (6.465)***	-0.965 (-5.521)***
Adjusted R^2	0.077	0.387	0.407	0.179	0.201
Number of observations	950	75	223	254	395

t-statistics appear in parentheses for each variable; * = significant at 90% confidence level;
** = significant at 95% confidence level; *** = significant at 99% confidence level

© SGBED 2019

Conclusion

This paper suggests a policy framework for banking regulation in India to adopt the CAMELS rating system as their counterparts in the United States have done for decades. This will liberate the industry from the financial repression and compete in the global financial services industry in terms of competitiveness, modernization, enhanced range of product line, and also for the onset of privatization through increased inward FDI by foreign banks.

References

Kaur, Prabhjot, (2015) "A Financial Performance Analysis of the Indian Banking Sector Using CAMEL Model.", IUP Journal of Bank Management, 14 (4) 19-33

Sarathbabu, A.; Mehrotra, RuchI, (2015) "Banking Performance and Risks Measurement Using CAMELs Framework", Finance India, 29 (4) 1237-1244

Sharma, Vijay Kumar, (2017) "Performance Evaluation of State Bank of India And Its Associate Banks Through Camel Analysis", International Journal of Research in Commerce & Management, 8 (3) 84-91

Venkataramany, Sivakumar and Bhasin, Balbir, (2012) "The Changing Landscape of the Indian Banking Industry: An Empirical Study", International Business & Economics Research Journal, 11 (4) 421-430

© SGBED 2019

DXB138

UAE THE MOST ATTRACTIVE FDI DESTINATION IN THE MIDDLE EAST: A STUDY ON HOW UAE IS SUSTAINING THE STATUS

Manuel Fernandez, mfernandez@skylineuniversity.ac.ae,
Robinson Joseph, robinson.joseph@skylineuniversity.ac.ae,
Skyline University College, Sharjah, UAE

ABSTRACT

Every nation is trying to attract maximum investments from overseas for the development and growth of the economy. Most of the Middle East economies are in the growth mode and are dependent on the revenue from oil, but the unsteady oil prices have very badly affected these economies and all are targeting to secure maximum foreign direct investments (FDI). Many of the developed nations and Multinational Corporations are in the search for the best destinations for their investments. The purpose of this study to identify the most attractive destination for FDI in the Middle East, and how it is sustaining this status. The flow of FDI into a country depends on the availability of a number of factors. This study probes into the existence of each of these factors in the various countries in the Middle East. Secondary data is used to rank each country on the basis of the parameters that attract FDI. The findings indicate that the UAE is the most attractive FDI destination in the Middle East and they have been successful in sustaining this status during the period of study.

Keywords: Foreign Direct Investment, Multinational Corporations, Middle East, United Arab Emirates, Middle East.

Introduction

The globalization has made the mobility of money across the global very easy, in fact the real globalization is evident in the fund flows across the globe. Currently, there is a great flow of funds among countries, money flowing to destinations which are more attractive than others. The investors whether individuals, corporates or nations will prefer to invest in assets and places that offer attractive returns and are relatively less risky. Different assets, companies and countries have different characteristics that attract different investors differently at different times. Several studies have been carry out to understand the different factors attracting the investments and the results of these studies have highlighted a number of factors.

Foreign Direct Investment (FDI) is the investments made by a company in the investor country into a foreign host country. It can take the form of acquisition of already existing host firms or establishment of new companies in the host country or entering into a joint venture with an existing host firm. The importance of FDI is growing because of the beneficial impact on both host country's economy and a firm's return on investments.

The inflow of FDI gives developing countries access to capital that would otherwise be not available, as Transnational Corporations (TNCs) often have privileged access to capital from the international banking sector. Similarly, FDI provides needed foreign exchange and therefore helps to adjust some of the macroeconomic imbalances in developing countries. All the countries in the Middle East are in the growth mode but the resources available with them are limited and

© SGBED 2019

very often insufficient, hence each nation is competing against each other to make the investment climate more investor-friendly and project itself as the most favored destination for the FDI.

The Middle East is a loose term, not always used to describe the same territory. For the purpose of this study, the Middle East is generally confined to the ten most competitive economies of the Middle East namely, Algeria, Bahrain, Iran, Jordan, Kuwait, Morocco, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

The United Arab Emirates (UAE) is located in the middle of the Arabian Gulf. The UAE is a federation of seven Emirates including Abu Dhabi, Dubai, Sharjah, Ajman, Umm al-Quwain, Ras al-Khaimah and Fujairah, which are governed by the Federal Supreme Council (FSC) of rulers. Abu Dhabi and Dubai, the largest and the wealthiest two Emirates, dominate the UAE economy. It is a rich and open economy with a high per capita income and a sizable annual trade surplus. Oil and Gas account for nearly 25% of GDP, 45% of export earnings and 40% of government revenue. Since the discovery of oil in the UAE, it achieved a profound transformation from a small desert region to a modern state with a very high standard of living ('www.gulfbase.com').

The basic objective of this study is to find out the most attractive FDI destination in the Middle East and how it is sustaining the status. The study also intends to highlight the major problems which foreign investors currently face in this destination which must be addressed immediately in order to make it a more FDI friendly destination. The study proposes to rank the Middle East countries on various parameters that attract FDI and highlight the most attractive destination in the Middle East so that anyone looking out for investment destinations in the Middle East can make use of the findings of this study to arrive at the most suitable decisions. It will also highlight the problems faced by the foreign investors and suggests remedial steps.

This paper is organized as follows: Section 2 presents a literature review on FDI. Section 3 states the methodology. Section 4 focusses on analysis and discussions, and Section 5 concludes the paper.

Literature Review

Foreign direct investment is widely perceived as a powerful development engine for many receiving (host) countries. FDI can play a key role in improving the capacity of the host country to respond to the opportunities offered by global economic integration, a goal increasingly recognized as one of the key aims of any development strategy. Virtually all countries are actively seeking to attract FDI, because of its expected favorable effect on income generation from capital inflows, advanced technology, management skills and market know-how (Cho, 2003).

Numerous studies have been conducted in different parts of the world and majority of the studies have inspected the effects of determinants of FDI inflow and found that relevant determinants include the size and growth potential of the host market, economic stability, economic growth, geographic location, infrastructure, human capital, interest rate, degree of openness, per capita income, exchange rate, wage rate, quality of institutions, technology-friendliness, connectivity, etc. The literature review on these are presented below.

© SGBED 2019

Market size is ordinarily expected to have a positive relationship with FDI. Market-oriented FDI aims to set up enterprises to supply goods and services to the local market. The general implication is that host countries with larger market size, faster economic growth and a higher degree of economic development will provide more and better opportunities for these industries to exploit their ownership advantages and therefore, will attract more market-oriented FDI (OECD, 2000). The studies by Kravis, and Lipesey, (1982), and Na and Lightfoot, (2006) revealed that FDI inflow has been largely attracted by the market size and market potential. Thus one may presume that large host countries attract higher foreign direct investment due to larger potential demand.

Trade openness and foreign direct investments are interconnected according to Neumayer and Indra (2005). Basu et al. (2003) focuses on a panel of 23 countries and trade openness is found to be one of the crucial components that can enhance the growth of FDI. Similarly, Resmini (2000), studying manufacturing investment in Central and Eastern Europe, found that increasing openness is beneficial for vertical FDI flows as in these sectors international trade flows in intermediate and capital goods are important.

The high volatility of the exchange rate of the currency in the host country discourages investment by the foreign firms as it increases uncertainty regarding the future economic and business prospects of the host country (Banga, 2003). The study by Campa (1993) examined how exchange rate uncertainty affected FDI and the study revealed that greater exchange rate uncertainty increased the option for firms to wait until investing in a market, depressing current FDI. Thus it can be believed that TNCs prefer to do business with those countries with stable currency so that the home country profit is not significantly affected by the exchange rate volatility.

Political stability and reliability determine the FDI inflows. The study by Root and Ahmed (1979), and Schneider and Frey (1985), looking at aggregate investment flows into developing economies found that political instability significantly affects FDI inflows. Dunning (1973) studied econometric models using a statistical analysis of surveys on the determinants of FDI and found that market force such as market size, growth and per capital income in the host country, and cost factors like labor cost and inflation as factors attracting FDI. Tax policies including corporate and personal tax rates influence inward FDI. Other things being equal a country with lower tax rates should stand a greater chance of attracting FDI projects than a country with higher rates (Chopra, 2003). According to Neumayer and Indra (2005), availability of raw materials provides investors with an added advantage with regards to producing efficiently.

The location is an important determinant of FDI inflows in the Gulf region and provides stakeholders with opportunities for growth as long as the right procedures are followed in terms of boosting growth (Mina, 2007). Khachoo and Khan (2012) conducted a study to examine the determinants of FDI in 32 developing countries from 1982 to 2008 using an econometric model. Their empirical results showed that market size, total reserve, and infrastructure were positively related to FDI inflows.

The study made by Uwubanmwen and Ajao (2012) shows that trade openness, interest rate, government size, and GDP exerted a positive control on cross-border investments in Nigeria

© SGBED 2019

and a negative relationship was found between FDI and exchange rates.According to Milner (2013), the presence of a productive labor force is one of the determinants that influence the scope of FDI in a country. The study by Melo and Quinn (2015) indicates that corruption has a negative impact on attracting Foreign Direct Investment.

The following literature relates to the advantages of inflow of FDI. The main advantage of FDI is increased revenues that can be used for expanding growth opportunities in the investment destination. According to Almutawa *et al*., (2014), investments by foreigners refers to additional revenue that supports various economic projects of a country. According to Muysken and Samia (2006), unemployment rates are reduced as a result of capital injections and job opportunities from foreign-based companies. FDI also increases the competitive advantage of a country by developing financial and business hubs that boost economic growth. Mina (2007) points out that FDI promotes the economic growth of a nation by stimulating various sectors of the economy such as manufacturing and tourism. The study by Raphael *et al*., (2013) promotes the view that FDI increases investor confidence in a given economic bloc such as the Gulf by attracting new investment stakeholders in the long run.

In short, the trend in FDI flows differs by region and country. FDI has innumerable effects on the economy of host countries and most of the countries are trying their best to attract FDI by one way or the other, but the inflow of FDI continues to be uneven, with some countries getting the lion's share and others barely getting any.

Methodology

The main objective of this study is to find out the most attractive destination for FDI in the Middle East, and they are sustaining this position. The study also intends to highlight the major problems which foreign investors currently face in this destination, which must be addressed in order to make it a more FDI friendly. This study is solely based on secondary data collected from local, regional and international agencies like UAE Government, Central Bank of the UAE, World Economic Forum, International Monetary Fund, Transparency International, World Bank group, United Nations and various publications of the statistical departments, governments, and the press. The study covers a period of five years from 2012-2013 to 2016-2017. The collected data are tabulated and analyzed using appropriate analytical tools.

Analysis and Discussions

Determinants

The Global Competitiveness Report published by the World Economic Forum (WEF) assesses the competitiveness landscape of global economies, providing insight into the drivers of their productivity and prosperity. The Report series remains the most comprehensive assessment of national competitiveness worldwide.

© SGBED 2019

TABLE 1: THE 10 MOST COMPETITIVE MIDDLE EAST ECONOMIES DURING 2012-2013 TO 2016-2017

Country	Global Rank				
	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
UAE	24	19	12	17	16
Qatar	11	13	16	14	18
Saudi Arabia	18	20	24	25	29
Kuwait	37	36	40	34	38
Bahrain	35	43	44	39	48
Jordan	64	68	64	64	63
Oman	32	33	46	62	66
Morocco	70	77	72	72	70
Iran, Islamic Rep	66	82	83	74	76
Algeria	110	100	79	87	87
Number of Economies ranked	144	148	144	140	138

Source: The Global Competitiveness Reports 2012-2013 to 2016-2017

Table 1 given above provide the global competitiveness ranking for the top 10 countries in the Middle East during the period 2012-2013 to 2016-2017 based on parameters like intensity of local competition, extent of market dominance, effectiveness of anti-monopoly policy, effect of taxation on incentives to invest, total tax rate as percentage of profits, number of procedures to start a business, number of days to start a business, agricultural policy costs, prevalence of trade barriers, trade tariffs as percentage duty, prevalence of foreign ownership, business impact of rules on FDI, burden of customs procedures, imports as a percentage of GDP, degree of customer orientation and buyer sophistication

The Global Competitiveness Reports for the period 2012-2013 and 2013-2014 ranked Qatar as the most competitive nation in the Arab World. Whereas the Global Competitiveness Report 2014-2015 ranked the UAE as the most competitive nation in the Middle East and 12th globally, but during the year, 2015-2016, Qatar regained the top position among the Middle East nations and 14th rank globally. The UAE regained the top position in competitiveness in the Arab world moving up one position to 16th in the global competitiveness raking Report 2016-2017. This shows that these two nations are contesting in to be the most FDI-friendly nation in the Middle East. An analysis is made into various determinants of FDI beginning with market size.

Market Size, Growth and Efficiency

Market size, growth in market size and market efficiency are important determinants of FDI. The market size and the growth prospects of the market of the host country are important pull factors and are positively related to the level of FDI flows (Dunning, 1993 and Chandalert, 2000). A huge market size allows the attainment of economies of scale, and transaction costs are lower in countries with higher levels of economic development (Caves, 1971; Zhao and Zhu, 2000). The UAE is the second largest Arab economy and the 31st largest in the world. The population of the UAE is more than 9 million, the GDP is US$396.2 billion and GDP per capita income is US$ 43,875.93 according to the International Monetary Fund; World Economic Outlook Database

© SGBED 2019

(April, 2014). The market size can be measured by the growth of population of the country, but the UAE deserves a different treatment as it is one of the most favored tourist destinations in the Middle East and since it is a tax-free (or relatively low-tax, ie VAT at 5%, which gets refunded in the case of tourists) country tourist prefer to do a lot of shopping as the prices are relatively lower because of the tax advantage. Hence in this study the market size or the population is considered to include the citizens of the country, the residents, and tourists.

The UAE domestic market has grown over the years, considering the exponential growth in population. A larger population means a better domestic market that can consume goods and services provided by investors. The population of the UAE includes people from more than 200 countries, thus it a melting pot of different culture with diverse needs and preferences and thus has a much diversified consumer pattern. The UAE market has seen changes in terms of consumer patterns in which diversification has become commonplace. A diversified consumer economy is good for business and more so those with the intention of investing abroad. Provisions are being made by the government in terms of including regulations that govern activities in the domestic market to avoid problems that emerge between manufacturing companies and consumers.

Expanding the domestic market is a priority in relation to improving the investment climate in the UAE and has been reflected by investments in the financial and other emerging sectors. The transition from the primary sector of oil is a signal that changing the domestic market is in the pipeline and is aimed at improving the situation of investors. Engaging the domestic market has been done with the needs of both local and foreign investors in mind. The liberalization undertaken in the markets has been done in tandem with international market systems.

As part of expanding the domestic market, the UAE government has developed mechanisms of boosting tourism in the country for the purpose of earning more revenues. In the tourism sector, the UAE has continued to launch a wide range of tourism projects and entertainment destinations with some 20 million tourists visiting the seven emirates according to statistics issued by the local tourist authorities. The sector continues to consolidate the country's status as one of the world's most important travel destinations with the support of the transportation, aviation, marketing and exhibitions industries and bolstered by the UAE's strong international relations and many international friendships. Thus the initiatives of the government and other stakeholders in the UAE, have boosted the arrival of tourists and the performance of the tourism industry in the recent past and it is expected to grow at an exponential rate in the near future as UAE would be hosting the World Expo 2020. Dubai Expo 2020 expects to create 277,149 jobs between 2013 and 2021. 40% of the employment opportunities generated would be in the travel and tourism sector. Dubai Expo 2020 expects to attract more than 25 million visitors and also attract more job seekers into the country. Thus the growing population, of the residents and the tourists, brings plenty of opportunities for the investors both domestic and international. This definitely will attract more FDI. Table 2 gives the global ranking for goods market efficiency for the top 10 Middle East Economies during the period 2012-13 to 2016-17.

© SGBED 2019

TABLE 2: TOP 10 GOODS MARKET EFFICIENCY ECONOMIES IN THE MIDDLE EAST DURING 2012-2013 to 2016-2017

Economy	Global Rank				
	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
United Arab Emirates	5	4	3	3	3
Qatar	10	3	4	5	7
Bahrain	16	19	21	18	22
Saudi Arabia	14	27	35	29	41
Oman	25	18	28	52	51
Kuwait	90	90	106	98	85
Jordan	44	39	40	39	43
Morocco	69	69	58	64	64
Iran, Islamic Rep	98	110	120	109	111
Algeria	143	142	136	134	133

Source: The Global Competitiveness Reports 2012-2013 to 2016-2017

During the period of study, the UAE is in the top rank expect for 2013-2014 when Qatar was at the top of the table. But since then the UAE has come back and continues to retain the top rank among the Middle East economies and the third rank globally.

Infrastructure

Infrastructure is a major determinant of FDI. Excellent infrastructure plays a major role in the profitability of Multinational Corporations (MNCs), and thus, their decision about FDI location. Table 3 gives the global ranking for the top 10 countries with the best infrastructure in the Middle East during 2012-2013 to 2016-17 based on quality of roads, quality of railroad infrastructure, quality of port infrastructure, quality of air transport infrastructure, available airline seat for comfortable travel to different parts of the world, quality of electricity supply, mobile telephone subscriptions, fixed telephone lines, etc.

TABLE 3: INFRASTRUCTURE: TOP 10 MIDDLE EAST ECONOMIES DURING 2012-2013 TO 2016-2017

Economies	Global Rank				
	2012-13	2013-14	2014-15	2015-16	2016-17
UAE	8	5	3	4	4
Qatar	31	28	24	18	18
Bahrain	29	30	31	29	32
Saudi Arabia	26	31	30	30	31
Oman	33	32	33	36	38
Kuwait	52	53	61	54	52
Jordan	60	54	71	70	56
Morocco	61	57	55	55	58
Iran, Islamic Rep	69	65	69	63	59
Algeria	100	106	106	105	100

Source: The Global Competitiveness Reports 2012-2013 to 2016-2017

© SGBED 2019

The UAE tops the table during the period of study. The UAE has an excellent infrastructure and the Government is continuously investing in infrastructure projects so as to have the best infrastructure in the world. Currently, it is ranked the fourth best in the world and the only one from the Middle East to find a place in the top 10 countries.

Stable Currency

The flow of FDI is influenced by the volatility of the exchange rates. Currency depreciation may make a country's assets undervalued, thereby encouraging FDI but at the same time, a depreciating currency may also signal future depreciation of that currency to investors, thereby negatively influencing FDI. Investors prefer a stable and less volatile currency which ensures that their profitability is least affected by the vagaries of exchange rate fluctuations and they need not spend time and money in managing the forex risk.

The currency of the UAE is pegged to the US dollar. Hence the investors are assured an exchange rate of US$ = 3.67 UAE dirhams. This pegged exchange rate continues to act as an important attraction for inflow of FDI into this country. But this advantage is there for Bahrain, Oman, Qatar and Saudi Arabia as their currencies are also pegged to US dollar.

Openness of the Economy

The size, growth and other characteristics of the domestic market play an important role in attracting FDI. In an open economy, it is easier to import raw materials and capital goods which are necessary for domestic and foreign investment. Singh and Jun (1995) found that export, particularly manufacturing exports, are significant determinants of FDI flows. Thus friendly import-export policies significantly influence the flow of FDI.

The UAE is achieving growing global and regional influence by focusing on being an active part of the global community and working towards the transparent values that allow individuals the security of the rule of law.

According to the 2016 Index of Economic Freedom, published by the Wall Street Journal and the Heritage Foundation, the Middle East has become more economically free last year. This Index evaluates countries in four broad policy areas that affect economic freedom: rule of law; limited government; regulatory efficiency; and open markets. There are 10 specific categories: property rights, freedom from corruption, fiscal freedom, government spending, business freedom, labor freedom, monetary freedom, trade freedom, investment freedom, and financial freedom. Scores in these categories are averaged to create an overall score. Table 4 gives the ranking of the Middle East economies during 2016.

The index has categorized Bahrain, the United Arab Emirates, and Qatar as 'mostly free,' and Oman, Kuwait, and Saudi Arabia as 'moderately free' economies. The world average score is 60.7 and most of the countries in the Middle East are having scores above this, showing the transparent and favorable business climate and a high degree of political stability prevailing in these countries.

© SGBED 2019

TABLE 4: RANKING OF MIDDLE EAST ECONOMIES: INDEX OF ECONOMIC FREEDOM 2016

Economies	Global rank	Overall Score	Filtered ranking
Bahrain	18	74.3	1
United Arab Emirates	25	72.6	2
Qatar	34	70.7	3
Jordan	46	68.3	4
Oman	52	67.1	5
Kuwait	74	62.7	6
Saudi Arabia	78	62.1	7
Morocco	85	61.3	8
Algeria	154	50.1	9
Iran	171	43.5	10

Source: Index of Economic Freedom, 2016 by Wall Street Journal & Heritage Foundation

Political Risk

TNCs usually assess political risk before investing in a country. There are many forms of political risks, but the extreme form is the possibility that the host country will take over a subsidiary. However, this form of political risk is an extreme case and not very common in today's global world. The more common forms of political risk include the negative attitude of the host government to TNCs, blockage of fund transfer, currency inconvertibility, war, bureaucracy, and corruption.

Till date there had been no major political unrest in the country and one does not expect things to go wrong in the near future because of the strong political will and farsightedness of its rulers in formulating strategies for the growth of the country and prosperity of all citizens and residents. Political unrest springs up only when there is discontent among the citizens of the country and as far as UAE nationals are concerned most of them are content and happy with plenty of opportunities to fulfill their dreams provided they can put effort to convert their dreams into realities. Hence the international investors can be sure that they will get a warm welcome in the UAE, their funds will not be blocked, enjoy easy convertibility, least bureaucracy bottlenecks, and the lowest corruptions.

Corruption

Corruption distorts competition and investment and hinders free and fair trade. The study by Mauro (1995) found that corruption lowers investment and thereby economic growth. A study by Smarzynska and Wei (2001) revealed that foreign investor's choice of entry mode may be affected by the extent of corruption in a host country. Corruption makes dealing with government officials, for example, to obtain local licenses and permits, less transparent and costlier, particularly for foreign investors. In such situations, having a local partner lowers the transaction cost, such as the cost of securing local permits. At the same time sharing ownership may lead to technology leakage. Both costs of local permits and losses from technology leakage are positively related to the extent of corruption in a host country (Smarzynska and Wei, 2001).

© SGBED 2019

When corruption level is sufficiently high no investment will take place. The UAE is the least corrupt country in the Arab world and offers a business-friendly environment, with an effective and efficient public administration. The UAE Penal Code criminalizes active and passive bribery, embezzlement and abuse of functions. Anti-corruption and anti-fraud legislation is enforced, and practices of bribery and petty corruption are uncommon. Gifts and hospitality are regulated under the UAE's anti-corruption framework. Facilitation payments are treated as bribes and are thereby illegal (business-anti-corruption.com, 2018).

TABLE 5: CORRUPTION RANKING FOR THE MIDDLE EAST ECONOMIES, 2011 TO 2017

Country	2011	2012	2013	2014	2015	2016	2017*
United Arab Emirates	28	27	26	25	23	24	21
Qatar	22	27	28	26	22	31	29
Saudi Arabia	57	66	63	55	48	62	57
Jordan	56	58	66	55	45	57	59
Oman	50	61	61	64	60	64	68
Morocco	80	88	91	80	88	90	81
Kuwait	54	66	69	67	55	75	85
Bahrain	46	53	57	55	50	70	103
Algeria	112	105	94	100	88	108	112
Iran, Islamic Rep	120	133	144	136	130	131	130

Source: The Corruption Perceptions Index 2011 to 2017 by Transparency International
*2017 rank out of 180 countries

Transparency International (TI) publishes the Corruption Perceptions Index (CPI), annually ranking countries by their perceived levels of corruption, as determined by expert assessments and opinion surveys. The CPI generally defines corruption as "the misuse of public power for private benefit." Table 5 above, displays the ranks assigned to the Middle East countries during the last seven years. The ranking by the Corruption Perceptions Index reinforces that the UAE has the lowest level of corruption in the Middle East and is improving year by year in reducing corruption.

Productive and Diversified Labor Force

A vibrant labor force in the UAE has attracted foreign direct investments. The labor force in the UAE has been trained in terms of handling various skilled jobs that matter to international investors. When international investors look for an investment destination, considerations about the skilled nature of the labor force are a matter of priority that determines their scope of success in a country (Brakman and Harry, 2008). The UAE has made strides in terms of developing and attracting a labor force that can handle all forms of tasks and also align their knowledge with international trends. As a way of making changes in the productive labor force area, the government has been pushing for reforms in terms of training and vocational centers that provide support to those making transitions in the job market. 85% of the labor force in the country is made up of expatriates. The country had been bringing in all possible improvements in tandem with international best practices so as to provide the best work environment that attracts professionals from all walks of life, both skilled and unskilled workforces from all parts of the world. Of recent the labor laws have become more friendly and liberal and hope it will continue

© SGBED 2019

to become better in the future. Table 6 gives the global ranking for the top 10 Middle East economies with the best labor market efficiency during the period 2012-2013 to 2016-2017 based on cooperation in labor-employer relations, flexibility of wage determination, hiring and firing practices, redundancy costs, effect of taxation on incentives to work, pay and productivity, reliance on professional management, country capacity to retain talent, country capacity to attract talent and the ratio of women in labor force.

TABLE 6: LABOR MARKET EFFICIENT MIDDLE EAST ECONOMIES DURING 2012-2013 TO 2016-2017

Economies	Global rank				
	2012-13	2013-14	2014-15	2015-16	2016-17
United Arab Emirates	7	9	8	11	11
Qatar	14	6	10	14	17
Bahrain	21	19	26	24	35
Saudi Arabia	59	70	64	60	65
Oman	36	28	48	89	82
Kuwait	98	105	116	117	115
Jordan	101	101	94	93	87
Morocco	122	122	111	123	124
Iran, Islamic Rep	141	145	142	138	134
Algeria	144	147	139	135	132

Source: The Global Competitiveness Reports 2012-2013 to 2016-2017

The UAE ranks the top among the Middle East economies on the basis of labor market efficiency and globally it is the eleventh best. An efficient labor market, easy availability of skilled labor, the ready availability of training facility and capacity to attract and retain right talent from other parts of the globe are important factors that attract international investors to the UAE.

Availability / Easiness to Import of Raw Materials

Availability of raw materials means that international investors can do business in the country without having concerns for the supply of production materials. The government of the UAE has been on record in terms of making subsidies with regards to raw material acquisition by foreign investors (Sader, 2000). Resource mobility has been emphasized by the UAE government in terms of availing resources with the objective of providing leverage to investors coming into the country. The Government of the country has been giving special attention to ensure the availability of raw materials in the country knowing that this will boost the economy in the long run.

Geographical Location /Global Connectivity

Location advantage is another factor that determines the accessibility by manufacturers and provides them with cost benefits as compared to regions where there is no location advantage for raw materials. The geocentric locational advantage of the UAE provides investors with opportunities to maximize production and trade efficiencies through the application of cost reduction methods. Over two-third of the world's population lives within eight hours flight from UAE and one-third lives within four hours.

© SGBED 2019

Technological Readiness and Innovation

Technology is an important consideration made by foreign investors because it determines the scope of operational efficiency.

TABLE 7: TECHNOLOGICALLY READY ECONOMIES: GLOBAL RANKING DURING 2012-13 TO 2016-17

Economies	Global Rank				
	2012-13	2013-14	2014-15	2015-16	2016-17
UAE	32	28	24	30	18
Qatar	27	31	31	31	33
Bahrain	39	32	34	34	37
Saudi Arabia	35	41	45	42	41
Kuwait	74	69	74	56	60
Oman	54	56	57	62	57
Jordan	69	70	73	76	75
Morocco	75	80	78	78	81
Iran, Islamic Rep	111	116	107	99	97
Algeria	133	136	129	126	108

Source: Global Competitiveness Reports 2012-2013 to 2016-2017

From an investment perspective, the lack of efficient technology systems implies that operations would be slow and costly, and, thus, there will be a need for choosing destinations with a higher level of technology. Partnerships and investment conferences conducted by the UAE government to market the country have shown time and again that technology is prevalent in the country and that foreign investors should not be worried about technological readiness and efficiency issues. Such a message shows the dedication of the country in terms of boosting direct investments (Moran *et al*., 2005). Table 7 gives the ranking for the top 10 technological readiness countries in the Middle East during the period 2012-2013 to 2016-17 based on availability of latest technologies, firm-level technology absorption, FDI and technology transfer, individuals using the internet, fixed broadband internet subscriptions, international internet bandwidth and mobile broadband subscriptions

UAE is the best in the Middle East as far as technological readiness is concerned. Now let us look into how the country facilitates and promotes innovations. Since its inception in 1971, the United Arab Emirates has constantly been distinguished as an icon for innovation and creativity, enhancing its social and economic status and transforming into a primary destination for talents and businesses in record time. Believing that innovation is the future of human investment, HH Sheikh Mohammed Bin Rashid Al Maktoum launched the National Innovation Strategy in August 2014, by saying: "The UAE is already the most innovative Arab nation. Our target is to be among the most innovative nations in the world. The competitiveness race demands a constant flow of new ideas, as well as innovative leadership using different methods and tools to direct the change," which was later followed by proclaiming 2015 to be the Year of Innovation in the UAE by the President HH Shaikh Khalifa Bin Zayed Al Nahyan (Holzer, 2016). According to the World Economic Forum, the UAE's global competitiveness ranking has improved drastically in the last 5 years on the back of an innovation-led business environment,

© SGBED 2019

with marked advancements in the quality of scientific research, university-industry collaboration, and availability of scientific and engineering staff.

Developed Financial Market

TABLE 8: FINANCIALLY DEVELOPED MARKETS: GLOBAL RANKING DURING 2012-13 TO 2016-17

Economies	Global Rank				
	2012-13	2013-14	2014-15	2015-16	2016-17
Qatar	14	13	13	13	21
UAE	25	24	17	20	28
Bahrain	18	25	31	33	43
Saudi Arabia	22	27	30	41	47
Oman	26	21	28	45	55
Kuwait	76	70	77	73	65
Jordan	65	79	66	71	68
Morocco	63	69	69	70	83
Iran, Islamic Rep	123	130	128	134	131
Algeria	142	143	137	135	132

Source: Global Competitiveness Reports 2012-2013 to 2016-2017

Table 8 gives the global ranking for the top 10 countries with well-developed financial markets in the Middle East during the period 2012-2013 to 2016-17 based on the availability of financial services, affordability of financial services, financing through local equity market, ease of access to loans, venture capital availability, soundness of banks, regulation of securities exchanges and legal rights.

During the period of study, it is observed that Qatar has a best financially developed markets in the Middle East. Whereas it is seen that the global ranking of the UAE market is declining for the last two years, even though it is the second best in the Middle East. But, the government is encouraging consolidations in this sector in order to boost up efficiency and competitiveness.

Low Tax Rates & Clarity of Taxation Policies

Income Tax

UAE is a tax-free nation: the individual incomes are not taxed. This attracts plenty of high income earning professionals and skilled workers to the country. This also reduces the cost of running a business in the UAE because at the time of salary negotiations the prospective employee looks at the after-tax annual pay-package offered. The country proposes to continue this status with the intent to attract highly talented and skilled workforce needed for the domestic and MNCs operating in the country.

Corporate Tax

The corporate tax charged by the country is zero or relatively very low. No corporate taxes for local companies. The international banks operating in the country are charged 20% and those firms operating in the oil and gas sector are charged 55% corporate tax. These corporate tax rates had been consistent from 2006 to 2018, the rationale of this policy is to ensure that the cost of doing business is fair and justified in relation to revenues earned by foreign companies.

© SGBED 2019

Availability of Land and Buildings at Subsidized Rates

The cost of buildings and land is another factor that domestic companies and multinational corporations take into consideration before making investment decisions. Companies would prefer an investment destination that is less costly and does not take up much expenditure (Razin *et al*., 2007). As a factor of production, the land is crucial in terms of boosting investments made in a country and this applies to the UAE also. The provision of land and building discount is an approach used by the UAE government for attracting new investors into the country, given that offering discounts would reduce the cost of doing business in the country. The discount offered varies from case to case and emirate to emirate.

Ease of Doing Business

The World Bank Group's Doing Business report tracks the regulatory and bureaucratic systems of nations by conducting detailed annual surveys with the goal to provide an objective basis for understanding and improving the regulatory environment for business around the world. Doing Business report captures several important dimensions of the regulatory environment as it applies to local firms. It provides quantitative indicators on regulation for starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency. These reports provide data on the ease of doing business, rank each location, and recommend reforms to improve performance in each of the indicator areas

Doing Business Report 2018 ranks economies based on their ease of doing business, from 1–190. A high ease of doing business ranking means the regulatory environment is more conducive to the starting and operation of a local firm. The rankings for all economies are benchmarked to June 2017. Table 9 gives the ranking for the top 10 Middle East Economies

TABLE 9: EASE OF DOING BUSINESS - TOP 10 ECONOMIES IN THE MIDDLE EAST IN 2018

Economy	Ease of Doing Business Global Rank*	Filtered Rank
United Arab Emirates	21	1
Bahrain	66	2
Morocco	69	3
Oman	71	4
Qatar	83	5
Saudi Arabia	92	6
Kuwait	96	7
Jordan	103	8
Iran, Islamic Rep.	124	9
Algeria	166	10

Source: Doing Business Report 2018, World Bank Group

*2018 rank out of 190 economies

The UAE's focused vision, supporting strategies and continuous efforts have culminated in its ranking first among the Middle East countries and 21st globally among 190 countries in terms of ease of doing business. It is observed that the pace of business reform has accelerated considerably in the past year, despite conflict and turmoil in the Mena region.

© SGBED 2019

Conclusion

Over the years, the UAE has emerged as the most attractive hub for businessmen from all corners of the world and a magnet for foreign investment. With its high-quality investment climate and diverse and enormous investment opportunities, the UAE sustains its status as the most attractive FDI destination in the Middle East.

Various global business indexes and global ranking agencies have recognized the advantages offered by the UAE and has duly ranked the UAE as the most attractive FDI destination in the Middle East. The parameters making the UAE the most attractive destination in the Middle East are growing market, an expanding infrastructure, an extremely safe environment with low political risk, negligible bribery and corruption, high productive and diversified labor force, competitive labor cost, well-developed financial market, technological readiness and innovation, friendly import-export policies, no restrictions on profit transfer or repatriation of capital, no income taxes, no or very low corporate taxes, low import duties, availability of the best possible choices of accommodation, air travel connectivity provided by the world's best local airlines like Emirates and Etihad and by the world's most reliable low cost airlines like Air Arabia and Fly Dubai, the potential to host any global spectacular events and a currency, the Dirham, that is stable, secure and pegged to the US dollar. These factors, combined with a strategic geographic location and the ambitious leadership that leads the country with proper vision and long terms strategic plans, not only makes the UAE the most attractive destination for Foreign Direct Investment, but also helps it to sustain the status.

In addition, the hosting of the World Expo 2020 will also give the country greater respect as more people will visit it and realize how it is a key nexus of commerce, investment, and tourism. The ongoing projects and developments in preparation for this mega event are quite tremendous; at this rate of progress by 2020, UAE will either be the most vibrant and progressive country in the world or very close to it.

References

Almutawa, Ahmed M, and A F. M. Maniruzzaman. (2014). The UAE's Pilgrimage to International Arbitration Stardom: A Critical Appraisal of Dubai as a Centre of Dispute Resolution Aspiring to Be a Middle East Business Hub. *Journal of World Investment and Trade*, 15: 193-244.

Banga R. (2003). Impact of government policies and investment agreements on FDI inflows to developing countries, working paper No. 116. *Indian Council for Research on International Economic Relations,* New Delhi, pp 1–47

Basu, P., C. Chakraborty, and D. Reagle. (2003). Liberalization, FDI, and Growth in Developing Countries: A Panel Cointegration Approach. *Economic Inquiry*, Vol.41(3), pp.510-516.

Blaine, Harrison G. (2008). Foreign Direct Investment. *Nova Science Publishers*, New York.

Brakman, Steven, and Harry Garretsen. (2008). Foreign Direct Investment and the Multinational Enterprise. *Cambridge*, MA: MIT Press.

Campa, J.M., (1993). Entry by Foreign Firms in the U.S. Under Exchange Rate Uncertainty, *Review of Economics and Statistics*, 75(4), pp: 614-22.

Caves, Richard. E. (1971). International Corporations: The Industrial Economics of Foreign Investment. *Economica*, 35(141), 1-27.

Chandalert, A. (2000). The Determinants of U.S. Direct Investment in Thailand: A Survey on Managerial Perspectives. *Multinational Business Review*, 8(2), 82-88.

Cho JW. (2003). Foreign direct investment: determinants, trends in flows and promotion policies. *Investment promotion and enterprise development bulletin for Asia and Pacific*, Economic and Social Commission for Asia and Pacific, Thailand, pp 99–102

Chopra C. (2003). Foreign investment in India. 1st edn. Deep and Deep Publication, New Delhi, pp 34–45

© SGBED 2019

Corruption. available at: https://www.business-anti-corruption.com/country-profiles/united-arab-emirates/ (accessed Oct. 18, 2018)

Doing Business Global Ranking (2018). World Bank Group, available at: http://www.doingbusiness.org/content/dam/doingBusiness/media/Annual-Reports/English/DB2018-Full-Report.pdf (accessed Oct. 15, 2018).

Dunning, J. H. (1973). The determinants of international production. Oxford Economic Papers, 289-336.

Global Innovation Index (2017). co-published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO, an agency of the United Nations), available at: https://www.globalinnovationindex.org/userfiles/file/reportpdf/gii-full-report-2017.pdf (accessed Oct.14, 2017)

Holzer, Jaroslav Patrick. (2016). Reflections on the UAE's year of innovation – 2015. available at: http://www.shiftinpartners.com/reflections-on-the-uaes-year-of-innovation-2015/ (accessed July 14, 2016)

Khachoo, A. Q., & Khan, M. I. (2012). Determinants of FDI inflows to developing countries: a panel data analysis.

Kravis, I. & Lipesey, R. (1982). The location of overseas production and production for export by US Multinational firms", *Journal of International Economics*, 12(3), pp: 201-23.

Mauro, Paolo. (1995). Corruption and Growth," *Quarterly Journal of Economics*, 110: 681-712.

Melo, L., & Quinn, M. A. (2015). Oil, Foreign Direct Investment and Corruption. *The International Journal of Business and Finance Research*, 9(1), 33.

Milner, Helen V. (2013). The Regime for International Investment: Foreign Direct Investment, Bilateral Investment Treaties, and Trade Agreements".

Mina, W. (2007). The Location Determinants of FDI in the GCC Countries." *Journal of Multinational Financial Management*, 17.4: 336-348.

Moran, Theodore H., Edward M. Graham, and Magnus Blomström. (2005). Does Foreign Direct Investment Promote Development?" Washington, DC: Institute for International Economics.

Muysken, Joan, and Samia Nour. (2006). Deficiencies in Education and Poor Prospects for Economic Growth in the Gulf Countries: the Case of the UAE. *The Journal of Development Studies*, 42.6 (2006): 957-980.

Na, L., Lightfoot, W. S. (2006). Determinants of foreign direct investment at the regional level in China. *Journal of Technology Management in China*, 1(3), pp: 262-78.

Neumayer, Eric, and Indra, Soysa. (2005). Trade Openness, Foreign Direct Investment and Child Labor. *World Development*, 33.1: 43-63.

OECD. (2000). Main determinants of FDI and its impact of foreign direct investment on China's economy", working papers on international investment no. 4, prepared for OECD cooperation programme.

Raphael, Espinoza, Fayad Ghada, and Prasad Ananthakrishnan. (2013). The Importance of the GCC for the Wider Region.

Razin, Assaf, and Efraim Sadka. (2007). Foreign Direct Investment: Analysis of Aggregate Flows. Princeton, N.J: Princeton University Press.

Resmini, L. (2000). The Determinants of Foreign Direct Investment in the CEECs. *Economics of Transition*, vol. 8 (3), pp. 665–89.

Root, Franklin and Ahmed. (1979). Empirical Determinants of Manufacturing Direct Foreign Investment in Developing Countries. *Economic Development and Cultural Change*, vol. 27, No. 4, pp. 751–767.

Sader, Frank. (2000). Attracting Foreign Direct Investment into Infrastructure: Why is it so Difficult?. Washington, DC: World Bank.

Schneider, Friedrich and Bruno S. Frey. (1985). Economic and Political Determinants of Foreign Direct Investment. World Development, vol. 13, No. 2, pp. 161–175.

Singh, H. & Jun, K. W. (1995). Some new evidence on determinants of foreign direct investment in developing countries. Policy research working paper no. 1531 - in ODI

Smarzynska, B. K., and Wei, S. J. (2001). Corruption and composition of foreign direct investment: firm-level evidence. World Bank Working Paper.

Transparency International, the Corruption Perceptions Index (CPI), available at: http://www.transparency.org/cpi2017 (accessed Oct. 7, 2018).

Uwubanmwen, A. E. & Ajao, M. G. (2012). The Determinants of foreign direct investment in Nigeria. *International Journal of Business and Management*, 7(24), 67-77.

Zhao, H. and Zhu, G. (2000). Location factors and country-of-origin differences: An empirical analysis of FDI in China. *Multinational Business Review***,** 8(1), 60-73.

© SGBED 2019

DXB023

ENTREPRENEURIAL PERSONALITY

Tiina Brandt, Tiina.Brandt@tamk.fi
Tampere University of Applied Sciences,
Y-Kampus, Tampere, Finland

ABSTRACT

This study focuses on entrepreneurial aspects of different personality types in order to create the model of entrepreneurial mindset in Finland. Additionally, purpose of this study was to identify the entrepreneurial personalities in Finland, because there is high need to foster entrepreneurship. Data was gathered of 1 132 people, and the type information from 463 people. The personality was measured with Myers-Briggs Type Indicator (MBTI). MBTI includes eight different preferences, which describe a person's orientation of energy (extraversion, E and introversion, I), the way of gathering information (sensing, S and intuition, N), the way of making decisions (thinking, T and feeling, F) and the lifestyle (judging J and perceiving, P). Altogether there are sixteen possible personality types (e.g. ISTP, ESTJ). Results indicated that, entrepreneurial tendencies were mostly having the personality preferences extraversion and intuition when compared their counterparts introversion and sensing and at personality type level ENTP, ENFP, ENTJ, INFJ.

Keywords: entrepreneurship, personality, entrepreneurial tendencies

Introduction

Entrepreneurial mindset orients individuals' behavior towards entrepreneurial activities and outcomes (Lynch et al., 2017). However, despite the plenty of studies done, the concepts lacks of empirical support due to methodological difficulties in discovering how entrepreneurs think. Plenty of studies have focused on entrepreneurial intentions and entrepreneurial identity in order to foster entrepreneurship (e.g. Pfeifer, Šarlija, & Sušac, 2016). Fostering entrepreneurship is at Finland very important, because the need of new working places and tax incomes are growing. Thus, the purpose of this study is to identify the entrepreneurial mindset in Finland, so that recognizing those students the universities could offer right kind of education to every student.

A high-level definition of entrepreneurial mindset is: "an entrepreneurial mindset as a growth-oriented perspective through which individuals promote flexibility, creativity, continuous innovation, and renewal" (Ireland et al., 2003). In other words, even under the cloak of uncertainty, the entrepreneurially minded can identify and exploit new opportunities because they have cognitive abilities that allow them to impart meaning to ambiguous and fragmented situations (Alvarez and Barney, 2002).

One recurring insight is that the successful entrepreneurs can be characterized by an expert mindset (Krueger, 2007), yet there is no clear understanding what that mindset is (Baron and Henry, 2010). There has been a growing popularity of the term entrepreneurial mindset as a cover-all term for entrepreneurial cognition (Baron, 1998), metacognition (Haynie et al., 2010) and character adaptions (Obschonka et al., 2011).

© SGBED 2019

Previous studies indicate that the main predictors of the entrepreneurial intentions in Croatian business students are strength of entrepreneurial identity, aspiration and entrepreneurial self-efficacy (Pfeifer, Šarlija, & Sušac, 2016). Entrepreneurs are generally considered to be "do-ers", people who get on and take action towards their goals instead of those who might be orientated towards detailed planning and collecting more information before acting (Fisher, 2012). Study of Lynch et al. (2017) studied linguistic content of interviews of 51 successful high-tech entrepreneurs from Silicon Valley and compared those to a control group of spoken text from average entrepreneurs. Results indicated five themes that come up more often with successful entrepreneurs than non-successful entrepreneurs. The first major theme which seemed apparent to us was the concept of ***taking actions*** or steps towards achieving desired outcomes. Secondly, they seemed to be more concerned with the ***future*** than they were with the past when compared to the control group. They had less focus on themselves, and are more likely to use words demonstrating a ***collective perspective***. The entrepreneurs seemed to have a very clear focus on their customers and understanding their ***customers' needs and requirements***. Entrepreneurs were concerned with their customers' success, not just their own personal success. This might be described as a win-win type mentality. Lastly, study indicated that entrepreneurs are ***lifelong learners***, who are curious and who see experiences as an opportunity to learn and improve themselves. The control group was twice as likely to label an experience as failure as the successful entrepreneurs.

Myers-Briggs Type Indicator

The Myers-Briggs Type Indicator (MBTI) has been long time commonly used tool in research on leadership, organisational behavior, teams, human resources (see e.g. Berr, Church & Waclawski, 2000; Furnham & Crump, 2015; Krumwiede, Sheu & Lavelle, 1998; Lindon 1995; McCarthy & Garavan, 1999; Nordvik & Brovold, 1998; Sundström & Busby, 1997; Van Eron & Burke, 1992) and entrepreneurship.

Jung's (1921) work on psychological types was a base on which the Myers-Briggs theory was built. MBTI includes eight different preferences, which describe a person's orientation of energy (extraversion, E and introversion, I), the way of gathering information (sensing, S and intuition, N), the way of making decisions (thinking, T and feeling, F) and the lifestyle (judging J and perceiving, P). In every dimension a person has one preference stronger than another and from these stronger preferences emerges a person's personality type. Altogether there are sixteen possible personality types (e.g. ISTP, ESTJ, ENFP). The personality types are more than simply just the combination of preferences, even if the research concentrates mostly on these preferences. The dominance order of personality types further deepens the meaning of the type theory, and this explains the wide possibilities of MBTI in the research and use of consultation as well (Myers & Myers, 1990; Myers, McCaulley, Quenk & Hammer, 1998).

In this study, the focus is on the eight preferences (see Table 1) and their relation to the appraisals of transformational behaviour. **Extraverted (E)** people derive energy from the world around them, and they feel a loss of energy (depression, anxiety) when it is necessary to be alone for a long period of time. Introverted (I) persons lose energy when they spend long periods of time with other people, whereas they get new energy when they are able to be alone enough. **Sensing (S)** types live in the here and now and they gather information via their five senses. That is why they are good at remembering and recognizing different tastes, outlooks and sounds. They approach work step-by-step and focus on the small things more than intuitive people. **Intuitive**

© SGBED 2019

people (N) are good at using their imagination, and they are more able to see the big picture. Their approach to work thus takes account of the whole picture at the expense of smaller details. **Thinking (T)** people are logical and direct. They make decisions using impersonal points of logic. **Feeling (F)** persons use logically their personal values when deciding. They are usually better at taking other persons' feelings into account as thinking types and that is why they are not so direct in their communication than thinking types. **Judging (J)** types like order and closure. Their lifestyle is decisive and they want to control their own life and schedule upcoming events. **Perceiving (P)** types are flexible and their life style reflects a tendency to go with the flow. They are not very decisive which explains why they tend to be very flexible. (Myers & Myers, 1990; Myers et al., 1998)

TABLE 1. MBTI PREFERENCES

Orientation of energy	
Extraversion (E)	Introversion (I)
Gets energy from outer world	Energized by time alone, reflection
Gathering information	
Sensing (S)	Intuition (N)
With senses from concrete world	Getting ideas and new thoughts from own mind
Decision making	
Thinking (T)	Feeling (F)
Focus on things	Focus on people
Lifestyle	
Judging (J)	Perceiving (P)
Lives orderly	Lives in spontaneous way

Earlier studies

There are plenty of studies of MBTI-profiles of entrepreneurs (e.g. Ginn & Sexton, 1988; Routamaa & Miettinen 2007; Barbato & Durlabhji, 1989; Carland, 1982; Carland & Carland, 1992) but those studies have not combine the entrepreneurial attitude, they have been mostly focused on personality and entrepreneurship as an occupation. Additionally, this data is biggest gathered from the Finland.

Those studies indicate that **entrepreneurs tend to be** more often **NTs,** whereas typical owner managers or managers are SJs (Barbato & Durlabhji, 1989; Carland, 1982; Carland & Carland, 1992). According to Ginn and Sexton (1988), **fast-growth entrepreneurs** tended to have significantly higher N, P, and NP orientations than managers. These results were in line with Routamaa et al. (1996), who found more Es, Ns, ENs, NTs but also NJs than ISs (and IJs) among **internationally oriented entrepreneurs.** Carland, Carland & Higgs (1993) found NTs (intuitive thinking) displaying the highest **entrepreneurship tendency**, i.e. NTs, as distinguished from the other temperaments, fit the traditional view of entrepreneurship in that the NT preference was highly correlated with innovation (cf. also Keirsey & Bates, 1984). Järlström (2000) found that **Ns and Ps chose relatively more often creativity** (entrepreneurial) and autonomous career anchors than Ss and Js. Järlström (2002) found later also that the J-P dichotomy of the MBTI played the most important role separating entrepreneurial aspirations from organizational employment aspirations. **Intuitive and perceiving preferences** were more

© SGBED 2019

associated with entrepreneurial aspirations, whereas sensing and judging were more associated with organizational employment aspirations.

It could also be concluded that SPs and IPs are more **locally oriented** entrepreneurs, and also SJs seem to prefer traditional, local fields of low risks, that is, NPs as entrepreneurs may be more suitable in global and new business areas with high risk. Reynierse (1997) found that entrepreneurs had significantly higher Ps and lower Js. Further, entrepreneurs were more EPs, NPs, and TPs than IJs, SJs, and FJs.

At type level the ESFP, ESTP, INTP, ISTP, ENTP and ENFP are the six most entrepreneurial types based on the occupation statistics of the sample (Routamaa & Miettinen, 2007). The common preference is perceiving (P), that is, they all are spontaneous, interested in acting by watching, trying out, adapting. The typical managerial types, ISTJ, ESTJ, and ENTJ (see Routamaa & Ponto 1994; Routamaa, Honkonen, Asikainen & Pollari 1997) are not among the top six entrepreneurial types.

Sample and method

The analysis were made with t-test of the items that were measuring entrepreneurial attitude in case of taking risks and growth-orientation. Sample consisted the data from various fields, which were collected during the years 2015-2018 in different purposes. The items were built either – or. Altogether 529 people were included whose MBTI-personality types were measured.

Results

Risk-taking

Risk-taking was measured with two items. When looking the risk-taking attitude ("If you want to be better than your competitors, you must have courage to take risks") there were more Extraverts and Intuitives (see Table 2). The mean of all respondents, whole sample (n=1325) was 1,85. At personality type level the Anova indicate statistical significance 0,058 and the most risk-taking types were ENTPs, INFJs and ENTJs. And least risk-taking preferences ("It would be better to avoid solutions which demand risk-taking as much as possible") were Introverts and Sensing and at type-level ISFJs, ISTPs and ISFPs.

At Table 3 the risk-taking was measured with other item ("You cannot be sure about success, but you could still start") and mean here with whole sample was 1,47. Similarly Extraverts and Intuitives had higher scores than Introverts and Sensing types. At type level most risk taking types were ENFP, ENTJ and ENTJ and least INFP, ISFP and ESTP.

TABLE 2. RISK-TAKING ("You must have courage to take risks")

Preference	**Mean**	**Preference**	**Mean**	**Preference**	**Mean**	**Preference**	**Mean**
Extravert (E)	**1,90**	Sensing (S)	1,83	Thinking (T)	1,87	Judging (J)	1,85
Introvert (I)	1,79	Intuition (N)	**1,91**	Feeling (F)	1,84	Perceiving (P)	1,88
Significance	sig.0,003 **	Significance	sig.0,013**	Significance	sig. 0,386	Significance	0,348
Most risk-taking types ("If you want to be better than your competitors, you must have courage to take risks"), rated at 2							
1.ENTP	2.INFJ	3.ENTJ	4.ESFP	5.ENFP	6.ESTJ	7.INTJ	8. INTP
Least risk-taking types ("Would it be better to avoid solutions which demand risk-taking as much as possible"), rated at 1							
1.ISFJ	2.ISTP	3.ISFP	4.INFP	5.ISTJ	6. ESTP	7. ESFJ	8. ENFJ

© SGBED 2019

TABLE 3. RISK-TAKING ("You cannot be sure about success, but you could still start")

Preference	Mean	Preference	Mean	Preference	Mean	Preference	Mean
Extravert (E)	**1,55**	Sensing (S)	1,45	Thinking (T)	1,49	Judging (J)	1,50
Introvert (I)	1,43	Intuition (N)	**1,61**	Feeling (F)	1,54	Perceiving (P)	1,54
Significance	sig. *	Significance	sig.***	Significance	-	Significance	-
Most risk-taking types ("You can never be sure about your firm's success, but you could still try"), rated as 2							
1.ENFP	2.ENTJ	3.ENFJ	4.INFJ	5.ENTP	6. INTJ	7. ESFP	8. INTP
Least risk-taking types ("You would never start a business, unless you would be sure of its success"), rated as 1							
1.INFP	2.ISFJ	3.ESTP	4.ISTP	5.ISTJ	5. ISFP	6. ESTJ	6. ESFJ

Growth-orientation

When asking the growth-orientation ("try to do it as the best in the field") the mean of the whole sample was 1,57. Extraverts and Intuitives were more growth-orientated than Introverts and Sensing and most growth-oriented types ENTPs, ENTJs and ENFPs (see Table 4). Least growth-orientation ("keep the business going for the gaining living for you") as preference level had Introverts and Sensing and at type level INFJ, ISFP and ISTJ. At type level Anova post-hoc test (Tukey B) indicated statistical significance between the types. Group one was ENTPs who were the most growth-oriented and at least growth-oriented were INFJs, rest of the types belonged in the other group. Interestingly, here there was clear distinction between extraverted type belonging to growth orientation and introverts as not towards the growth.

At the Table 5 can be seen the results when comparing the groups of trying to do an enterprise significant or just having living for own family. Here the mean of the whole sample was 1,43. Here the competition was not so much emphasized as in the previous question. Similarly Extraverts and Intuitives were having more growth-orientation, but here the type level did not indicate the statistical differences. Still the strongest types towards growth are ENTP, ENTJ and ENFP. Some changes at type level were, that INTJ and INFP were now more growth oriented than in previous items and ESFP and ESTP felt themselves less growth-oriented that competition-oriented.

TABLE 4. GROWTH-ORIENTATION ("Try to do firm as the best in the field")

Preference	Mean	Preference	Mean	Preference	Mean	Preference	Mean
Extravert (E)	**1,66**	Sensing (S)	1,54	Thinking (T)	1,37	Judging (J)	1,50
Introvert (I)	1,46	Intuition (N)	**1,66**	Feeling (F)	1,38	Perceiving (P)	1,54
Significance	0,000 ***	Significance	0,005**	Significance	0,269	Significance	0,149
Most growth-orientation types ("You would try to do firm as the best in the field"), rated as 2							
1.ENTP	2.ENTJ	3.ENFP	4.ESTP	5.INTP	6. ESTJ	7. ESFP	8. ENFJ
Least growth-orientation types ("You would try to keep it as a living"), rated as 1							
1.INFJ	2.ISFP	3.ISTJ	4.INFP	5.INTJ	6. ISTP	7. ESFJ	8. ISFJ

TABLE 5. GROWTH-ORIENTATION ("Try to do firm as the significant in the field")

Preference	Mean	Preference	Mean	Preference	Mean	Preference	Mean
Extravert (E)	**1,32**	Sensing (S)	1,43	Thinking (T)	1,37	Judging (J)	1,38
Introvert (I)	1,48	Intuition (N)	**1,28**	Feeling (F)	1,38	Perceiving (P)	1,36
Significance	0,001**	Significance	0,000***	Significance	0,046	Significance	0,778
Most growth-orientation types ("You would like to get it grow and gain significant position in the field"), rated as 1							
1.ENTP	2.ENTJ	3.ENFP	4.ESFJ	5.ENFJ	6. INTJ	7. INFP	8. ESTJ
Least growth-orientation types: ("Your firm's real purpose would be of gaining living for you and your family"), rated as 2							
1.ISFP	2.INFJ	3.ISFJ	4.ISTP	5.ISTJ	6. ESFP	7. ESTP	8. INTP

© SGBED 2019

Conclusion

According to the results people with Introverted (I) and Sensing (S) personalities are not inclined towards entrepreneurship. However, in many fields which are focusing on the arts and crafts there are plenty of entrepreneurs of this personalities. Many educators in these fields say that great amount of their students will became entrepreneurs, even they do not have any motivation towards that. Finnish entrepreneurial education should find motivating ways to those people who are not tempted to be entrepreneurs, but their choice of education and interest area will not give them other choices. Focusing on the other areas than risk-taking and competition could be more tempting to those people, for example focusing on freedom to design own schedules, and doing the things that are in their main interest.

Most entrepreneurial preferences were Extraverted (E) and Intuitives (N). Results of Routamaa et al.'s stydy (1996) were especially in line with these results. Other studies have indicated Perceiving (P) preferences also towards entrepreneurship (Ginn & Sexton, 1988; Järlström, 2002), when in this study there was no differences between Judging and Perceiving preferences. When looking the means, the Intuitive (N) preference had the highest tendencies towards entrepreneurship when compared to other personality preferences. Earlier studies confirm that Intuitives (N) are strongly connected to entrepreneurship, but still the result was surprisingly strong here. Intuitives tend to focus on future possibilities (Myers & Myers, 1990), and maybe that is why entrepreneurship is so tempting to them, because it may give them more freedom to brainstorm freely. Sensing preferences are more practical and thus they see more easily the restrictions of the ideas and thus probably the risks also (Myers & Myers, 1990). At type level, the most entrepreneurial personality types were ENTJ, ENTP, ENFP. Those three personality types are described at Table 6. Common to them are usually high energy, having lot of ideas, communication skills and high self-esteem.

TABLE 6. MOST ENTREPRENEURIAL TYPES

ENTJ	ENTP	ENFP
ENTJs are strategic leaders, motivated to organize change, and they usually want to take charge. They excel at logical reasoning and are usually articulate, quick, energetic and logical.	ENTPs are inspired innovators, and eager to find new solutions to challenging problems. They are curious, open-minded and unconventional.	ENFPs are people-centered creators with a focus on possibilities. They are motivated of new ideas, people and activities. Usually warm and expressive with communication.

As limitations there are some points. The questionnaire of entrepreneurship orientation measured mostly risk-taking and competitiveness, and even there are important aspects of entrepreneurship, there are still some others that should be connected to entrepreneurship. Also there should be more items when measuring entrepreneurial tendencies. However, when being an entrepreneur at Finland, the high uncertainty avoidance and risk-taking is needed. Despite of these limitations the results gave strong indicators that some personalities are by naturally more inclined to entrepreneurship than others. Results also supported earlier studies. More studies of Myer-Briggs Type Indicator and entrepreneurial tendencies as well as more focused entrepreneurial educating systems should be needed.

© SGBED 2019

References

Alvarez, S.A. & Barney, J.B. (2002) Resource-Based theory and the entrepreneurial firm. *Strategic Entrepreneurship: Creating A New Mindset*, 89, 105.

Barbato, R.J. & Durlabhji, S. (1989). Budding entrepreneurs: Business students and dislocated workers. *Journal of Business and Entrepreneurship*, 1: 1, 49-57.

Baron, R.A. 1998. Cognitive mechanisms in entrepreneurship: why and when entrepreneurs think differently than other people. *Journal of Business Venturing*, 13, 275-294.

Baron, R.A & Henry, R.A. (2010). How entrepreneurs acquire the capacity to excel: Insights from research on expert performance. *Strategic Entrepreneurship Journal*, 4 (1), 49-65.

Berr, S.A., A.H. Church & J. Waclawski (2000); The right relationship is everything: Linking personality preferences to managerial behaviors, *Human Resource Development Quarterly*, 11 (2), 133-157.

Carland, J. W. (1982). Entrepreneurship in a small business setting: An exploratory study. Doctoral dissertation. University of Georgia, GA.

Garland, J.C. & Garland J.W. (1992). Managers, small business owners and entrepreneurs: The cognitive dimension. *Journal of Business and Entrepreneurship*, 4: 2, 55-66.

Carland J.C, Carland, J.W. & R.C Higgs (1993). Portraits of potential entrepreneurs: An empirical investigation. Journal of Business and Entrepreneurship, 5 (1).

Fisher, G. 2012. Effectuation, Causation, and Bricolage: a behavioral comparison of emerging theories in entrepreneurship research. *Entrepreneurship Theory and Practice*, 36, 1019-1051.

Furnham, A. & Crump, (2015)The Myers-Briggs Type Indicator (MBTI) and Promotion at Work

Ginn, C. & Sexton, D.L. (1988). psychological types oof Inc. 500 founders and their spouses. *Journal of Psychological Type*, 16, 3-12.

Haynie, J.M., Shepherd, D.., Mosakowski, E., & Earley, P.C. 2010. A situated metacognitive model of the entrepreneurial mindset. *Journal of Business Venturing*, 25, 217-229.

Ireland,R.D., Hitt, M.A., & D.G. Sirmon (2003). A model of strategic entrepreneurship. The construct and its dimensions. *Journal of Management*, 29 (6), 963-989.

Jung, C. G. (1921). *Psychological Types*, Routledge & Kegan Paul, London.

Järlström, M. (2000). Personality preferences and career expectations of Finnish business students. *Career Development International*, 5: 3, 144-154.

Järlström, M. (2002). Organizational employment versus entrepreneurship: The personality approach to business students' career aspirations. *Journal of Business and Entrepreneurship*, 14: 1, 103-123.Keirsey & Bates, 1984

Krueger, N.F. (2007). What lies beneath? The experiential essence of entrepreneurial thinking. *Entrepreneurship Theory and Practice*, 31, 123-138.

Krumwiede, D.W., Sheu C., & Lavelle, J. (1998). Understanding the relationship of top management personality to TQM implementation. *Production and Inventory Management Journal*, 39 (2), 6-10.

Lindon, L. (1995). Linking an intervention model to the Myers-Briggs Type Indicator, consultancy and managerial roles. *Journal of Managerial Psychology*, 10 (4), 21-29.

Lynch, M., Kamovich, U., Andersson, G. & Steiner, M. (2017). The language of successful entrepreneurs: an empirical starting point for the entrepreneurial mindset. *Proceedings of 12t European Conference of Innovation and Entrepreneurship*, Novancia Business School, Paris.

McCarthy, A.M., & Garavan, T.N. (1999). Developing self-awareness in the managerial career development process: the value of 360-degree feedback and the MBTI. *Journal of European Industrial Training, 23 (9), 437-445.*

Myers, I., & Myers, P. (1990). *Gifts Differing* (13th ed.). Palo Alto, CA: Consulting Psychologists Press.

Myers, I., McCaulley, M., Quenk, N. L., & Hammer, A. L. (1998). *MBTI Manual: A Guide to the Development and Use of the Myers-Briggs Type Indicator*. 3th ed. Palo Alto, CA: Consulting Psychologists Press.

Nordvik, H., & Brovold, H. (1998). Personality traits in leadership tasks. *Scandinavian Journal of Psychology, 39, 61-64.*

Obschonka, M., Silbereisen, R.K. & Schmitt-Rodermund, E. 2011. Successful entrepreneurship as developmental outcome. *European Psycholist.*

Pfeifer, S., Šarlija, N. & Sušac, M.Z. (2016). Shaping the Entrepreneurial Mindset: Entrepreneurial Intentions of Business Students in Croatia. *Journal of Small Business Management*, 54(1), pp. 102–117

Reynierse, J.H. (1997). An MBTI model of entrepreneurism and bureaucracy: The psychological types of business entrepreneurs compared to business managers and executive. *Journal of Psychological Type*, 40, 3-19.

© SGBED 2019

Routamaa, V., Honkonen, M., Asikainen, V., & Pollari, A-M. (1997). Psychological type and leadership styles – subordinate's point of view. *Proceedings of the Leadership and Myers-Briggs Type Indicator*, April 2-4, 1997, Washington DC.

Routamaa, V. & Miettinen. A. (2007). Awareness of Entrepreneurial Personalities: A Prerequite for Entrepreneurial Education. *NCGE Working Paper Series.* National Council for Graduate Entrepreneurship, Birmingham.

Routamaa, V. & Ponto, V. (1994). Situational leadership and the MBTI types of certain Finnish managers. *Proceedings of the Myers-Briggs Type Indicator and Leadership: An International Research Conference*, University of Maryland, January 12-14, 1994.

Sundstrom, E. & Busby, P.L. (1997). Co-workers' perceptions of eight MBTI leader types. Comparative analysis of managers' SYMLOG profiles. In: C. Fitzgerald & L. K. Kirby (Eds.), *Developing leaders* (pp.225-265). Palo Alto, California: Davies-Black.

Van Eron, A. M., & Burke, W. W. (1992). The transfomational/transactional leadership model. A study of critical components. In K.E. Clark, M. B. Clark & D. P. Campbell (Eds.), *Impact of Leadership* (pp. 149-167). Greensboro, North Carolina: Center for Creative Leadership.

© SGBED 2019

DXB125

IMPACT OF DIGITALIZATION ON THE SMES AND START-UPS IN INDIA – CHALLENGES AHEAD

Shakeel Ahmad, shakeel_du@yahoo.co.in
Professor of Commerce & Pro Vice-Chancellor,
Maulana Azad National Urdu University,
Gachibowli, Hyderabad, India

Syed Samiullah Shah Hussaini, sami.hussaini@ventureast.net
Head (Admn. & Legal), Ventureeast (APIDC Venture capital),
Financial District, Hyderabad, India

Mohd. Akbar Ali Khan, maakhan1155@gmail.com
Professor & Dean, Faculty of Commerce, Osmania University (Retired),
Hyderabad, India

ABSTRACT

Indian economy is the 7th largest economy in the world measured by GDP and third largest by purchasing power after US and China. In spite of it, persistent problems of digital divides across gender, geography, age and income has affected the growth. The Small and Medium Enterprises (SMEs) of India experienced several highs and lows in the past few years. MSMEs act as the driver of socio-economic development of the country and the contribution of digitalization in the SMEs development is very challenging. The objective of this paper is to discuss the factors impacting the Digitalization in Small & Medium Enterprises (SMEs) and identify the Problems/Challenges in implementing Digitalization in Indian Market/Business. The paper also highlighted the trends of digitalization in SMEs from the year 2015 to 2017. It is a descriptive study based on secondary data sources. Schedules were distributed to the selected officials of SMEs to know the status of digitalization in their businesses. Results revealed that the challenges faced will create an opportunity for multi-stakeholder participation with the Government acting as a leader for innovative solutions. A collective effort between the government, private sector, industry groups, training organizations and SMEs themselves is the most effective way to tackle the barriers that Indian small and medium businesses face.

Keywords: SMEs, Digitalization, Digital divide, Challenges, multi-stakeholder

Introduction and importance of study

Flourishing amidst a challenging environment, the Small and Medium Enterprises (SMEs) of India experienced several highs and lows in the past few years. With the Indian economy expected to emerge as one of the leading economies in the world and likely to become a $5 trillion economy by 2025, major impetus is being given to strengthen the backbone of our economy - the SME sector. Comprehending the significance of the SME sector vis-a-vis lending numbers to the job market, contribution of the digitalization in the SMEs development is very challenging. Working in tandem with the larger goal of pushing for economic growth, the implementation of many reforms made the SME/start-up space relatively bullish in 2016 but not necessarily elated. These include re-implementation of Public Procurement Policy, Pradhan

© SGBED 2019

Mantri MUDRA Yojana, Make in India, Startup India, and Skill India. Aimed at increasing growth of manufacturing sector by 12-14% per annum and increases its share of GDP to 25% by 2025, the government plans to make financial and technical support more accessible. Also, the implementation GST Bill in 2017 is a landmark decision that will help solve long existing challenges prevalent in the current taxation system. For SMEs, GST bill will help eradicate indirect taxes, have more transparency of tax process, draw projections of production cost and gain easy access to new geographies for business expansion. But, unfortunately, the operation of digitalised portal of the GST is so poor that most of the MSMEs are unable to smoothly and successfully file the GST returns on online basis. MSMEs as the driver of socio-economic development of the country is set to see certain trends, some upcoming and some established, that will play out in 2017, touted to be an interesting year. Those who will survive the trenches of moves like demonetisation are most likely to witness a smoother course ahead. Digitalization is an initiative of the Government of India to ensure that government services are made available to citizens electronically by improving online infrastructure and by increasing internet connectivity. It was launched on 1st July 2015 by Prime Minister Narendra Modi. It includes plans to connect rural areas with high-speed internet networks.

Objectives

1. To **r**eview the literature, bring interesting aspects of e-projects implementation
2. To discuss the impact of Digitalization in Small & Medium Enterprises (SMEs) and Start-Ups in India
3. To discuss the Problems/Challenges in implementing Digitalization in Small & Medium Enterprises (SMEs) India

Review of literature

Greg Georgeff – 1985: The paper provided a description of the Ontario strategy and action plan and discussed implementation challenges and lessons learned over the past five years. It also focused on some of the mechanisms the Ontario government is adopting to work horizontally across a large, decentralized organization as well as with other levels of government.

Bhatnagar, World Bank 1993: The paper presents delivery models in less economically developed countries and provides opportunities and challenges for the future. E-Government benefits include "less corruption and empowerment". Programmes such as income tax online (Mexico and Brazil), customs online (India and Jamaica) and rural internet kiosks are cited. Access to rural areas is problematic and needs to be addressed. Public services in Bangalore, in the form of bar graphs show that all services have increased since 1994 and corruption has also declined.

The Office of the Deputy Prime Minister-2000: The report aims to emphasize on success in promoting e-governance over the last few years with reference to investment from efficient use of e-Governance in programmes. The importance of e-Governance is not limited to these years but for the future also. This strategy has also been supported by the IDEA, SOCITM and SOLACE. The document has clear aims to promote the capability in electronic services and delivery. The results have found an increase in 'e-enable' over the last twelve months and have helped Councils in e-Government approaches.

© SGBED 2019

Simon Horsburgh, Shaun Goldfinch, Robin Gauld- 2001: The article reports on research designed to probe the issue related to limited knowledge of the extent of public trust in the new electronic modes of delivery. Drawing on survey data from Australia and New Zealand, a series of hypotheses are tested pertaining to relationship between public trust in government and e-government, in the use of information and communications technology and trust in e-government, and support for e-government investment and development. Trust in government was found not to be correlated with trust in facets of e-government service provision but was associated with support for e-government investment. More intensive Internet users were more likely to trust e-government services.

R Silcock-2001: The paper observed the explosive entry of technology into every aspect of life has changed how people live, how they work, how companies do business - and how governments serve their people. With the help of the big IT vendors, governments are realizing that by applying the same principles and technologies that are fuelling the e-business revolution, they can achieve a similar transformation. They have recognized the need to change the way they do business, to provide services and information centered on the citizen. The result of the need to change is called as the emergence of e-Government.

Allen B.A., Juillet L, Paquet G, Roy J (2001): The paper envisages the challenges for Canada and emphasizes a "new culture in government", to overcome existing barriers for development. Two sections are investigated; partnerships and leadership of people. By empowering citizens, an effective e-Government system can be implemented. One of the main barriers is "an administration culture". The government needs readjusting to the new form of e-Governance

Heeks R.(2002): The paper focuses on the information age and reinventing the government. Also implications for the government are addressed. Electronic democracy is also online' which broadens the gap between authority discussed in detail; models of democracy and how to strengthen relationships between the government and citizens, for example online voting. Several countries have 'government online' which broadens the gap between authority and the general public.

The Office of the Deputy Prime Minister - 2003: The report aims to define local e-Government and lists the objectives such as issues on democracy and service delivery. The results have shown that time and cost of providing information has decreased, whereas 'e-enabled' has increased.

Bonham G.M., Seifert J.W, Thorson S.J. – 2003: The paper states the potential for e-Governments in developing and developed countries. The paper also outlines the stages of e-Government; "presence, interaction, transaction and transformation". Issues are investigated, with case studies from Birmingham (England), Rochester (New York) and Seoul (Korea) are discussed. The initiatives of these three continents are reviewed. Expectations of e-Governance are an existing issue, as expectations are still very high.

Digital Opportunity - 2003: The council services and projects are expected to grow, according to the article. The importance of demand is central in promoting projects, because they must be efficient and effective for citizens and governments alike. Projects such as the Wireless

© SGBED 2019

City Project and Project Nomad, set up by the Westminster City Council includes monitoring and CCTV systems. The Council aims to reduce costs and improve effectiveness. The use of wireless technology is a solution to previous problems. The security element of data will also be enhanced.

Eyob - 2004: Observed that e-government has become another wave of ICT applications in the public sector, as e-business and e-commerce disciplines mature in the private sector

JieWang, JianCao, **J.O. Leckie**, **ShenSheng Zhang-2004:** The paper proposes an information and knowledge management model that combines the benefit of autonomic computing system paradigm for self-managed infrastructure systems and an event-based awareness collaboration knowledge management approach for coordinating the infrastructure management processes. The paper hoped that it provides a more comprehensive guideline for managing e-government information systems.

As for the identified problems **on the ground and according to the survey report of UN** the focus on the priority of e-government projects should be shifted from technical and infrastructure aspects to process **change, organizational adaptability, leadership and the ability for citizen to access the services and information effectively. In spite of leading initiates in Andhra Pradesh and Telangana governments there are still problem to be addressed in the above said parameters.**

Bo Fan-2013: The study aimed to analyze managerial determinants, identify key stakeholders and redesign managerial mechanisms for the task of horizontal integration of Chinese municipal e-government. Based on the Structural Equation Model it identified multiple managerial factors like Experience in general management, Reforming authority Experience in projects and Legal regulation are necessary for horizontal integration in e-government and all four determinants were found to significantly affect two intervening variables Data integration and Business & IT integration. The findings suggested that managerial mechanisms should be redesigned for a successful horizontal integration initiative.

Irene Bernhard Kth. Hogskolan Vast. [2013]: The objective of the study is to provide a deeper understanding of these concepts through empirical studies in a Swedish context. Further it aims to analyze whether – and if so in what way – the implementation of local contact centres (CC) affect conditions for local planning. Based on a theoretical discussion of New Public Management in the digital era, findings show that there is a difference between the concepts of e-government and e-governance from the perspective of e-administration and e-services and that the terms should not be used interchangeably. The findings indicate that there is a potential for positive impact on the conditions for local planning through the implementation of municipal contact centres.

Deepak Bhatia2013: The paper addressed the key issues related to design and implementation of an e-government strategy. It will also provide an overview of the rationale, process and a conceptual framework for the e-government strategy elaboration. Finally, implications of implementing e-government strategy for the Bank Operations were discussed.

Irene BernhardHogskolan Vast.; Kth. [2014]: The objective of the study is to provide a deeper understanding of how e-government policies are implemented in an e-governance context,

© SGBED 2019

through empirical case studies in Sweden. The focus is on the local level. The overall research question is: How is e-government policy put into practice when focusing on the local level. The analysis arrives at three overarching conclusions

(1) E-government policies are implemented in relation to local cultures, norms and economic structures.
(2) Efficiency and citizen-cantered approaches in the redesign of information relationships between public administration and citizens to create some sort of added value are crucial.
(3) there are two main implications of municipal contact centres (CCs) they localize public services and they combine different services into a one-stop practice striving to provide "holistic" services to the individual citizen.

Ibrahim Otieno, Elijah Omwenga-2014: the paper had performed an analysis of various proposed e-government assessment frameworks with the aim of identifying and recommending the adoption of a framework that is suitable in the context of a developing country. The paper proposed the adoption of a hybrid framework that amalgamates the frameworks developed by Bhatnagar and Singh and Verdegem et al due to their contextual suitability and citizen-centric approach. This is an exploratory study that lays foundation for further research in the development of an appropriate framework using the proposed approach.

Mohammad Kamel Alomari-2014: The study argued that citizens played a significant role in determining the success of an e-government project in the Middle Eastern country of Jordan. It aims to provide insight and evaluation into the factors that could influence e-government's effective functioning in the Jordanian social community through its interaction with citizens. The results indicated that trust in the internet, website design, religious beliefs, internet and computer skill confidence, word of mouth, resistance to change, perceived usefulness, relative advantage and complexity are the main factors that should be considered when addressing the topic of e-government services' adoption in Jordan.

Jing Fan, , Pengzhu Zhang, David C. Yen-2014: the study developed a four-layer model of G2G information sharing across horizontal functional agencies and used it to conduct an analysis of sites within Chinese contexts. Through empirical testing, we found that the authority of the upper-level leadership, GuanXi compatibility top-management support, cost, process security and expected risks and benefits had a significant influence on the degree of G2G information sharing. the expected benefits and the degree had positive effect on the performance of G2G information sharing while expected risks had no significant effect on the performance of G2G information sharing.

Guangwei Hu, Wenwen Pan, Hui Lin, Kyeong Kang, Michael L. Best-2014: The purpose of the study was to employ capability management perspectives to develop theoretical linkages and path relationships among the components of EGSC. Comprehensive validation was further conducted through path analysis (PA) using structural equation modelling methods based on the data collected from 102 cities of the 26 provinces in Mainland China. The study unveiled the structure of EGSC and PA results provided government policy makers or information technology managers insight into enhancing EGSC through the improvement of the components' performance.

© SGBED 2019

NGO TAN VU KHANH-2014: The research paper attempts to explore and investigate the key challenges that influence e-government implementation and the factors influencing citizen adoption in Vietnam. The research has identified factors that determine if the citizen will adopt E-government services and thereby aiding governments in accessing what is required to increase adoption.

Shams Rahman, Nahid Rashid ,AswiniYadlapalli ,Li (Eva) Yiqun-2014: The aim of the research is to investigate the critical factors associated with the implementation of egovernment in Bangladesh. The results indicate that two critical factor-categories for successful implementation of e-government are institutional and access related. Factors such as political commitment and awareness are found to be most important whereas factors such as security privacy economic issues are found less important.

Hermann Hill 2014: The article outlines the potential for transformation which arises in the changes in state institutions the role of the citizens and the joint design of public affairs by the state business and society at large.

Suhardi Suhardi, Alfira Sofia, Agustinus Andriyanto-2015: The study explored the correlation between e-government achievement and GGG achievement in Indonesia. The results showed that the correlation between these two entities is not very strong. Most cases showed that e-government implementation and the achievement of good governance have only a moderate positive correlation and none of the studied cases indicated a significant connection. it is recommended that future Indonesian e-government assessments should involve impact indicators.

Dr. SangitSarita Dwivedi-2015: The aim of the paper is to discuss the position of India in e-governance environment, the issues, challenges and obstacles ahead. It makes an effort to provide a framework for e-governance in India by identifying its essential features and analyzing the shortcomings in its working and emphasizes need for innovative approaches. The goal of the paper is to evaluate the programme against a theoretical background, and also to draw practical lessons from the programme that could provide guidance to new e-governance programmes in the development context.

ThlangSokim, XuXiaolin, Huang Dong -2015: The paper explained how innovation in ICT can combating corruption contribute to creating good governance, and what are the constraints faced in combating corruption.

Jing Fan, Wenting Yang-2015: The paper focuses on the e-Government service quality issues from the perspective of users. It was found that users' perception of offline service quality has a significant effect on improving their perception of online service quality, and online service quality perception has a significant effect on public satisfaction of e-Government services; information clarity system security and stability, interactive services and one-stop services all have a significant effect on public satisfaction of e-Government services. However, offline service quality perception has certain positive effect on public satisfaction of e-Government services but not dramatically.

David spacek-2015: The paper summarizes the specifics and challenges of e-government policy, and then discusses the apparent shortcomings of policy implementation and challenges for

© SGBED 2019

further development in the Czech Republic. It draws attention to problems in national e-government policy and in practical policy implementation (instability of governance, low quality of evaluation, low involvement of stakeholders in project design, and public procurement issues).

ALI MOHAMMAD AL-NAIMAT-2015: the objective of the study is to develop an e-government initiative model for the public sector in Jordan. Thirty respondents involved in e-government projects such as managers, general managers and other levels of decision makers were selected from three Jordanian ministries namely the Ministry of Information and Communication Technology, Ministry of Education and Ministry of Labour. The model has four stages:
(1) Emerging and Information Dissemination;
(2) Two-Way Communication;
(3) Integration and
(4) E-democracy. The findings also revealed seven CSFs that should be taken into account to implement the e-government model which include top management support, vision and strategy, funding, information technology (IT) infrastructure, user computer efficacy, awareness and resistance to change. This study contributes to the body of knowledge in Socio Technical Theory (STT) toward the development of e-government initiatives model for public sector in Jordan

Waqar Siddique-2016: The research paper turns e-government policy into practice in two ways, firstly to distil the lessons from existing evidence and experience about e-government implementation of policies and secondly by assessing the quality of the evidence, gaps in the existing research and ways that research findings can support the implementation process in Pakistan. The study identified critical factors that determine the faith of policy implementation in Pakistan and provided a fair idea about intrinsic and extrinsic behaviour of these critical success factors towards e-government policy implementation concerning Pakistan.

The Pacific Council on International Policy2016: The work aims to improve leadership across the western United States and the Pacific Rim. The report contains useful definitions of e-Governments to promote more efficient and effective government through the use of ICT. This project collates lessons learned from developing countries to inspire other nations. Questions such as why are we pursuing e-Government and what kind of e-Government are we ready for are answered with the evidence of failures and successes from developing countries.

Jeongwon Yoon-2016: the paper examined the components of Single Window services and systems, and suggested cost effective way of creating Single Window" services by integrating and customizing available resources. It was also mentioned the consolidated infrastructures, common standards and interoperability, and private sector's case study.

Bruno Lanvin2016: the paper addressed the questions which are to be resolved. They are: What is at stake What are some of the foreseeable next steps and how can interested governments benefit from this work. The World Bank, together with other partners interested in this field, have recently launched a fresh effort in this area by launching its 'E-strategies Monitoring and Evaluation Toolkit' (aka M.E.T.E.R.).

Mart Laar2016: The paper illustrated the importance of e-government projects for shaping countries image attract investments and raise competitiveness of the country. The paper showed

© SGBED 2019

the importance of public private partnerships to create working electronic services to citizens which can make them to understand the need for e-government and support the projects.

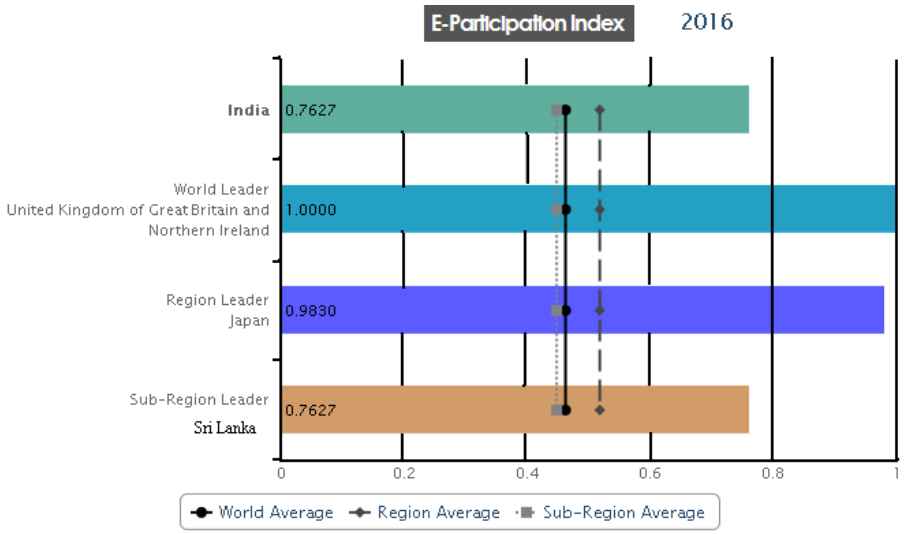
Methodology

This research paper is based on secondary data sources. The primary data was also collected from the officials of Small & Medium Enterprises (SMEs) through Schedules to get to know the status and trends of digitalisation during the year 2017.

SME trends in 2017

Rise of SME focused B2B ecommerce: The advent of advanced technology is opening newer channels for businesses across several sectors. This is particularly true for B2B ecommerce firms focused on the Indian SME sector. Hitherto overlooked, the presence of innovative technological platforms is bringing on board a rising number of small players including the neighbourhood kirana store. This is a win-win situation for all involved enabling smoother transactions, procurement of raw material. And industrial goods, and forging a better connection between established brands and small shop owners. With SMEs in India touted to be a $25.8 billion market for emerging technologies by 2020, the rise of B2B ecommerce is a trend that will certainly gain more momentum in 2017.

E-participation Index in India



E- Participation Rank	2016	2014	2012	2010	2008	2005
India	27	40	75	58	49	57

Source: E-participation

1. **Amalgamation of ecommerce & m-commerce:** Digital transformation is no longer a fancy term vis a vis Indian SME courtesy faster penetration of Internet. When this is coupled with extensive usage of smartphones which are becoming more and more affordable, Indian SMEs are experiencing simultaneous adoption of web as well as mobile based technology. As per an EY report, companies have enhanced their focus on

© SGBED 2019

mobility as against social, resulting in a change from Social-Mobility- Analytics & Cloud (S-M-A-C) to Mobility-Analytics-Cloud & Social (M-A-C-S).

2. **Improving SME lending with growth in FinTech firms**: A major constraint in the growth of the SME sector has been non-availability of easy finance. Not all small and medium enterprises find favour with traditional banks when it comes to lending courtesy lack of experience, absence of collaterals and infrastructure, poor financials, and small ticket size. Given their significant online presence, several modern fintech players are making it convenient for the SMEs to receive loans. The year 2017 will experience a surge in NBFCs with special focus on offering customised loan solutions on online platforms. Creating a disruption in the industry and for good, these alternative lending companies analyse credit worthiness of the sellers using analytics and other scanning metrics like their sales and fulfilment records and can disburse loans in less than 48 hours. As a matter of fact, some of the banks like Bank of Baroda is also partnering with new age Fintechs to expand their reach especially in the SME sector.

3. **Government initiatives, a major boost:** The MSME sector, acknowledged as the backbone of the India economy, is further expected to contribute significantly to India's growing GDP. The sector will inevitably support India to improve nation's financial inclusion and mitigate the urban rural divide. Also, it is expected that by 2020, India will have the largest job ready, youth population in the world and with favourable business ecosystem in the manufacturing sector it will not only generate employment of significant level but also become hot bed of entrepreneurial activities.

Our government realises the urgency for providing a fast paced growth to MSME sector and therefore, 2017 will further witness strengthening of current policies and introduction of new initiatives to improve the business environment for MSMEs. The most awaited reform in 2017 is implementation of GST bill. Implementation of GST Bill is expected to benefit MSMEs not only with simpler tax structure but also with aspects such as improved technology adoption in order to comply with GST system. The 'One Nation, one tax' approach will make India an open market helping SMEs explore new markets with no or low entry barriers and experience business expansion. Therefore, the upcoming GST bill is expected to revolutionize the Indian tax system and offer the SME sector an equal footing as compared to their bigger more established counterparts

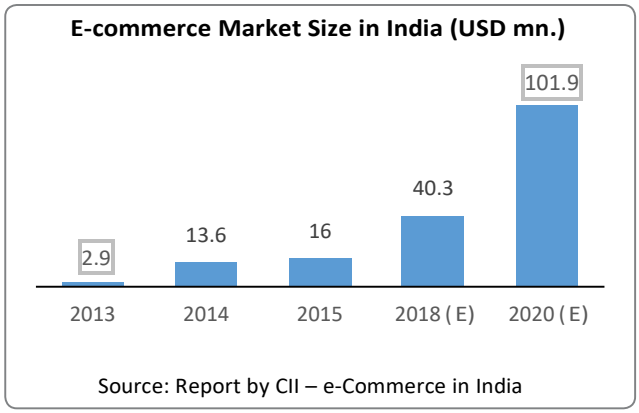
SMEs: Driver of Economic Growth in India

Small and Medium Enterprises (SMEs) play a pivotal role in the economic and social development of India. According to Ministry Of Micro, Small & Medium Enterprises the MSME sector contributes about 8% of GDP. Its contribution to the economy ranges from industrial output, employment, and generation of export income. As per Micro, Small & Medium Enterprises Development (MSMED) Act, 2006 MSMEs have been segmented into two categories viz. Manufacturing Enterprise (having maximum investment up to `10 crore) and Service Enterprise (having maximum investment up to `5 crore).

© SGBED 2019

Digitalization in SME Sector

Gartner defines digitalization as "Digitalization is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business" India is in the midst of a digital revolution. Expanding internet access, growing smartphone usage, and rising digital media consumption will have a profound impact on the future of Indian economy over the next few years. This has been aided by affordable devices and network access cost. Shifting trends from the way urban populace accesses information to how farmers grow and sell their crops, internet has changed the way Indian economy functions. Digitalization has brought a paradigm shift to the traditional ways of manufacturing, handling, storing and transporting things.



Impact of Digitalization

Digitalization; centered on tech-savvy consumers will be a crucial strategy for long term survival and growth of businesses. Technological solutions such as Data Analytics, cloud-based platforms and ERP systems will shape a company's strategy and growth enabling it to extract more insightful information for informed decision making. This may even force some businesses to revamp their business models. Digitally empowered SMEs are able to increase revenue, lower risks, decrease cost and diversify consumer segments over a short period of time as compared to offline businesses.

Increase in revenues

Having only physical presence limits an organization's market reach. Upgrading digital technology and having an online presence can provide significant opportunities for SMEs to grow and increase their top line. Engagement through a company website or shifting to an e-commerce platform can increase sales by allowing SMEs to access new customers in local and overseas markets. It also allows flexibilities of time, geographical location and delivery to conduct business. A study by Snapdeal titled "Impact of e-commerce on SMEs in India", states that an enterprise can potentially improve its revenues by about 51%, thus, today, the growth of SMEs is driven by eCommerce. The study also states that 46% of the SMEs have witnessed a significant growth by adopting an online sales channel. Diversified customers also help divide business risk across different locations. The fast-paced growth of e-commerce industry has provided unmatched opportunities for the SME community.

© SGBED 2019

Accessibility to wider customer base

Increased digital engagements allow SMEs to explore new markets, enabling them to compete with the bigger giants in the industry. E-commerce has provided cost-effective solutions for the companies in large cities and rural areas alike to connect and trade with customers around the world. SMEs can often lack the skills to enter international markets due to limited knowledge, language barriers, unfamiliarity with cultural differences and narrow business outlook.

E-commerce platforms outspread geographical boundaries, engage in improving customer experience and provide support for better supply chain solutions. This allows companies to sell 24X7 and increase their customer base rapidly with limited or negligible increase in operational cost.

Accessibility to wider customer base

Increased digital engagements allow SMEs to explore new markets, enabling them to compete with the bigger giants in the industry. E-commerce has provided cost-effective solutions for the companies in large cities and rural areas alike to connect and trade with customers around the world. SMEs can often lack the skills to enter international markets due to limited knowledge, language barriers, unfamiliarity with cultural differences and narrow business outlook.

E-commerce platforms outspread geographical boundaries, engage in improving customer experience and provide support for better supply chain solutions. This allows companies to sell 24X7 and increase their customer base rapidly with limited or negligible increase in operational cost.

Enriched customer engagement

Data Analytics and Business Intelligence have provided opportunities for the SMEs to make better decisions by providing a deeper understanding of the customers. Use of customer intelligence and insights to predict their needs, design new products that meet their requirements and delivering the right products at the right time at a cost-effective price has equipped SMEs with next generation customer engagement capabilities.

The high cost of software and technologies have restrained these companies from developing such capabilities in the past. However, with the advent of cloud-based solutions and freemium model where basic software is provided for free, but functionality, virtual goods or proprietary functions may be charged; enable the SMEs to develop capabilities and enrich customer experience. Small and Medium Businesses (SMBs) in India could spend around USD 25 billion on IT products such as mobility, analytics, social media and cloud in 2020, according to a report by a market research firm Zinnov. This expenditure will enable companies to increase their customer reach, manage customer relationships and ensure efficiency in operations.

SMEs also play a very important role in operations and profitability of e-commerce platforms. Recognizing this, Flipkart has signed a Memorandum of Understanding (MoU) with Federation of Indian Micro and Small and Medium Enterprises (FISME) and National Center for Design and Product Development (NCDPD) in 2014. This will enable the website to provide infrastructural support in data analytics, marketing and customer acquisition to help SMEs scale their business.

© SGBED 2019

The role of digitization on Start-ups

Digital transformation has changed the way enterprises do business, there is little doubt about its impending large-scale impact in the days to come. Most businesses have realized that their business's success is linked to the adoption of new technology and platform-based business models that helps them cater to their customer needs in a better manner. And, increasing digitization in all aspects of business has made it imperative for all organizations to constantly innovate and hence renovate the way they provide products and services to their customers. This very nature of digital transformation places a challenge before businesses on how they go about meeting customer expectations and reaching organizational goals and objectives.

A digital strategy is an inseparable part of a business strategy for most organizations today. However, the best strategies don't come from past analysis and execution, but are in fact based on where the firm believes the value is likely to shift in the next few years. Digital leaders identify where they are, the changing trends and a few possible disruptions in their industry and market, prioritize them and then craft a digitized business model to exploit opportunities.

There is no doubt that digital transformation is sure to disrupt virtually all industries. New companies, having their inherent advantages of being a start-up, should adopt digital transformation to their advantage to see long term success and in a few cases, even lead the transformation. Here is how adopting the elements of digital transformation framework can help start-ups.

Adopting the right organization culture

A company's employees are its most important resources. Organizations with good digital maturity foster a culture of initiative and collaborative experimentation where its people can take decisions amidst uncertainties. Adopting a mindset of trial-and-error where failure is accepted as part of the process can help talents flourish which in return spurs digital progress. Having the right people that fit the organization's culture also matters because the right people fuel business success while the wrong people can in all likelihood pull it down.

Maximizing evolving technology

Being aware of the latest technology is not sufficient in a world where technology is changing at a fast pace. Moreover, not all technologies are right for a business. Hence, it is important to develop an in-depth understanding of evolving technology so that organizations can exploit their advantage to stay ahead of competitors and stay relevant.

Take advantage of data

Data and information are of utmost importance for an organization's growth. It is critical to collect customer data and know how to use it and interpret it. Just so that an organization stays relevant in the market and has a competitive advantage. New businesses must make data the force behind the decisions they take by efficiently collecting, collating and analyzing it. A successful implementation of this process that will help them appeal to their customers will lead to more successful business outcomes.

© SGBED 2019

Keeping the focus on customer experience
Start-ups have the advantage of being closer to customers. Hence, adopting a business strategy, model and technology with the end-customer in mind can ensure success. By performing an in-depth research into the customer's requirements, defining a 'buyer's journey' and analyzing customer data, start-ups can understand how their customers make decisions and customize their marketing campaigns as well as product and service offerings.

Optimizing digital channels
A part of being customer-centric and using data for staying ahead of competition involves optimizing various digital channels. Today, most customers are online and are using digital channels including mobile, social media and search engines to research products and services, and make purchase decisions. Hence, staying optimized for these channels through content and optimization techniques help organizations reach out, stay in touch and better understand customers.

Focusing on agility and flexibility
Being adaptable to changing demands plays a huge part in any start-up's success. However, start-ups cannot afford to designate specific tasks and responsibilities to specific employees due to workforce and liquidity constraints. Hence, it is imperative for start-ups to hire employees who have a flexible and agile approach to work and can impact the business in multiple ways. And automation goes a long way in ensuring employees are able to efficiently multi-task and provide more value by way of innovation.

Digital transformation is no longer a buzzword. Infact, it is as essential as having a business plan or for that matter, a business card. It is a reality today which is already delivering positive results for enterprises that are leading the way. Hence, it is critical for start-ups to embrace this transformation to stay relevant and grow in the ever-changing digital future and also put themselves on the path to greater success.

Challenges in implementing Digitalization in Indian Market/Business are as follows

1. MSME are showing less confidence on Technology.
2. Entrepreneur having fear of losing importance by IT Automation.
3. Cost of infrastructure not affordable.
4. Lack of knowledge towards digitalization.

MSME are showing less confidence on Technology.
In early days' digitalization has been adopted by the big industries due to various reasons. In present days' digital transformation is not only for the big players but MSME also can adopt. In fact, digitalization holds great opportunities for SMEs and can even level out inequalities between small and big companies. Yet, not all small and medium sized enterprises embrace digitalization.

1.New Technologies: SMEs are still hesitating to implement the real game changers of new technologies. While about every second company uses collaborative software or customer relationship management software, leading-edge technologies are less common:

© SGBED 2019

A smaller percentage of MSME's are adopted planning and coordination solutions, advanced business networks, or the Internet of Things.

2. Changing Behaviour of the Customer: Changes in customer behaviour due to digitalization can make existing business models irrelevant for the MSMEs. Depending on the industry MSMEs operating in, this development might hit them sooner or later – but it will come. But how do MSMEs knows which old processes and business models need to be changed? And more important, what is relevant instead.

3. Recruiting the right people: With so many changes, SMEs will find themselves facing another challenge: the demand for new competences and skills. Of course, the whole work force of a company should be involved in the transformation and this requires training. But especially for newly developed task areas and responsibilities there is a need for experts.

Entrepreneur having fear of losing importance by IT Automation.

During the past 5 years, the Indian government successfully started various initiatives though, which resulted in meeting many of these challenges and in paving the way to digitization. The biometric identification program "Aadhaar" rang the bell for India´s digital revolution. Further projects like Jan-DhanYojana (providing a bank account for every Indian household), PAHAL (LPG subsidies for Aadhaar Card holders) and DigiLocker (storage of personal documents on a secured government server) followed.

Under the flagship campaign "Digital India", the government continues to initiate further projects for the benefit of citizens as well as companies. The mission "Smart Cities" e.g. is supposed to change the urban landscape, to create new investment opportunities and to promote employment. Furthermore, the Indian government continues to strongly promote the transfer into a cashless economic system by pushing the establishment of digital payment transactions which has been thriving dynamically since the demonetarization in 2016.

Digitization is a cross-industry and cross-company topic. How do you assess the current situation in India - Has society already internalized the topic, do companies understand the change or is it more likely to try and endure the topic? Which sectors are already on the road to success, which are lagging behind, maybe even traditionally?

Development continues to move forward slowly but steadily, with public-private partnerships playing a major role. Progress achieved in the fields of technology, connectivity, collaboration tools as well as improvements in management practice perceptively affect every day´s life, pointing out the importance of digitization to every individual. The limited access to electricity in rural areas remains a major obstacle for the further advance of digital technology, though.

Everyone, including the social sector, took benefit of the digitization. We observed a larger growth though in fields which are directly linked to state programs. The mission "Smart Cities", e.g., will mainly contribute to the promotion of the construction and real estate industry, the infrastructure sector as well as the steel and concrete industry. „Make in India" and „Digital India" successfully opened up new chances for the technological sector. Some market leaders started to manufacture electronic products in India. The "Skill India" initiative is supposed to

© SGBED 2019

promote the digital infrastructure by enabling the mass scaling of competence development, using technology as a mechanism for mass supply.

We don´t see any areas that remain untouched by the digitization process, but the lack of legal clarity tends to have a negative impact on some sectors. Due to the political framework, companies like Uber and Amazon had to face several controversies with communal authorities – which is not compatible with business in the digital era.

Can you give us an example from India on how German (or other foreign) entrepreneurs deal with digitization locally? How can companies be supported by external consultants and experts in the transformation, where do you see more on-site consulting needs? In July 2017, Siemens inaugurated its first digital manufacturing plant in Mumbai – its third digital plant worldwide. More than five million devices are supposed to be produced here annually.

Like mentioned before, there are definitely challenges to be overcome in all areas – from establishing guidelines and adjusting workflows to initiating a profound change of mentality in bureaucracy.

We need to be aware of the fact that digitization in India means realizing a technological revolution in an extremely diverse country. As a consequence, there is a strong demand for consultants from all different service areas, especially from IT and Corporate Compliance.

Where do you see the best chances for German and European companies to position themselves in the market with disruptive business models in India? There is major potential for German and European companies to be seen in the food and agriculture industry. So far both sectors are still poorly organized and locally restricted. There are extraordinary investment opportunities lying in the automation of industrial food processing and packaging processes as well as in data supply for precision farming. With a constantly growing population and an increasing urbanization, the demand for food will increase dramatically in the near future. An increase in purchase power will lead to a growing demand for high-protein food. Progressive IT devices and services (e.g. cloud computing, blockchain) offer further investment and collaboration opportunities, especially with regard to the rapidly growing sector of financial services.

What challenges and opportunities do you see for companies that already work locally to master this rather difficult mammoth task?

As mentioned above, the missing access to digital technology – especially in rural areas – along with a corresponding absence of knowledge about its use, represents one of the major challenges to be mastered. The persisting lack of basic education in large portions of the Indian population cuts back on the digitization possibilities. The use of mobile phones and internet access is still weakly spread and even non-existent in rather remote rural areas. India thus needs more attention and more investments to be dedicated to its digital infrastructure. A further obstacle on the way to a successful digitization is the lack of training for government officials who are responsible for e-governance. We have seen e-governance projects achieve great success in some parts of India, while they completely failed in other regions. Public-private partnerships

© SGBED 2019

could contribute to enhancing the success rate of such projects –equally generating a benefit for entrepreneurs in the long run.

Cost of infrastructure not affordable.

The problems for digitalisation are similar to those for expanding financial inclusion: last mile access. The problems are mostly supply side issues rather than demand side factors. The costs incurred by the industry have received much attention while the problems of the consumer have received scant attention. Hence, the expansion of digitalisation of the payments will require efforts to reduce the costs for the consumer.

Random interactions with consumer in urban areas indicates that the major obstacle to the growth of digital payments is the increasing costs for industry, while in rural areas it is the lack of availability of payments infrastructure. Consumers in urban areas complained that the recurring monthly cost of maintaining the technology infrastructure is growing rapidly and the increase in business volumes is not sufficient to support these costs. A major component of the recurring costs is telephone bills which have more than tripled. A cause for these rising phone bills is because merchants are often charged an STD rate to the city where the banks' servers are located.

This is ironic at a time when other categories of telecom subscribers are reaping the benefits of telecom revolution and crashing data costs. The completion of remonetisation means that merchants are not keen on customers paying through wallet services due to the high transaction costs. The only reason merchants are not yet turning away customers paying in digital forms is the general weakness in the business environment in the aftermath of demonetisation.

In the case of rural areas, it is observed that though there is an interest which is reflected in a steady increase in customer enquiries, the actual card usage has been low due to the lack of digital payments infrastructure, fears related to cyber security and lack of knowledge about electronic payments. RBI statistics indicate that the total number of PoS machines in the country increased from 15,12,608 at the end of October 2016 to 22,24,977 at the end of February 2017.

Invariably, as expected, an overwhelming number of these are in urban areas. PoS machine availability in the villages continues to be low, let alone most business establishments in the villages possessing them.

The government departments and agencies in many small towns and rural areas are not equipped to handle card payments or receive NEFT, RTGS or IMPS transactions. The use of wallets has been largely restricted to the more educated youth in rural areas and small towns.

The above discussion clearly shows that digitalisation can have an impact on financial inclusion. There are two ways of adopting digitalisation in banking transactions. In an internet banking model there is essentially a need for an internet, and a robust landline connection. In mobile banking, having a smart phone is necessary. To rapidly digitalise India, probably both methods would be required.

Therefore, there is a need for a committee to understand the problem, become aware of the challenge, and then prepare a road map which would identify geographical areas where one or both the strategies would be required to achieve success. Therefore, there is also a need to have a

© SGBED 2019

road-map on digitalisation because there are various factors and challenges that need to be addressed. Some of these challenges, though seemingly mundane, would need concerted effort to address.

These are like numerals in English on all electronic devices which very few people understand, given that only 10 per cent of the population is conversant in English. Similarly, the penetration of smart phones is also limited, especially in rural areas.

Even if there are smart phones in the rural areas these are restricted to only one member in the family which implies that banking activities, private in nature, would be restricted. The objective of financial inclusion is to provide financial resources to the consumers at affordable rates. To achieve high level of efficiency and reduce the rates of intermediation, digitalised banking is the best way to supplement and probably even offer an alternative to brick and mortar branch in the near future.

Lack of knowledge towards digitalization.

The application of digital technology in conservation holds much potential for advancing the understanding of, and facilitating interaction with, the natural world. In other sectors, digital technology has long been used to engage communities and share information. Human development—which holds parallels with the nature conservation sector—has seen a proliferation of innovation in technological development. Throughout this Perspective, we consider what nature conservation can learn from the introduction of digital technology in human development. From this, we derive a charter to be used before and throughout project development, in order to help reduce replication and failure of digital innovation in nature conservation projects. We argue that the proposed charter will promote collaboration with the development of digital tools and ensure that nature conservation projects progress appropriately with the development of new digital technologies.

The current era in the history of humankind has been described as ‘the Information Age,’ a period characterized by the increasing use of digital technology to mediate access to, and management of, information. Like many other societal domains, the environmental sciences have embraced digital technology to manage information and enhance analytical power. The establishment of sub-disciplines such as ecological modelling and bioinformatics, as well as the embedded use of digital technology within others (e.g., Geographic Information Systems—GIS), is testament to this.

Discussion on the use of digital technology in the context of nature conservation (hereafter conservation) in its broadest sense[1] is less developed. Those academic studies that have begun to consider the use of digital technology in conservation have cited factors such as cost, durability, and data integration as key challenges in this area. Yet, the same studies also emphasize the potential that digital technology holds to improve data collection in the field to share information and to empower local communities involved in conservation.

Domains such as health, education, and human development have embraced the notion of empowerment, and continue to explore the use of digital technology as a facilitator of attitudinal or behavioural change—e.g., investment in telemedicine. Consequently, such domains can offer

© SGBED 2019

insight into how digital technology might best be used in conservation; in this sense, conservationists may, for instance, be able to 'leap frog' the development of inappropriate tools.

Conclusion

The Indian economy has been consistently showing good signs of growth, with the IMF predicting an average GDP growth rate of 7.3% in FY 2015-16. Micro, small and medium enterprises (MSMEs) play a vital role in India's economy and are an integral component of the country's growth strategy. Recognizing the importance of this sector, the Government of India is facilitating the development of small businesses, making them integral part of key policies with initiatives such as Make in India, Start-up India, and Digital India.

Digitalization of Indian business is majorly driven by the rapidly advancing digitization of consumers. This has led to increased data traffic and accelerated establishment of new tech-based start-ups to take advantage of the growth opportunities. Nevertheless, a number of challenges and barriers hindering technology adoption by this sector still remain. However, these challenges create an opportunity for multi-stakeholder participation by many experts with the Government acting as a leader for innovative solutions. A collective effort between the government, private sector, industry groups, training organizations and SMEs themselves – is the most effective way to tackle the barriers that Indian small and medium business face.

The aim of this Perspective is to explore the potential lessons that conservationists can learn from other domains on using digital technology as a tool to meet conservation goals. Due to parallels between the conservation and human development domains, we focus primarily on examples from human development, a domain that has capacity-building characteristics (i.e., the ability of individuals and organizations to perform functions, solve problems, and set and achieve objectives—United Nations Economic and Social Council 2006). We conclude with a proposed charter of best practice for the application of the lessons cited and the constructive future use of digital technology in conservation.

Regardless of how innovation is stimulated, there is a danger that, in the proliferation of ideas, products, or methods, (pilot) projects are repeated. When there is a lack of collaboration across organizations, multiple solutions to a single problem can be created. In developing countries, a lack of collaboration can mean that many innovations do not fulfil their original intentions, especially when insufficient attention has been paid to local context. There is a danger that, if the same occurs in conservation, innovation will place an emphasis on novelty or 'fads' rather than progress. It is likely that many conservation issues can be addressed (in part) by working in collaboration with local communities and adapting existing tools. The use of technology should be continually questioned to ensure that it is relevant, serves wider conservation goals, and does not reinvent the wheel.

References

Enterprises with Udyog Aadhaar Number. (n.d.). Retrieved December 22, 2015, from http://udyogaadhaar.gov.in/UA/Reports/StateBasedReport_R3.aspx.

MSME Overview: (n.d.). Retrieved December 22, 2015, from http://dcmsme.gov.in/ssiindia/MSME_OVERVIEW09.pdf.

MSME: Govt. of India Development Commissioner (MSME) Ministry of Micro, Small & Medium Enterprises. (n.d.). Retrieved December 22, 2015, from http://www.dcmsme.gov.in/howtosetup/getstart.htm.

© SGBED 2019

http://www.khemkafoundation.net/index.php?option=com_k2&view=itemlist&task=cate gory&id=48:benefits-available-to-micro-small-and-medium-enterprises&Itemid.
Subhash Bhatnagar (Professor, Indian Institute of Management Ahmedabad):
http://siteresources.worldbank.org/INTEDEVELOPMENT/Resources/559323-1114798035525/Workshop_Abstracts.pdf
David Coursey,Donald.F..Norris-2008:*http://s3.amazonaws.com/academia.edu.documents/31029791/20090314050850Models_of_E-Government-_Are_They_Correct-_An_Empirical_Assessment.pdf?AWSAccessKeyId=AKIAJ56TQJRTWSMTNPEA&Expires=1481008953&Signature=JOyU9b6tgVJDtDpjM%2BM6pjAiPiE%3D&response-content-disposition=inline%3B%20filename%3DModels_of_e_government_Are_they_correct.pdf*
Digital Opportunity, "Pushing the envelope on e-Government", *http://www.digitalopportunity.org/article/view/120434/1*
Subhash C. Bhatnagar, Nupur Singh-2010:*http://itidjournal.org/itid/article/view/523*
Mohammad Dadashzadeh-2010:
http://www.cluteinstitute.com/ojs/index.php/JBER/article/view/51
Mohammad Alkhaleefah , Mahmoud Alkhawaldeh , Sitalakshmi Venkatraman, and MamounAlazab-2010:*https://www.researchgate.net/profile/Mamoun_Alazab/publication/230554533_Towards_Understanding_and_Improving_E-Government_Strategies_in_Jordan/links/0912f50149f14e3bbf000000.pdfc*
Guangwei Hu, Jin Shi, Wenwen Pan, Jie Wang-2012:
http://www.sciencedirect.com/science/article/pii/S0740624X12000949
Bo Fan-2013:*http://idv.sagepub.com/content/29/4/333.abstract*
Irene BernhardKth.Högskolan Väst. [2013]:University dissertation from Stockholm:KTH Royal Institute of Technology. *http://www.dissertations.se/dissertation/3785f16ae1/*
Deepak Bhatia (Manager, ISG e-Government Practice, ISGIF):
http://siteresources.worldbank.org/INTEDEVELOPMENT/Resources/559323-1114798035525/Workshop_Abstracts.pdf
Irene BernhardKth.Högskolan Väst. [2014]:University dissertation from Stockholm : KTH Royal Institute of Technology. *http://www.dissertations.se/dissertation/742c78449f/*
Ibrahim Otieno, Elijah Omwenga-2014:*http://ieeexplore.ieee.org/document/6880644/*
Mohammad Kamel Alomari-2014:*http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1807-17752014000100005*
Jing Fan, Pengzhu Zhang, David C. Yen-2014:
http://www.sciencedirect.com/science/article/pii/S0378720613001146
Guangwei Hu, Wenwen Pan, Hui Lin, Kyeong Kang, Michael L. Best-2014:
http://ssc.sagepub.com/content/early/2014/01/01/0894439313501614.abstract
NGO TAN VU KHANH- 2014:
https://arxiv.org/ftp/arxiv/papers/1401/1401.4876.pdf
Shams Rahman, Nahid Rashid ,Aswini Yadlapalli ,Li (Eva) Yiqun-2014:
http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1085&context=pacis2014
Hermann Hil :*https://difu.de/node/6037*
Suhardi Suhardi, Alfira Sofia, Agustinus Andriyanto-2015:*http://journals.itb.ac.id/index.php/jictra/article/view/1183*
Dr.SangitSaritaDwivedi-2015:
http://www.internationalconference.in/XVI_AIC/TS1_pdf/3.%20Sangit%20Sarita%20Dwivedi.pdf
Thlang Sokim, Xu Xiaolin, Huang Dong -2015:*http://www.idpublications.org/wp-content/uploads/2015/09/Abstract-E-GOVERNMENT-COMBATTING-CORRUPTION-AND-CONTRIBUTE-TO-GOOD-GOVERNANCE.pdf*
Jing Fan, Wenting Yang-2015:
http://www.jiem.org/index.php/jiem/article/view/1405
David Špaček-2015:*http://www.cejpp.eu/index.php/ojs/article/view/237*
ALI MOHAMMAD AL-NAIMAT-2015: *http://etd.uum.edu.my/5378/2/s91406_abstract.pdf*
Bo Fan, Hongzhen Jiang-2016:
http://idv.sagepub.com/content/32/4/953.abstract
Waqar Siddique-2016:*http://www.jedem.org/index.php/jedem/article/view/398*
The Pacific Council on International Policy, The Working Group on E-Government in the Developing World, "Roadmap for E-Government in the Developing World" 10 questions E-Government Leaders Should Ask Themselves, *http://www1.worldbank.org/publicsector/egov/e-gov.final.pdf*

© SGBED 2019

Bruno Lanvin (Senior Advisor, E-Strategies, CITPO):
http://siteresources.worldbank.org/INTEDEVELOPMENT/Resources/559323-1114798035525/Workshop_Abstracts.pdf
Mart Laar (former Estonian Prime Minister, via videoconference from Tallinn, Estonia):
http://siteresources.worldbank.org/INTEDEVELOPMENT/Resources/559323-1114798035525/Workshop_Abstracts.pdf

© SGBED 2019

DXB040

DIGITAL CORPORATE IDENTITY CONGRUENCE ANALYSES: HIGHLIGHTING CRITICAL ISSUES AND UNTAPPED OPPORTUNITIES. A FOCUS ON ITALIAN SMES OF THE DAIRY INDUSTRY

Paola Signori, paola.signori@univr.it
Irene Gozzo, ire.gozzo@gmail.com
Polo Scientifico Didattico Studi sull'Impresa, University of Verona, Vicenza, Italy
Vittoria Bisutti, vittoria.bisutti@unipd.it
Severino Segato, severino.segato@unipd.it
Department of Animal Medicine, Production and Health, Padua University, Padua, Italy

ABSTRACT

Firms often signal their identities through their digital footprints. The context chosen for this research is the Italian dairy industry, which is fragmented with many product-oriented smaller farms. Corporate identity congruence (CIC) refers to the fit between several corporate identity meanings. These meanings are signaled to stakeholders by multiple vehicles, some of which are digital in nature. Digital signal analyses could reveal misalignment between offline and online communication. The research design involves multiple studies: phenomenological interviews on 7 case studies, using NVIVO to analyze transcripts and other documents; nutritional and chemometric analysis on dairy products; corporate identity congruence meaning based analysis, with a particular focus on digital communication. Misalignments discovered between what companies do, who they are, and what they say (offline and online) are discussed as critical issues. This digital CIC analysis strives to highlight new opportunities for companies that want to evolve their digital corporate identity.

Keywords: Corporate Identity, Congruence, Dairy industry, Digital Communication, Big Data.

Introduction

A digital corporate identity analysis is able to reveal critical issues and untapped opportunities for those companies that are still digital novices. Sometimes these firms lack modern communication and digital skills. This study aims to help practitioners in understanding their communication misalignments, conducting a meanings-based analysis of their corporate identity, and in providing insights from mixed methods analysis of interview, print and digital content.

A corporation's identity refers to what an organization stands for and the mix of elements that give the organization distinctiveness (Balmer, 1998; 2008; Wernerfelt, 2014). The origins of corporate identity research have been traced at times to ideas presented by Olins (1978; cited in Balmer, 2015) and Kennedy (1977). It can be conceptualized as "what we indubitably are" (Balmer & Greyser, 2006, p.735; van Rekom, 1997), or the management of all ways the organization presents itself to all of its audiences (Olins, 1995), or holistically as comprised of four dimensions, i.e., communication and visual identity, behavior, corporate culture, and market conditions.

© SGBED 2019

Despite the interdisciplinary nature of corporate identity, an extensive literature base currently exists on the corporate identity theme within marketing alone. A number of these articles offer literature reviews covering over two decades of work on corporate identity conceptualizations (Abratt, 1989; Balmer, 1998, 2001, 2008; Balmer & Greyser, 2002; 2003, 2006; Brown, Dacin, Pratt & Whetten, 2006; Cornelissen, Haslam & Balmer 2007; Cornelissen, Christensen & Kinuthia 2012; Dacin & Brown, 2002, 2006; He & Balmer, 2007, 2013; He & Mukherjee, 2009; Melewar, 2003, 2008; Melewar & Karaosmanoglu 2006; van Riel & Balmer, 1997). In particular, He (2012) underlined the importance of understanding managerial perspectives and intent, specifically on trying to determine on which of the many corporate identity elements leaders anchor. He (2012) went on to state the need for understanding the extent of integration among these elements. In addition, Brown, Dacin, Pratt & Whetten, (2006) summarize the interdisciplinary work on identity, intended image, construed image and reputation as four viewpoints describing managers' perspectives of interactions between a focal firm and its stakeholders, with two that are particularly relevant here: "who are we as an organization?", mental associations about the organization held by organizational members and "what does the organization want others to think about the organization?", mental associations about the organization that organization leaders want an important audience to hold, of which customers are one of the most important.

A Corporate Identity Congruence analysis should include all the elements that are part of a corporate identity. Flint, Signori & Golicic (2018) identify five categories of corporate identity elements, presenting sixteen signaling vehicles that can be adapted to the dairy industry: product characteristics (product attributes, packaging, label); marketing processes (digital media, printed collateral, interpersonal interactions, events, architectural design); operations (production and operations); supply chain management processes (network structure, relationship management); and organizational characteristics (firm location, organizational structure and employee skills). Corporate identity-related messages, be they leadership communications, printed collateral, stories, digital manifestations, visual imagery or behaviors, can be thought of as signals to the marketplace.

The context chosen for this research is the Italian dairy industry, which is fragmented with many product-oriented smaller farms (Confente & Signori, 2016). The dairy industry holds an important role in the Italian food market, with a revenue of 15.9 billion euros (ISMEA, 2017). Milk comes mainly from small farms that represent the majority of the producers. Big companies are only a few, operating on a large scale. Then, most farms are located in the Northern and Central Italian regions. Cheese represents the main final product of milk and only a small portion is delivered to retailers to be sold as fluid milk products. Over the last few years, the consumption of fresh milk and its supply have been increasing together with consumer pricing (Madau, Furesi & Pulina, 2016). The dairy farms are not benefitting from these higher consumer prices, due to buying power of intermediaries. This situation could be related to the growing presence of market power along the supply chain, which comes from a high concentration of industrial firms and retailers (Sckokai, Soregaroli & Moro, 2013). In fact, Pieri (2013) demonstrates the presence of only eight industrial firms, that control 20 per cent of the Italian market; four of them, the largest, produce 13 per cent of the total milk.

In the last few years, the global dairy industry began to face three problems: even though dairy goods represent an important source of nutrients for humans, nutritional experts keep emphasizing a balanced lighter diet which reduces the amount of dairy products consumed

© SGBED 2019

(Sonesson & Berlin, 2003); second, because producing and distributing these products have a critical impact on the environment (Palmieri, Forleo & Salimei, 2017), in particular on resource reduction and gas emissions (Gonzalez-Garcia, Hospido, Moreira, Feijoo & Arroja, 2013, in Palmieri, Forleo, & Salimei, 2017), environmental sustainability is becoming increasingly critical (Glover, Champion, Daniels & Dainty, 2014); and third, meanwhile global corporations continually rely on digital media for communicating with all stakeholders, with consumers becoming less sensitive to traditional media and seeking more relations and experiences even for convenience goods (Confente & Signori, 2016).

Objectives and methodology

This digital Corporate Identity Congruence analysis strives to highlight new opportunities for companies that want to evolve their digital corporate identity. The digital focus is part of a larger research design, composed of three main stages, based on a mixed method, multidisciplinary approach.

The overall research design involves multiple studies: phenomenological interviews with top managers of 7 case studies (Yin, 2009); nutritional and chemometric analysis on dairy products of 20 dairy farms; corporate identity congruence meaning based analysis, with a particular focus on digital communication. The main analysis method is a meanings-based analysis on Corporate Identity elements (Flint, Signori & Golicic, 2018), using NVIVO to capture meanings in transcripts and other elements of the corporate identity. This research involves three different studies:

1. Study 1= "Who they are", identification of corporate identity main meanings.
   Adopting a case study method protocol (Yin, 2009), the first study aimed to collect information on "who they are", in particular trying to capture through personal interviews (1-2 hours long) the main meanings top managers were choosing for their corporate essence. He (2012) underlined the importance of understanding managerial perspectives and intent, specifically on trying to determine on which of the many corporate identity elements leaders anchor.
   The sample is composed by 7 firms of the Italian dairy industry (see Table 1 for sample description), all located in Vicenza province. A case study is a medium size company, producing asiago cheese, fresh cheese, aged cheese, butter, yogurt, milk (interview with the general director). B and C are small size lowland companies. B produces asiago cheese, ricotta and milk (2 interviews with the cooperative's president and with his two secretaries). C produces asiago cheese, caciotta cheese and fresh cheese (interview with the cooperative's president and managing director). D is a micro alpine company, which produces asiago cheese, caciotta and ricotta (2 interviews with the CEO and family owners). E and F are large size companies, producing milk and fresh and aged cheese. E is located in an alpine environment (interview with the marketing manager), while F in the lowland (interview with the general manager). G is an alpine large company, producing fresh and hard cheese, and butter (interview with the CEO and owner).
   All interviews were transcribed and analyzed with coding within the NVIVO software, searching for meanings on different identity elements reported by senior managers: product characteristics (product attributes, packaging, label); marketing processes (digital media, printed collateral, interpersonal interactions, events, architectural design); operations (production and operations); supply chain management processes (network structure, relationship management); and organizational characteristics (firm location, organizational structure and employee skills). Insights from study 1, related to the main orientation on

© SGBED 2019

production of many companies in the sample, confirmed the need to inspect product (milk) attributes in relation to production systems that were mentioned in corporate identities.

2. Study 2: "What they do", analysis of nutritional profiles.
The purpose of this study 2 was to evaluate how different production systems and seasons can affect milk's nutritional profile of dairy farms located in the Veneto Region (Italy). The trial was carried out on twenty lowland dairy farms (of which, 7 are in study 1 sample) grouped in five feeding systems (fixed effect F) according the main forage of the lactating dairy cows' diet: HMS (high maize silage diet), MMS (medium maize silage diet), GMS (mix of grass and maize silage diet), HGS (high grass silage), HMH (high meadow hay diet). Over the year 2018, the milk was collected in the experimental farms four times (fixed effect S): February (WT thesis, winter samples), May (SP thesis, spring samples), July (SM, summer samples), September (AT, autumn thesis) and submitted to chemometric analysis in order to determine the content of lipid and protein-like nutritional compounds. The fatty acid (FA) profile was determined by gas-chromatography, fat-soluble vitamins were evaluated by HPLC, the N-fraction was detected by using a high resolution mass spectrometry (HRMS), the proximate composition by means of near infrared (NIR) spectroscopy (Nguyen Dupas, Adt, Degraeve, Ragon, Missaoui, Novelli, Segato, Phan & Ouhalal., 2014; Ottavian, Franceschin, Signorin, Segato, Berzaghi, Contiero & Cozzi, 2015; Segato, Galaverna, Contiero, Berzaghi, Caligiani, Marseglia & Cozzi, 2017). Data were submitted to a two-way analysis of variance (two-way ANOVA) by using a general linear model that considered the fixed effects F (feeding system) and S (season of milk production) and their interaction (FxS). The HRMS dataset was also used to perform a principal component analysis, using the software Unscrumbler 10.5 X (CAMO Software AS, Oslo, NO) and Metaboalayst 4.0 (Xia Lab, McGill University, Quebec, CA), in order to discriminate the different feeding systems.

TABLE 1: SAMPLE DESCRIPTION

Company	*Chain*	*Products*	*Dimension*	*Foundation Year*	*Company Type*	*Market*
A	Lowland	Asiago, Fresh Cheese, Aged Cheese, Butter, Yogurt, Milk	Medium	1929	Ltd	National
B	Lowland	Asiago, Ricotta, Milk	Small	1901	Cooperative	Local
C	Lowland	Asiago, Caciotta, Fresh Cheese.	Small	1989	Cooperative	Local
D	Alpine	Asiago, Caciotta, Ricotta	Micro	1900	Farm	Local
E	Alpine	Asiago, Fresh Cheese, Hard Cheese, Butter, Yogurt, Milk, Ice Cream	Large	1954	Cooperative	National and International
F	Lowland	Asiago, Fresh Cheese, Hard Cheese, Butter, Yogurt, Milk	Large	1952	Cooperative	National and International
G	Alpine	Butter, Gran Moravia, Fresh Cheese, Aged Cheese	Large	1784	Ltd	National and International

© SGBED 2019

3. Study 3= "What they say", content communication analysis.
   All documents related to case stud firms' communications vehicles were collected and analyzed with NVIVO coding, following the same research method and sample used in study 1, and searching for meanings in communication content related to all of the identity elements (Flint, Signori & Golicic, 2018). Then, the communication analysis separated results for traditional and product offline vehicles (in this industry in particular: flyers, brochures, packaging, labels), versus digital media (in particular, websites, facebook, youtube). Offline and online communication flows were collected and observed for 6 months in 2018.

Results

1. Study 1 findings: identification of corporate identity main meanings.

Thanks to the interviews with the owners and presidents of the seven firms, it has been possible to know more about who they are and who they want to be in the future. Micro and small firms often struggle in communicating all their initiatives and efforts to their stakeholders, and top managers and owners place a lot of effort on personal communication to the marketplace and to their stakeholders. The direct contact with owners and presidents gave to the researchers several important inputs, difficult or impossible to collect from other sources.

Study 1 findings show two groups of main meanings: the first related to the meaning "Natural", including signifiers regarding being natural in general, or directly stressing the natural attribute of milk and the dairy product and production; the second group is "Sustainability", which is composed of many sub-codes, such as environmental, social, economic. Study 1 findings are presented in Figure 1. For more details, the codebook in Table 2 contains details of codes, sub-code descriptions, source (interviews included) and frequency. All coding was originally done in Italian but has been translated here into English.

B, C and D cases could be defined as production oriented. In fact, they all focus their attention mainly on the production of hand-made cheese, composed of natural ingredients, following their own tradition. Moreover, even if sometimes they are not conscious at all about this, they work in a sustainable way, respecting the environment, taking care of cows and helping local communities. All of them have their own shop, a small factory outlet, through which they have a direct contact with consumers. However, despite this, the major part of their production is sold to wholesalers and distributors, with the consequential effect of losing their identity on packaging and labels. E, F and G cases, the largest companies, are focused both on product quality and elements of sustainability and nature. This is demonstrated by a great number of initiatives in terms of environmental safeguarding and social activities that companies undertake. Finally, case A is the only firm that is not aligned with the sustainability trend. In fact, sustainability is considered also in its economic dimension, as a way to save money. The focus of the company is oriented especially towards internal innovations and certifications.

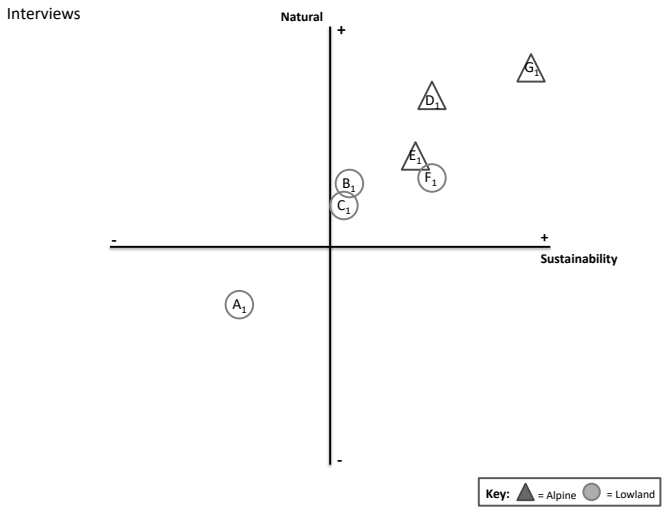
Figure 1 shows the positioning of the seven firms in relation to two attributes: Natural and Sustainability. These attributes confirmed as important to analyze because of their relevance in recent dairy industry trends (Confente & Signori, 2016). Findings for each case study are reported in Figure 1, in which the two main meanings compose a map with four quadrants, enabling to classify four different corporate identity profiles:

© SGBED 2019

- The Nutritionists (upper left quadrant), give more importance to health, quality and nature of the products than to sustainability factors;
- The Healthy and Sustainable Experts *(*upper right quadrant*)*, focus on product quality, nature, healthy consumption and the integration of sustainability in their business;
- The Green Purists (lower right quadrant), want to reach only one major goal of integrating sustainability in every part of their work;
- The Industrialists (lower left quadrant), want to reach high economic goals, by the use of industrial processes and without working on sustainability.

Firms have been positioned in the maps following the NVivo Coding results derived from interviews. Firms have been positioned in Figure 1, based on the extent to which the firms emphasize "natural" and "sustainability" meanings within the interviews analyzed. A greater extent of natural is toward the top, greater extent of sustainability is toward the right. All firms except one are set in the upper right quadrant, which contains "The Healthy and Sustainable Experts", based on top management description of their corporate identities. Different from the others, A is positioned in the lower left quadrant, that includes "The Industrialist". Generally, companies place effort on developing sustainable and natural products, each of them at different levels. Alpine (triangles) and Lowland (circles) graphical distinction is to connect studies 1 and 3, with study 2.

Figure 2: Corporate Identity Main Meanings Map On Interviews Contents



2. Study 2 findings: analysis of nutritional profiles.

An evaluation of the nutraceutical value of dairy products could be another challenge aiming at both tracing the dairy chain and assessing their degree of sustainability.

A preliminary analysis of data showed a significant influence of the F (feeding system) effect on the nutritional value of milk even though the variation of data was affected by the interaction FxS. As reported in previously studies (Bernardini, Gerardi, Elia, Marchesini, Tenti & Segato, 2010; Segato, Galaverna, Contiero, Berzaghi, Caligiani, Marseglia & Cozzi, 2017), the substitution of maize silage with high meadow hay resulted in the decrease of the incidence of saturated fatty acids (SFA) and monounsaturated FA (MUFA) and, consequently, in the increase

© SGBED 2019

of the long chain polyunsaturated FA (PUFA). Milk from HGS and HMH was also characterized by a significant amount of CLA (conjugated of linoleic acid) while the incidence of PUFA n-3 remained comparable among feeding systems. Moreover, it was observed a slightly ($P<0.10$) decrease of saturated FA (SFA) along the season that increased the proportion of monounsaturated FA (MUFA) in all the feeding systems, especially in the SM samples. The feeding system thesis did not affect the amount of vitamin A and E (retinol) that, on average, was equal to 6.8 and 12.2 μg *per* g of fat, respectively. These fat-soluble vitamins tended to increase throughout the time of sampling, being slightly higher in the SP and SM seasons. Aside from the effect of experimental factors, what is certainly noticeable is the considerable amount of these two fat-soluble vitamins in milk of the entire experimental thesis that, acting as antioxidant, could play a positive role in protecting the double bonds of unsaturated fatty acid during both milk processing and/or the metabolic pathways related to the human consumption. Considering the reduction of milk production of the HMH thesis dairy cows and the increase of the cost per milk unit, an adequate communication would be necessary to improve the consumers' perception regarding the high nutritional milk quality of this dairy chain (De Nardi, Marchesini, Stefani, Barberio, Andrighetto & Segato, 2014).

The HRMS determination allowed the identification of a complex pattern of N-compounds and other hydrophilic substances in milk and milk-derivatives (cheese, yogurt, cottage cheese, concentrated whey). Several metabolites belonging to the chemical classes of amino acids, organic acids and alcohols such as valine, creatinine, succinic acid, acetic acid, glycerol, citric acid seemed to be potential markers for the classification of the milk and milk-derivatives based on its production system. The accuracy of classification of the feeding systems based on HRMS data was quite correct for HMH samples (hit samples = 0.74), meanwhile it was less frequent for the others thesis (hit samples < 0.65). Compared to milk samples obtained by the use of maize or other fodder silage, the discrimination of HMH-samples was probably attributable to a significant difference in the lipid profile, as highlighted by the wet-chemistry analysis. The outcomes of this study confirm that the use of HRMS coupled with NIR spectral data could be a reliable, chemical-free tool to identify milk from different dairy chains, especially in the case of those from the same season of production (Ottavian, Facco, Barolo, Berzaghi, Segato, Novelli & Balzan, 2012).

3. Study 3 findings: content communication analysis.

Study 2 results reveal some strengths on what companies do, in particular some dairy chains producing higher nutritional milk, with important values and product attributes that could be communicated to the market. Study 3 aims to verify if companies' communication is aligned and congruent with what companies are (study 1), and with contents discovered on what companies are really doing (study 2).

Table 2 reports findings from the NVIVO analysis of multiple sources. In particular, this codebook highlights that interviews represent an essential source of information, particularly true when researching on small firms. These firms often do communicate all of their identities, activities and values using few corporate identity elements. Table 2 also reports a distinction between offline and online sources. Offline communication sources in this sample are mainly materials related to companies (brochures and flyers) or products (flyers, packaging and labels). Online communication sources are websites, Facebook and Youtube, in particular: websites in

© SGBED 2019

every case; Facebook A, B, D, E, F, G; Youtube E, F, G. Other digital media are not used by firms in this sample.

TABLE 2: CODEBOOK

Name	Description	Source	References
Azienda (Firm)	Elements that are linked to the company in its own.	10 Case B (Interview) Case C (Interview) Case D (Interview) Case E (Interview, Digital) Case F (Interview, Digital) Case G (Interview, Digital)	43
Elementi distintivi (Distinctive elements)	Specific elements regarding particular and differentiating features of companies.	14 Case A (Interview, Digital) Case B: (Interview, Digital) Case C (Interview, Digital) Case D (Interview, Digital) Case E (Interview, Digital) Case F: (Digital) Case G (Interview, Digital)	51
Iniziative (Initiatives)	Elements that concern local initiatives of companies toward communities.	6 Case A (Digital) Case C (Interview) Case D (Interview, Digital) Case E (Digital) Case F (Digital)	17
Packaging (Packaging)	Elements of firms' packaging.	10 Case A (Product Communication, Digital) Case B (Product Communication, Digital) Case C (Interview, Product Communication, Digital) Case D (Interview, Product Communication, Digital) Case E (Interview, Product Communication, Digital) Case F (Product Communication, Digital) Case G: (Interview, Product Communication, Digital)	16
Naturale (Natural)	Elements regarding being natural in general. + Elements that are linked to firm's natural products.	7 Case B (Interview, Digital) Case C (Interview) Case D (Interview) Case E (Digital) Case F (Digital)	12
Malga (Alpine cottage)	Elements regarding the alpine natural environment	3 Case D (Interview, Product Communication) Case F (Product Communication) Case G (Digital, Product Communication)	15
Mucche (Cows)	Elements regarding nature and healthy animals	12 Case A (Product Communication, Digital) Case B (Interview) Case D (Interview) Case E (Interview, Product Communication, Digital) Case F (Interview, Product Communication, Digital) Case G (Interview, Product Communication, Digital)	22
Prodotti **(Products)**	Elements that concern every kind of product made by firms.	17 Case A (Interview, Digital) Case B (Interview, Product Communication, Digital)	105

© SGBED 2019

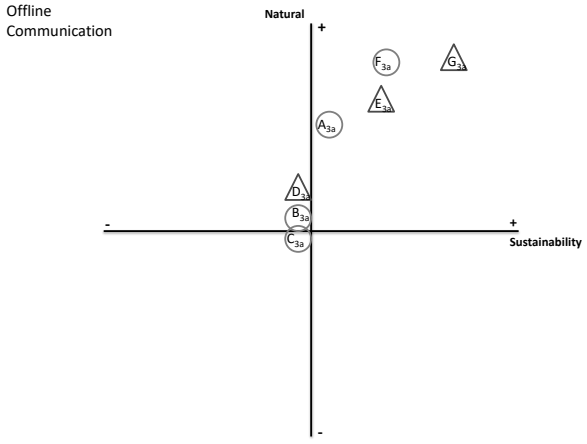
		Case C (Interview, Product Communication, Material) Case D (Interview, Product Communication, Digital) Case E (Interview, Digital) Case F (Interview, Product Communication, Digital) Case G (Interview, Digital)	
Relazioni (Relationships)	Elements generally referred to relations between companies and their stakeholders.	4 Case B (Interview) Case D (Interview) Case F (Interview) Case G (Interview)	19
Consumatori (Consumers)	Elements linked to relations between companies and costumers.	5 Case A (Interview) Case B (Interview) Case E (Interview) Case G (Interview)	15
Dipendenti (Employees)	Elements linked to relations between companies and employees.	2 Case A (Interview) Case E (Interview)	19
Catena distributiva (Distribution network)	Elements linked to relations between companies and distributors (large grocery stores included)	4 Case A (Interview) Case E (Interview) Case F (Interview)	8
Supply chain (Supply chain)	Elements that give information about the entire firms' supply chain.	17 Case A (Interview) Case B (Interview, Digital) Case C (Interview, Digital) Case D (Interview) Case E (Interview, Digital) Case F (Interview, Digital) Case G (Interview, Digital)	88
Sostenibilità (Sustainability)	Elements regarding sustainability in general.	22 Case A (Interview, Digital) Case B (Interview, Digital) Case C (Interview, Digital) Case D (Interview) Case E (Interview, Digital, Product Communication) Case F (Interview, Digital, Product Communication) Case G (Interview, Digital, Product Communication)	93
Ambiente (Environment)	Elements that concern environmental sustainability.	8 Case C (Interview) Case E (Interview, Digital) Case F (Interview) Case G (Interview)	34
Biologico (Organic)	Elements linked to the "organic" concept.	9 Case C (Interview) Case D (Interview) Case E (Interview, Digital, Product Communication) Case F (Interview, Digital, Product Communication) Case G (Interview)	26

© SGBED 2019

Cooperativa (Cooperative)	Elements associated with sustainability into cooperatives.	7 Case A (Interview) Case E (Interview) Case F (Interview, Digital, Product Communication) Case C (Interview)	22
Sociale (Social)	Elements that concern social sustainability.	11 Case D (Interview) Case C (Interview) Case A (Interview) Case G (Interview, Digital) Case E (Interview) Case B (Interview)	27

Through NVivo, it is possible to show the most recurrent words within the analyzed sources. This tool permits s us to understand what are the most used words and, consequently, what are the most discussed themes. Word counting was not the main purpose of this study, however some findings are reported to highlight some curious results. Measuring word frequencies, the most used word is milk, that is in line with the main theme of the research, that is the dairy industry and their main attention to production. Then, product and products mentions are positioned in second place, followed by cheese. Milk, and related products, are obviously the center of this industry, however firms do not communicate those important attributes, related to nutritional profiles, discovered in study 2 and that could be valued by customers. This note is confirming that communication contains product and production plain descriptions. Another very interesting piece of data is shown in the concepts of "sustainability" and "quality": where sustainability appears more frequently than the word quality. This could mean that these dairy companies are maybe shifting their communication more toward sustainability than quality content. This result is interesting, if we consider that in this industry and context, for many years referring to quality (product or production related) has been the most frequent main topic in small food companies' communication. Moreover, also the location (Vicenza) is in high position, highlighting the importance of the product origin and company location. Finally, only two brand names are tracked in this analysis: it means that only two cases are frequently repeating their brand or company names in their communication, while all the others are not even mentioning their own names in their communication contents.

Figure 2: Corporate Identity Main Meanings Map On Offline Communication



© SGBED 2019

Figure 2 shows results on a map created in the same way as study 1. The positions of seven companies are related to content found in traditional offline product materials. Cases are differently positioned in Figure 2 (based on content revealed in product communication) if compared with Figure 1 (based on content revealed by interviews). These differences show some misalignments. In particular, small firms (B, C, D) do not communicate in an appropriate way their identity and their work, changing position on the map and becoming less natural and less sensitive on sustainability in their communications. At the same time, large companies (A, E, F, G) communicate their identity and work within their product material, appearing sometimes more natural and more focused on sustainability than what they effectively are.

Figure 3: Corporate Identity Main Meanings Map On Online Communication

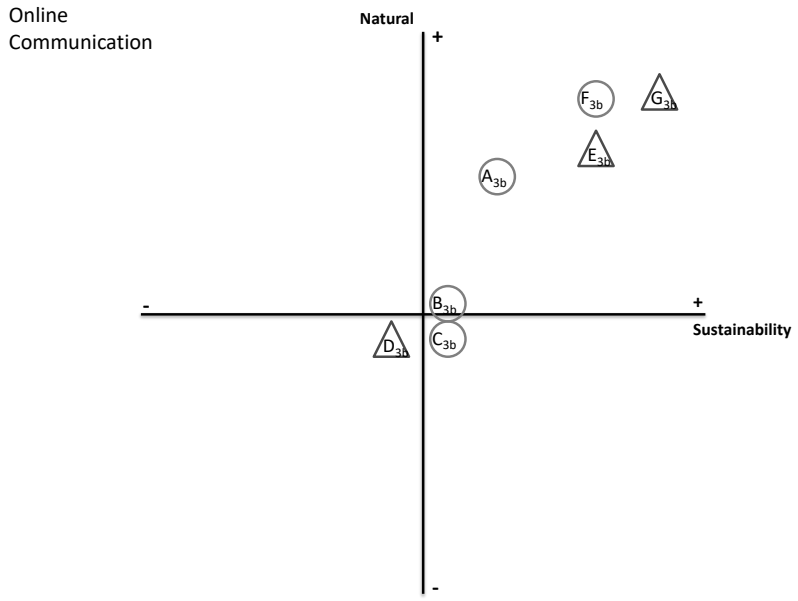


Figure 3 refers to results of case studies' online communication analysis, and positions in the map are directly reporting firms' efforts in communicating the two main meanings of "natural" and "sustainability". Comparing Figure 2 and 3 it becomes more evident that digital content is more focused on sustainability in many cases (a little more for A, B, C; and many more for F). Two cases (E and G) are aligned and congruent in their offline and online contents. Case D does not communicate any natural or sustainable meaning on digital media.

Conclusions

This paper reports important findings from a multidisciplinary mixed method research project. First, the use of some food fingerprints could be a useful chemometric tool that allows for effective product protection and a corresponding increase in economic value of milk and other dairy products obtained by the means of a production system that maximizes the amount of their nutritional traits; this could be communicated to the marketplace. The preliminary results of study 2 evidenced that the identification of qualified biomarkers from the lipid and protein fraction can be an effective chemometric tool to discriminate the dairy chains based on feeding system

© SGBED 2019

characterized by an increase use of maize silage from arable land in comparison with crop from permanent meadow.

Second, what is evident is that medium and large companies are misaligned in who they are, what they really do and what they say. In particular, some of them oversell the sustainability factor. In this case sample, two cases risk be accused of greenwashing (over exposition on sustainability factors on product related communication); and one case masks its industrial profile to the market. The other group of small and micro companies and cooperatives, sometimes fail to transfer their values (nature orientation and nutritional profile) to the market: two cases show communication gaps and untapped market opportunities; one case is the only one that emphasises in its mission a nutritional focus, however it does not communicate it to the market. Focusing on the digital effort, content analyzed reveals that four companies are digitally stressing more on sustainability meanings than in other media (three cases communicate a little more sustainability on digital media; two many more). Only two case studies show a congruent alignment in who they are and what they say.

In conclusion, this research demonstrates a general lack of strategy in dairy firms' communication efforts. Furthermore, cases of the alpine chain do not communicate anything about the higher nutritional value of their products. Misalignments discovered between who firms are, what companies do, and what they say (offline and online) should be considered critical issues. This digital CIC analysis strives to highlight new opportunities for companies that want to evolve their digital corporate identity. In particular, if a company is not transferring its core values and actions to its stakeholders, the power (and margins) will remain with distributors, and final consumers will not perceive any differentiation on dairy products and brands. Furthermore, if a company stresses some values in its communication that are not really true, in the future, the market may discover this, creating a high risk for the company's reputation. Top managers should analyze their corporate identity elements to verify the congruence in what they are, what they do and what they say, to be able to align their essence and communication. In particular, digital media should not be considered as simple and casual vehicles, in which greenwashing or false content is allowed. In this research, the majority overstress the importance of sustainability in their social media, compared to other identity elements. Moreover, it is confirmed that in this industry and context, firms do not possess digital communication skills, in terms of media mix, media plans, frequency and content. This research has some limitations, due to the limited sample size. Future research may explore this mixed method approach in other industries and contexts. However, this mixed method study contributes to the corporate identity domain in showing that meanings-based corporate identity congruence analyses can be helpful to highlight new opportunities for companies that want to evolve their digital presence in congruence with their corporate identity strategy.

Aknowledgements

We would like to thank Fondazione Cariverona and Fondazione Studi Universitari di Vicenza for their support of the research project on "Autenticazione alimentare a tutela del consumatore per uno sviluppo sostenibile e la promozione di una nutrizione globale", from which the results reported in this paper are extracted.

© SGBED 2019

References

Abratt, R. (1989). A new approach to the corporate image management process", *Journal of Marketing Management*, 5 (1), 63-76.

Balmer, J. M., & Greyser, S. A. (2006). Corporate marketing: Integrating corporate identity, corporate branding, corporate communications, corporate image and corporate reputation. *European Journal of Marketing*, *40 (7/8)*, 730-741

Balmer, J.M.T. & Greyser, S.A. (2002). Managing the multiple identities of the corporation. *California Management Review*, 44 (3), 72-86.

Balmer, J.M.T. & Greyser, S.A. (2003). *Revealing the Corporation: Perspectives on Identity,Image, Reputation, Corporate Branding, and Corporate-Level Marketing*. London: Routledge.

Balmer, J.M.T. (1998). Corporate identity and the advent of corporate marketing. *Journal of Marketing Management*, *14 (8)*, 963-996.

Balmer, J.M.T. (2001). Corporate identity, corporate branding and corporate marketing: seeing through the fog. *European Journal of Marketing*, *35 (3/4)*, 248-291.

Balmer, J.M.T. (2008). Identity based views of the corporation: Insights from corporate identity, organisational identity, social identity, visual identity, corporate brand identity and corporate image. *European Journal of Marketing*, *42 (9/10)*, 879-906.

Balmer, J.M.T. (2015). Corporate identity, corporate identity scholarship and Wally Olins (1930-2014). *Corporate Communications: An International Journal, 20 (1)*, 4-10.

Bernardini, D., Gerardi, G., Elia, C.A., Marchesini, G., Tenti, S., Segato, S. (2010). Relationship between milk fatty acid composition and dietary roughage source in dairy cows. *Veterinary Research Communications, 34(Suppl 1)*: 135-138.

Brown, T., Dacin, P., Pratt, M. & Whetten, D. (2006). Identity, intended image, construed image, and reputation: an interdisciplinary framework and suggested methodology. *Journal of the Academy of Marketing Science*, *34 (2)*, 95-106.

Cornelissen, J., Christensen, L. T., & Kinuthia, K. (2012). Corporate brands and identity: developing stronger theory and call for shifting the debate. *European Journal of Marketing, 46 (7/8)*, 1093-1102.

Cornelissen, J.P., Haslam, A. & Balmer, J.M.T. (2007). Social identity, organisational identity and corporate identity: towards an integrated understanding of processes, patternings and products, *British Journal of Management*, *18 (1)*, 1-94

Confente I., & Signori P. (2016). Creating value within the dairy supply chain, in Sargiacomo M. (Ed.), *Accounting and Management of the Agribusiness Industry*, McGraw-Hill Education, 159-188.

Dacin, P. A., & Brown, T. J. (2002). Corporate identity and corporate associations: A framework for future research. *Corporate Reputation Review*, *5 (2-3)*, 254-263.

Dacin, P. A., & Brown, T. J. (2006). Corporate branding, identity, and customer response. *Journal of the Academy of Marketing Science*, *34(2)*, 95-98.

De Nardi, R., Marchesini, G., Stefani, A.L., Barberio, A., Andrighetto, I., Segato, S. (2014). Effect of feeding fine maize particles on the reticular pH, milk yield and composition of dairy cows. *Journal of Animal Physiology and Animal Nutrition*, *98(3)*, 504-510.

Flint, D. J., Signori, P., & Golicic, S. L. (2018). Corporate Identity Congruence: A meanings-based analysis. *Journal of Business Research*, *86*, 68-82.

Glover, J. L., Champion, D., Daniels, K. J., & Dainty, A. J. D. (2014). An Institutional Theory perspective on sustainable practices across the dairy supply chain. *International Journal of Production Economics*, *152*, 102-111.

González-García, S., Hospido, A., Moreira, M. T., Feijoo, G., & Arroja, L. (2013). Environmental life cycle assessment of a Galician cheese: San Simon da Costa. *Journal of cleaner production*, *52*, 253-262.

He, H. & Mukherjee, A. (2009). Corporate identity and consumer marketing: a process model and research agenda, *Journal of Marketing Communications*, *15 (1)*, 1-16.

He, H. (2012). Corporate identity anchors: a managerial cognition perspective. E*uropean Journal of Marketing, 46 (5)*, 609-625.

He, H., & Balmer, J.M.T. (2007). Identity studies: multiple perspectives and implications for corporate-level marketing. *European Journal of Marketing, 41 (7/8)*, 765-785.

He, H., & Balmer, J.M.T. (2013). A grounded theory of the corporate identity and corporate strategy dynamic: A corporate marketing perspective. *European Journal of Marketing, 47 (3/4)*, 401-430.

Kennedy, S. H. (1977). Nurturing corporate images. *European Journal of Marketing, 11 (3)*, 119-164.

Madau, F. A., Furesi, R., & Pulina, P. (2016). The existence of buyer power in the Italian fresh milk supply chain. *British Food Journal*, *118*(1), 70-82.

Melewar, T. C. (2003). Determinants of the corporate identity construct: a review of the literature. *Journal of marketing Communications*, *9(4)*, 195-220.

Melewar, T. C., & Karaosmanoglu, E. (2006). Seven dimensions of corporate identity: A categorisation from the practitioners' perspectives. *European journal of marketing*, *40 (7/8)*, 846-869.

Melewar, T.C. (Ed.) (2008). *Facets of Corporate Identity*, London: Routledge.

© SGBED 2019

Nguyen, Thi P., Dupas, C., Adt, I., Degraeve, P., Ragon, M., Missaoui, M.F., Novelli, E., Segato, S., Phan The, D., Ouhalal, N. (2014). Partial characterization of peptides inhibiting *Listeria* growth in two Alpine cheeses. *Dairy Science and Technology, 94(1)*, 61-72.

Olins, W. (1978). *The Corporate Personality: An Inquiry into the Nature of Corporate Identity*. London: Design Council, Gower.

Olins, W. (1995). *The New Guide to Identity*. Aldershot: Design Council, Gower.

Ottavian, M., Facco, P., Barolo, M., Berzaghi, P., Segato, S., Novelli, E., Balzan, S. (2012). Near-infrared spectroscopy to assist authentication and labeling of Asiago d'allevo cheese. *Journal of Food Engineering, 113 (2)*, 289-298.

Ottavian, M., Franceschin, E., Signorin, E., Segato, S., Berzaghi, P., Contiero, B., Cozzi, G. (2015). Application of near infrared reflectance spectroscopy (NIRS) on faecal samples from lactating dairy cows to assess two levels of concentrate supplementation during summer grazing in alpine pastures. *Animal Feed Science and Technology, 202*, 100-105.

Palmieri, N., Forleo, M. B., & Salimei, E. (2017). Environmental impacts of a dairy cheese chain including whey feeding: an Italian case study. *Journal of Cleaner Production*, *140*, 881-889.

Pieri, R. (2013). La produzione di latte secondo l'Agea.

Sckokai, P., Soregaroli, C., & Moro, D. (2013). Estimating market power by retailers in the Italian Parmigiano Reggiano and Grana Padano cheese market. *J Agric. Econ*, *64*, 33-53.

Segato, S., Galaverna, G., Contiero, B., Berzaghi, P., Caligiani, A., Marseglia, A., Cozzi, G. (2017). Identification of lipid biomarkers to discriminate between the different production systems for Asiago PDO cheese. *Journal of Agricultural and Food Chemistry, 65*, 9887-9892.

Sonesson, U., & Berlin, J. (2003). Environmental impact of future milk supply chains in Sweden: a scenario study. *Journal of Cleaner Production*, *11*(3), 253-266.

van Rekom, J. (1997), Deriving an operational measure of corporate identity. *European Journal of Marketing*, *31 (5/6)*, 440-422.

van Riel, C.B. and Balmer, J.M.T. (1997). Corporate identity: the concept, its measurement, and management, *European Journal of Marketing*, *31 (5/6)*, 341-355.

Wernerfelt, B. (2014). On the role of the RBV in marketing. *Journal of the Academy of Marketing Science*, *42 (1)*, 22-23.

Yin, R. K. (2009). Case study research: Design and methods 4th ed. In *United States: Library of Congress Cataloguing-in-Publication Data* (Vol. 2).

© SGBED 2019

DXB061

INTERNET OF THINGS AND CONSUMER HEALTH: AN EXAMINATION OF A WEARABLE ANKLE EDEMA MONITORING SYSTEM FOR ELDERLY HEART FAILURE PATIENTS

Muhanad Manshad, muhanad.manshad@unco.edu
Daniel Brannon, daniel.brannon@unco.edu
University of Northern Colorado, USA

Sammy Homsi, sammyrayhomsi1@gmail.com
Shakir Manshad, shakir.manshad@nmsu.edu
New Mexico State University, USA

ABSTRACT

Heart failure (HF) is a leading cause of hospital admissions and readmissions and carries significant morbidity and mortality in the elderly patient population. Worsening ankle edema (swelling caused by excess fluid retention) is an early sign of an acute HF exacerbation and needs to be carefully monitored. In this paper, we present a prototype of a wearable system for assessing ankle edema in HF patients who are elderly, blind, and/or visually impaired. We present the AnkleBracelet wearable device which provides unobtrusive data regarding changes in ankle edema to encourage behavioral change through multimodal feedback and interaction. We also propose an IoT infrastructure to support many HF patients connected via the AnkleBracelet.

Keywords: IoT, Heart-failure, assistive-technology, wearables, elderly.

Introduction

Companies are increasingly adding sensors that collect, transmit, and communicate data onto everyday consumer objects. As a result, the internet of things (IoT) is expected to grow dramatically in the next decade (Meyer, 2016), meaning that consumers' everyday experiences will be defined not only by their own actions, but by their interactions with IoT devices (Hoffman & Novak 2017). While prior research in IoT has largely focused on how IoT devices become integrated into consumer experiences – little work has investigated actual consumer outcomes associated with the use of these devices. In the current research, we describe a wearable IoT ankle monitor that we created to collect and communicate data on heart failure patients, as well as their satisfaction outcomes from using the device.

Figure 1. AnkleBracelet (left), automation & distribution (right)

© SGBED 2019

Heart failure (HF) is a leading cause of hospital admissions and readmissions and carries significant morbidity and mortality in the elderly patient population (Ammar, 2007). Worsening ankle edema (swelling caused by excess fluid retention) is an early sign of an acute HF exacerbation and needs to be carefully monitored. Thus, we propose the AnkleBracelet (figure 1) wearable device, which provides unobtrusive data regarding changes in ankle edema to encourage behavioral change through multimodal feedback and interaction. In the recent years, collaboration between the healthcare and technology has taken a big dive across the world. IoT and Big Data Analytics are progressively gaining popularity for the next generation of health services. Although these fields are developing, they also bring new challenges, exclusively when the target is healthcare that itself is a complex system, demanding reliable, suitable, safe, flexible, and energy-efficient solutions. Our research offers preliminary support for the effectiveness of healthcare IoT devices in increasing patient satisfaction and improving health outcomes.

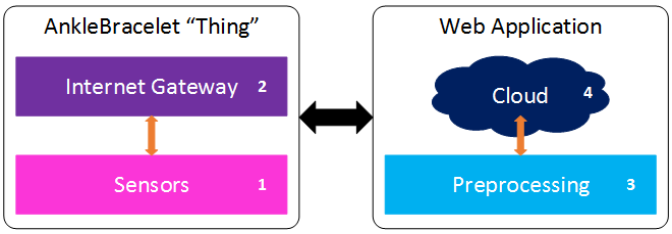


Figure 2. High-level overview of our IoT infrastructure

Current State

We present a design prototype where data can be transmitted remotely to maintain a constant connection between physicians and patients. We also present an IoT infrastructure to support many HF patients connected via the AnkleBracelet. This IoT infrastructure (Figure 2) is a 2-tiered hybrid-architecture. Tier-1 consists of networked AnkleBracelet where each bracelet houses wireless sensors. This layer also includes sensor data aggregation, analog-to-digital data conversion and acts as the Internet Gateway. Tier-2 performs preprocessing of the data before it moves on to the cloud. Then analyzed, managed, and stored on traditional back-end data center systems. The following describe a more detailed look for each tier.

1. **Sensor-Internet Gateway Layer:** The AnkleBracelet has been developed from scratch, using affordable off the-shelf hardware components (Figure 6). The device provides multimodal feedback via sound/speech, vibration and visuals via screen color changes depicting appropriate swelling stages. Primary sensors used to help facilitate decision-making within the bracelet are the stretch and accelerometer sensors. The stretch sensor is used to directly measure base-line swelling and incremental swelling changes in real-time. Patient posture is also detected using the accelerometer sensor. Controlled vibration feedback is provided via unique frequencies according to current swelling stage. All swelling data is transmitted in real-time through Wi-Fi chip. This chip acts as the internet-gateway. Data is sent via publish-subscribe web-api protocol.
2. **Application Layer:** All data received from connected AnkleBracelets are accessible by healthcare providers via our web application. However, before data is ready to be analyzed by physicians, it must first go through the preprocessing phase. In this phase all data is received via subscribe web-api, where each AnkleBracelet is uniquely identified via a primary-key described in the subscribe packet. Thus, preprocessing prepares the data for consumption and storage in a readable state resting in our cloud-database. Once preprocessing is complete, then data is ready to be consumed by the web-application and displayed via User Interface.

© SGBED 2019

To verify our initial design, we asked 10 heart failure patients to complete a pre-treatment survey about their satisfaction with their healthcare provider's performance. Afterwards, we asked participants to wear the AnkleBracelet for 1 day so edema data can be reviewed by their doctor, when swelling was evident. At the end of the study period, we administered a post-treatment survey that measured patient satisfaction after using the AnkleBracelet. Our results suggest that patients were more satisfied with their care *after* wearing the bracelet than before.

References

Ammar, K.A., Jacobsen, S.J., Mahoney, D.W., Kors, J.A., Redfield, M.M., Burnett, J.C., & Rodeheffer, R.J. (2007). Prevalence and prognostic significance of heart failure stages: application of the American College of Cardiology/American Heart Association heart failure staging criteria in the community. *Circulation, 115 12*, 1563-70.

Hoffman Donna L., Novak Thomas P. (2017), "Consumer-Object Relationship Journeys in the Internet of Things," paper presented at the Thought Leaders in Consumer-Based Strategy Conference, Amsterdam, Netherlands.

Meyer David (2016), "Why Smartphones Are Bringing Down Internet-of-Things Revenue Forecasts," Fortune , April 4, http://fortune.com/2016/08/04/smartphones-iot-revenue-machina/.

© SGBED 2019

DXB062

INDIGENOUS KNOWLEDGE (IK) POOL- STUDY ON 'GHAGH AUR BHADDARI FOLK PROVERBS'

Rudresh Pandey, rudreshpandey@gmail.com
Abhijit Das, abhi_das92@yahoo.com
ABES Engineering College, Ghaziabad, India

ABSTRACT

This paper focuses on selected 'Ghagh Aur Bhaddari folk proverbs' predicting weather and crop yields in North India. This rich pool of knowledge has been so effective that it has survived for centuries. This study aims to show merits of not only Cognitive Linguistics but also the categorizing aspect of 'Ghagh Aur Bhaddari proverbs' with their contextual meaning, usefulness, and origination. A collection of almost 100 Proverbs was done. These proverbs were discussed in a focused group of elder farmers. This database was trimmed to 27 proverbs which are very popular. Farmers were asked about their experience of the accuracy of these proverbs. Categorization of 27 proverbs- which are still very popular- was done. These proverbs were classified in two sets – very useful and average. Translation of these proverbs with the brief discussion is done.

Keywords: Indigenous Knowledge, Agriculture, Proverbs, Paremiology, knowledge Management.

Introduction

Agriculture has been the backbone of Indian economy not only today but for ages. History of agriculture in India goes back to almost 10,000 years. Indian subcontinent had very strong traditions of agriculture even in Neolithic age. (Gangal, Sarson, Graeme, Shukurov, Anvar, 2014) Farming of cotton goes back to 5th millennium BCE-4th millennium BCE (Stein, Burton 1998), India had rich traditional cotton industry which was supported by strong cotton agriculture. Indian agriculture also had fruits as part of its traditions; mango and muskmelon are natives of Indian subcontinent. (Encyclopædia Britannica 2008) Indus valley civilization had a very developed irrigation system (Rodda & Ubertini 2004), Similar strong agriculture traditions continued even in iron age and middle ages. We find several examples of very strong agriculture traditions. Southern part of Indian in middle age had variety of crops like sugarcane, rice, millets, grains, coconut and also variety of spices like black pepper, tamarind to name a few. Similar was the agriculture in north India with variety of crops. This was not possible without systematic agriculture systems with systematic ploughing, weeding, crop protection, manuring etc. India had great traditions and systems for agriculture management at all levels. Ayurveda was a strong tradition in India which was based on medicinal plants. Trees were also part of Indian traditions and lifestyle, trees like Pipal and Banyan, to name a few, where worshipped (Gupta 2004), This history and development in agriculture is not possible without systematic development and sharing of knowledge. The knowledge was shared and passed to next generations without modern technology available today. One of the strong traditions to develop and pass the knowledge was with common proverbs. Basic character of a proverb is self-contained in poietic form. Poems had a very strong place in Indian traditions where most of the religious text like Mahabharata and Ramayana were in form of poems. Proverbs are very strong medium to share knowledge as they are self-contained sayings and had a very strong apple to Indian masses due to its poietic form. Most of the proverb were part of strong tradition and kept and passed to others by few families. (Bolakia 1992) 'Ghagh Aur Bhaddari' folk proverbs have been very popular in North India and farmers have relied on them for generations. 'Ghagh Aur Bhaddari folk proverbs' are used for predicting weather and crop yields in North

© SGBED 2019

India. This rich pool of knowledge has been so effective that it has survived for centuries. Farmers in North India have been using these proverbs for generations. Proverbs have been part of folklores in all the cultures but these proverbs are different as they are used specifically predicting weather and crop yields very effectively. Keeping in mind the importance and effectiveness of this system an effort has been made to understand how this system works. Proverbs have been an integral part of the folklore of India. Proverbs have been the source on which Indian farmers have been relying; unfortunately, this rich pool of knowledge was never part of the formal academic research. This paper will attempt to give recognition to this age old pool of knowledge.

Methodology

A collection of almost 100 Proverbs was done. The majority of proverbs have been selected from an authoritative work done on the subject by renowned Hindi poet Ram Naresh Tripathi (Tripathi 1931) Few other collections of proverbs by 'Ghagh Aur Bhaddari' were also referred. Due care was taken to be sure that these are original 'Ghagh Aur Bhaddari' proverbs. These proverbs were discussed in a focused group of elder farmers. This database was trimmed to 27 proverbs which are very popular and used often specifically predicting rains and crop yield. Farmers were asked about their experience of the accuracy of these proverbs. Usefulness of these proverbs was again studied with an exploratory study in Informal interviews with individual senior farmers who had relied on these proverbs. The area of study was Raebareli District in Uttar Pradesh, India. Around 22 villages were visited in the area. Government school teachers were the key source to be the resource person for creating a contact and confidence with the villagers. Village Pradhan (Head) and other key persons were also contacted and explained the purpose of the study. The researcher got a very enthusiastic response. Few people even had written collections of these proverbs. These were the traditions which were passed to them from their older generations and were kept as a family tradition. This was a clear proof how strong is the tradition of keeping and sharing the knowledge in rural India. Due care was taken to include all segments of the farming community. Big and small farmers were all included in this study. Formal Focus group discussions (FGD) were conducted were farmers with more than 20 years of experience was invited. Senior persons were the moderator of the discussion. One to one discussion and interviews were conducted after the FGD. Out of almost 100 proverbs 27 were selected for further investigation. A general agreement on the use of these proverbs was developed. The results were also discussed with few senior farmers to cross check. Final selected proverbs were classified in different categories. Qualitative data was also collected with the help of descriptive statistical methods like percentage and frequency to draw results from the study.

Results and discussion

Following proverbs are studied and also grouped in different categories -

Proverb Number 1.

रोहिणी बरसै मृग तपै, कुछ कुछ आद्रा जाय ।
कहै घाघ सुनु घाघिनी, स्वान भात नहिं खाय ।।

(rohinee barasai mrg tapai, kuchh kuchh aadra jaay .
kahai ghaagh sunu ghaaghinee , svaan bhaat nahin khaay)

Translation - If it rains in rohini Nakshatra* or (lunar mansion – associated star – Aldebaran)If it is hot in Mrigashīra Nakshatra And it drizzles in Ardra Nakshatra than the rice crop is very good and there is abundance of rice.

Category - Rainfall, **Use frequencies -** More

**Nakshatra is a lunar mansion in Indian astrology. Each nakshatra is named after the prominent asterisms in the respective sectors.*

Proverb Number 2.

आदि न बरसे आद्रा, हस्त न बरस निदान।
कहै घाघ सुन भड्डरी, भये किसान पिसान ।।

(aadi na barase aadra, hast na baras nidaan.

© SGBED 2019

kahai ghaagh sun bhaddaree ,bhaye kisaan pisaan)

Translation - If there is no rain in the beginning of the Adra Nakshatra and in the last phase of the Hasth constellation, the farmer becomes unhappy with the suffering.

Category - Rainfall, **Use frequencies -** More

Proverb Number 3.

उत्तर चमकै बीजुरी, पूरब बहतो बाउ।
घाघ कहै भड्डरी, बरघा भीतर लाउ ।।
(uttar chamakai beejuree , poorab bahato bau.
ghaagh kahai bhaddaree , baragha bheetar lau)

Translation - If there is lightning on the north side and the air is supplied, then the oxen should be brought in, i.e., in such a situation, there is rain.

Category - Field Operations, **Use frequencies -** More

Proverb Number 4.

आवत आदर ना कियो, जात न दीन हस्त ।
ये दोऊ पछतात हैं, पाहुन औ गिरहस्त।।
(Aawat aadar naa kiyo, jaat na din hast
Ye dou pachtat hai, paahun aur girahast)

Translation - If the guest visiting the house is not welcomed, and if there is no rain in Hasth Nakshatra, then the householders have to repent. That is, if there is no rain even in the last phase of the constellation the farming is destroyed.

Category - Field Operations, **Use frequencies -** Less/ Rare

Proverb Number 5.

आगे रवि पीछे चलै, मंगल जो आषाढ़ ।
तो बरसै अनमोल ही, पृथ्वी अनंदै बाढ।।
(aage ravi peechhe chalai, mangal jo aashaadh .
to barasai anamol hee, prthvee anandai baadh)

Translation -If the Planet Mars follow Sun it in the month of Arshad*, then there is going to be a precious rain resulting in a flood of bliss on the earth.

Category - Rainfall, **Use frequencies -** Less/ Rare

**Month of the Hindu calendar (and of the present-day Nepali calendar) that corresponds to June/July in the Gregorian calendar.*

Proverb Number 6.

जो आसाढ़ पूनो दिवस, बादल घेरे चंद।
तौ भड्डर जोशी कहैं, हौवे परम आनंद।।
(jo aasaadh poono divas, baadal ghere chand.
tau bhaddar joshee kahain, hauve param aanand)

Translation - If the full moon of the month of Arshad is surrounded by the clouds, then there is absolute joy, as the rainfall is very good.

Category - Rainfall, **Use frequencies** - More

Proverb Number 7.

आद्रा तो बरसै नहीं, मृगसिर पौन न जोय।
तौ जानो यह भड्डरी, बरखा बूंद न होय।।
(aadra to barasai nahin, mrgasir paun na joy.
tau jaano yah bhaddaree, barakha boond na hoy)

Translation - If there is no rain in the Adra Nakshatra and there is no wind in the Mragshira Nakshatra, then there is no drop of rainfall even in the rainy season.

Category - Rainfall, **Use frequencies -** Less/ Rare

Proverb Number 8.

पूस अमावस मूल को, सरसै चारों बाय।
निहचैं बांधों झोपड़ी, बरखा होई सेवाय।।
(poos amaavas mool ko, sarasai chaaron baay.
nihachain baandhon jhopadee, barakha hoee sevaay)

Translation - If the new moon of Pausha* month falls on the Mool nakshatra and the wind blows from all directions, then even the person living in a hut should be charged tax as the crop is going to be good because of very good rainfall.

**month of the Indian calendar corresponding with December/January in the Gregorian calendar.*

Category - Rainfall, **Use frequencies -** More

Proverb Number 9.

माघ जो सातैं कज्जली, आठैं बादल होय।
तो असाढ़ में धूखा, बरसे चोसी जोय।।

© SGBED 2019

(maagh jo saatain kajjalee, aathain baadal hoy.
to asaadh mein dhookha , barase chosee joy.)
Translation - If there are clouds on Krishna Saptami* and Ashtami*, then there is going to be rain for sure next Ashadh month.
Category - Rainfall, **Use frequencies -** More
**Dates of Indian calendar*
Proverb Number 10.
पूस अंधारी तरसै, चहुदिसि बादल होय।
सावन पूनो मावसै, जल धरनी में होय।।
(poos andhaaree tarasai, chahudisi baadal hoy.
saavan poono maavasai, jal dharanee mein hoy)
Translation - If Poos Krishna Triodashi* has clouds, then of Amavasya (newmoon) and Purnima (fullmoon) the next Shravan month will have plenty of rainfall.
Category - Rainfall, **Use frequencies -** More
**Date of Indian calendar*
Proverb Number 11.
जेठ उजारे पाख में, आद्रादिक दस रिच्छ।
सजल होइ निर्जल कहो, निर्जल सजल प्रतच्छ।।
(jeth ujaare paakh mein , aadraadik das richchh.
sajal hoi nirjal kaho, nirjal sajal pratachchh).
Translation - If there is rain in the last half of Jeshth month (of Indian Calendar) and it coincides with following 10 Nakshatra (out of 28[vi]) - (1) Adra (2) Punarvasu (1), Pukhya (4) Ashlisha (5) Muga (6) Purvafalguni (7) Uttafafluni (8) Hasth (9) Chitra and (10) Swati than there is no rain in rainy season in these Nakshatras and vice varsa.
Category - Rainfall, **Use frequencies -** More
Proverb Number 12.
गहिर ना जोतैं बोवैं धान ।
सो घर कोठिला भरा किसान।।
(gahir na jotain bovain dhaan .
so ghar kothila bhara kisaan)
Translation - Paddy crop is very good without deep plowing, farmer's depot or go down will be full.
Category - Field Operations, **Use frequencies -** More
Proverb Number 13.
गेहूं मटर सरसी। औ जौ कुरसी।।
(gehoon matar sarasee. au jau kurasee)
Translation - The cultivation of wheat and peas is better in a land with moisture and barley with low moisture.
Category - Field Operations, **Use frequencies -** Less/ Rare
Proverb Number 14.
मग्धा मारे पुरवा संवारे। उत्तरा भर खेत निहारैं।।
(magdha maare purava sanvaare. uttara bhar khet nihaarain)
Translation - If plowing of paddy is done the Magha nakshatra and uttara nakshatra, then the beauty of that field is very good i.e crop is very good.
Category - Crop Protection, **Use frequencies -** More
Proverb Number 15.
सौ बाहें मूर। पचास वाहे गूर।
पच्चीस बाहें जवा। जो चाहे सो लवा।।
(sau baahen moor. pachaas vaahe goor.
pachchees baahen java. jo chaahe so lava)
Translation - By plowing a hundred times the radish farm, fifty times sugarcane and twenty five times for barley, yields a favorable yield.
Category - Crop Protection, **Use frequencies -** More
Proverb Number 16.
जौ ना जोतै मास असाढ़ ।
अब का बाहें बारम्बार।।
(jau na jotai maas asaadh.
ab ka baahen baarambaar)
Translation - If plowing is not done in the Indian month of Ashaad, then plowing again and again later will not yield good results.
Category - Crop Protection, **Use frequencies -** More
Proverb Number 17.
खूब जोते औ नावै खाद ।

© SGBED 2019

तब लेवैं गेहूं को स्वाद।।
(khoob jote au naavai khaad .
tab levain gehoon ko svaad)
Translation - More plowing and more manure are needed for a good yield for wheat crop.
Category - Field Operations, **Use frequencies -** More
Proverb Number 18.
खेते पांसा जो न किसाना।
उसके घरे दरिद्र समाना।।
(khete paansa jo na kisaana.
usake ghare daridr samaana)
Translation - The farmer who does not fertilize his farm, leads to poorness in his house.
Category - Crop Protection, **Use frequencies -** More
Proverb Number 19.
जेकर खेत परै ना गोबर ।
उहि किसान के जानौ दूबर।।
(jekar khet parai na gobar .
uhi kisaan ke jaanau dubhar)
Translation - Farmer whose farm does not have manure of dung should be considered as weak (poor).
Category - Crop Protection, **Use frequencies -** More
Proverb Number 20.
गोबर मैला नीम की खली
इनसे खेती दूनी फली
(gobar maila neem kee khalee
inase khetee doonee phalee)
Translation - Cow dung and nibhuli khali,(De-oiled Azadirachta indica) can yield double the crop.
Category - Crop Protection, **Use frequencies -** More
Proverb Number 21.
कदम कदम पर बाजरा , मेंढककुदौनी ज्वार ।
ऐसे बोवैं जो कोई , घर घर भरैं कोठार।।
(kadam kadam par baajara , mendhakakudaunee jvaar .
aise bovain jo koee , ghar ghar bharain kothaar)
Translation - Distance for sowing Bajra (form of millet) is one step and for Jowar (form of millet) is equal to a frog's jump.
Category - Field Operations, **Use frequencies -** Less/ Rare
Proverb Number 22.
हरिन फलांगन काकरी , पैरे पैर कपास ।
कहियो जाइ किसान से , बोवै घनी उखार।।
(harin phalaangan kaakaree , paire pair kapaas .
kahiyo jai kisaan se , bovai ghanee ukhaar)
Translation -Cotton should be sown at a distance of one step. Cucumber at a distance of stag's jump, sugar cane should be sown densely.
Category - Field Operations, **Use frequencies** - Less/ Rare
Proverb Number 23.
डेढ सेर बजरा बजरी सोवां।
कोदो काकुन सवैया बोवां।।
(dedh ser bajara bajaree sovaan.
kodo kaakun savaiya bovaan)
Translation - Recommended seed rate of millet per bigha(.25Ha) is 1.5sher (one sher is 1200gm) and 1.25sher for kodo (type of millet).
Category - Field Operations, **Use frequencies -** Less/ Rare
Proverb Number 24.
तरकारी है तर-कारी । यामे पानी की अधिकारी।।
(tarakaaree hai tar-kaaree . yaame paanee kee adhikaaree)
Translation - Vegetables crops needs lots of water.
Category - Crop Protection, **Use frequencies -** More
Proverb Number 25.
काले फूल न पाया पानी । धान मरा अधविच जवानी।।
(kaale phool na paaya paanee . dhaan mara adhavich javaanee)
Translation - The paddy plant at the time of flowering needs lot of water.
Category - Crop Protection, **Use frequencies -** More
Proverb Number 26.

© SGBED 2019

अगहन में सरवा भर । फिर करवा भर।।
(agahan mein sarava bhar . phir karava bhar)
Translation -In the month of Agahn of Indian calender if the field is not irrigated, it will need more water afterwards.
Category - Crop Protection, **Use frequencies** - Less/ Rare
Proverb Number 27.
पतली पेंडुली मोटी रान । पंूछ होई भुई में तरियान।।
जाके होवै ऐसी गोई। वाको तकै और सब कोई ।।
(patalee pendulee motee raan . panoochh hoee bhuee mein tariyaan..
jaake hovai aisee goee. vaako takai aur sab koee)
Translation - A farmer who has a pair bulls with thin-shin-thick thighs with long tail will be envied by others.
Category - Field Operations, **Use frequencies -** More

TABLE - 1 CATEGORIES AND USE FREQUENCIES

Use frequencies	Rainfall		Field Operations		Crop Protection		Total
		%		%		%	
More	7	25.93	4	14.81	8	29.63	19
Less/ Rare	2	7.41	5	18.52	1	3.70	8
Total	9		9		9		27

It is evident from the above data that the majority of these proverbs were used (use frequency) more. More than 70% proverbs were used more and had higher use frequency, this shows the popularity of these proverbs. The number of proverbs in the three category of - (1) Rainfall (2) Field Operations (3) Crop Protection was equal 9 each. The use frequency of rainfall category and Crop protection was more i.e 25.93% and 29.63% respectively whereas the use frequency of field operations was less 14.81%. The reason for this was that the agriculture is still a rain fed activity and farmers have to predict the weather. They still trust the traditional methods to predict weather. With the technology and the availability of internet the younger generation has started using the information provided by the weather websites and government information system. But proverbs still are very popular in the rural areas. The advice of elders on the matters of agriculture is very important in a village even in this digital age. It was seen in the discussion that the decisions of sowing etc were taken collectively. Elders played a major role in this and traditional knowledge system like use of proverbs was also used along with new digital tools. Morning and evening gathering at the 'Choupals' (village meeting points) was an important place for these discussions.

TABLE - 2 - VALIDITY OF PROVERBS

Proverb Number	Degree of usefulness			
	Number of senior farmers (out of total 68) found this proberb Very useful		Number of senior farmers (out of total 68) found this proberb Average useful	
		%		%
1	60	88.24	8	11.76
2	57	83.82	11	16.18
3	57	83.82	11	16.18
4	59	86.76	9	13.24
5	54	79.41	14	20.59
6	53	77.94	15	22.06
7	52	76.47	16	23.53
8	52	76.47	16	23.53

© SGBED 2019

9	53	77.94	15	22.06
10	55	80.88	13	19.12
11	49	72.06	19	27.94
12	52	76.47	16	23.53
13	57	83.82	11	16.18
14	60	88.24	8	11.76
15	62	91.18	6	8.82
16	58	85.29	10	14.71
17	47	69.12	21	30.88
18	61	89.71	7	10.29
19	55	80.88	13	19.12
20	52	76.47	16	23.53
21	51	75.00	17	25.00
22	53	77.94	15	22.06
23	58	85.29	10	14.71
24	57	83.82	11	16.18
25	53	77.94	15	22.06
26	54	79.41	14	20.59
27	62	91.18	6	8.82

To understand the validity of these proverbs 68 farmers from different villages were asked the usefulness of these proverbs in a structured questionnaire. Where they were asked to classify these proverbs in two groups - (1) Very useful (2) Average useful. The usefulness of these proverbs were on the effectiveness of these proverbs and there use in the field. It was very clear from the data that all the proverbs were very useful. All the proverbs were found to be useful by more than 72% of the group.

Conclusion

The objective of this study is to connect the traditional knowledge Management Systems and academic research. Translation of these proverbs will bring them into the mainstream of academic research. This paper will pave way for further scientific research and translation of all the proverbs collected. Proverbs have been an integral part of the folklore of India. Proverbs have been the source on which Indian farmers have been relying; unfortunately, this rich pool of knowledge was never part of the formal academic research. This paper is an attempt to give recognition to this age-old pool of knowledge. Paremiology (the collection and study of proverbs) has not been a popular subject in India. It is very difficult to find literature specifically in the English language on these proverbs. It was very clear and evident that these proverbs have a very strong influence and is preserve as traditions. There is a very strong need to popularize this age old proven medium of preserving and sharing of knowledge. Modern research needs to strengthen these proverbs. Scientifically certified proverbs must be popularizing and included in the school and college curriculum.

References

Agriculture, history of. Encyclopædia Britannica 2008.

Bolakia B A, Proverbs for Predicting the Mood of Monsoon, Honeybee, An International News Letter on Grassroots Innovations.Indian Institute of Management (IIM), Ahemedabad. 3(1) (1992) 5.

Gangal, Kavita; Sarson, Graeme R.; Shukurov, Anvar (2014), "The Near-Eastern Roots of the Neolithic in South Asia"

Gupta, Anil K. (2004), "Origin of agriculture and domestication of plants and animals linked to early Holocene climate amelioration", Current Science, 87 (1), Indian Academy of Sciences.

© SGBED 2019

Ram Naresh Tripathi in 1931, Hindustan Academy
Rodda & Ubertini (2004), The Basis of Civilisation-Water Science? International Association of Hydrological Science, ISBN 1-901502-57-0
Stein, Burton (1998), A History of India, Blackwell Publishing, ISBN 0-631-20546-2.

© SGBED 2019

DXB089

DATA MINING AND DATA WAREHOUSING: THE E-GOVERNANCE PERSPECTIVE

Deepak Kalra, deepak.kalra@skylineuniversity.ac.ae
Associate Professor and Head, School of Information Technology
Skyline University College, Sharjah, UAE

ABSTRACT

E-governance stores, extracts and uses various data from many business and service functional units for effective governance model to empower citizens and other beneficiary with a value-based system from bottom to top approach and results in a suitable decision making for entities. The data and data-warehouse hence constructed plays a vital role in facilitating the decision making as well as information flow. The Data transferred in E-governance among Government to Government (G2G), Government to Business (G2B), Government to Citizen (G2C), Citizen to Government (C2G), Government to NGO (G2N) are used and are in the scope of data warehousing and data mining. There are numerous methodologies used to increase the efficiency of E-governance. The complimentary methods of data warehousing and data mining techniques used in this research work to identify useful patterns which are discovered automatically instead manually and bolsters decision strategies and other interesting trends are discovered.

Keywords: E-governance, Data warehousing, Data Mining.

Introduction

E-governance involves the use of Information and Communication Technologies by government agencies for data and service delivery to citizens, business and government employees. It is an emerging field, faced with different implementation problems related to technology, employees, flexibility and change related issues, to mention a few. Worldwide movements towards increased deployment of IT infrastructure by governments emerged with the advent of the World Wide Web. With the increase in Internet and mobile connections, the citizens are learning to exploit their new mode of access in wide going ways. They have started expecting more and more data and services online from governments and corporate associations to enhance their city, professional and personal lives .The concept of e-governance come into existence in India amid the seventies with an attention on development of government applications in the areas of defense, economic monitoring, arranging and the consideration of Information Technology to manage data intensive capacities related to elections, census, assess government organization etc. The role and efforts made by National Informatics Center (NIC), India to connect all the area headquarters amid the eighties was a very new innovative approach.

From the mid-nineties, Information technologies were supplemented by ICT to expand its utilization for more extensive applications with approach execution and accentuation on contacting nation regions and taking in more noteworthy commitments from NGOs and private organizations. There has been an expansion inclusion of worldwide offices under the structure of e-governance for improvement to catalyze the advancement of e-governance laws and innovations in developing nations. The motivation for changing to innovation-based procedures may be expanded productivity in industries and service delivery, yet this move can be considered as a beneficial with potential for returns.

© SGBED 2019

Review of Literature on E-Government

E-Government can be described as a change in the fundamental relationship between government and people in general through technology (Lee, 2010; Reffat, 2003). E-Government can be viewed as a different method for achieving service delivery from the Government to the citizenry using Data Correspondence Technologies to enable and improve the efficiency with which government services are provided to the citizenry (Moon, 2002). E-Government increases the access and convenience of government services to the citizenry (Carter and Belanger, 2005). Reynolds and Regio (2001) are referenced by Reffat (2003) who mentions three perspectives that ought to be taken into consideration in order to achieve a successful e-Government (Reynolds and Regio, 2001). These perspectives are:

(i) *Citizen Perspective*: It is vital to take into the consideration the idea of a development in the expectations of residents, who are increasingly expecting government service delivery to be more likened to models practiced in commercial enterprises. Considering manners by which the citizenry can increase interest can help contribute to a successful and more inclusive e-Government.

(ii) *Business Perspective*: This perspective takes into consideration commercial entities and ensuring effective and efficient channels between them and the government are implemented inside the e-Government system.

(iii) *Government Perspective*: This perspective deals with the improvement of government perception by the citizenry with the use of customer-centric initiatives and better nature of service delivery.

The world leaders with respect to e-government development index are presented in Table 1.

Table 1: World E-government Leaders with Very High EGDI Levels

Country	Region	OSI	HCI	TII	EGDI	2016 Rank
United Kingdom	Europe	1.0000	0.9402	0.8177	0.9193	1
Australia	Oceania	0.9783	1.0000	0.7646	0.9143	2
Republic of Korea	Asia	0.9420	0.8795	0.8530	0.8915	3
Singapore	Asia	0.9710	0.8360	0.8414	0.8828	4
Finland	Europe	0.9420	0.9440	0.7590	0.8817	5
Sweden	Europe	0.8768	0.9210	0.8134	0.8704	6
Netherlands	Europe	0.9275	0.9183	0.7517	0.8659	7
New Zealand	Oceania	0.9420	0.9402	0.7136	0.8653	8
Denmark	Europe	0.7754	0.9530	0.8247	0.8510	9
France	Europe	0.9420	0.8445	0.7502	0.8456	10
Japan	Asia	0.8768	0.8274	0.8277	0.8440	11
United States of America	Americas	0.9275	0.8815	0.7170	0.8420	12
Estonia	Europe	0.8913	0.8761	0.7329	0.8334	13
Canada	Americas	0.9565	0.8572	0.6717	0.8285	14
Germany	Europe	0.8406	0.8882	0.7342	0.8210	15
Austria	Europe	0.9130	0.8396	0.7098	0.8208	16
Spain	Europe	0.9130	0.8782	0.6493	0.8135	17
Norway	Europe	0.8043	0.9031	0.7276	0.8117	18
Belgium	Europe	0.7101	0.9712	0.6808	0.7874	19
Israel	Asia	0.8623	0.8619	0.6175	0.7806	20
Slovenia	Europe	0.8478	0.8952	0.5877	0.7769	21
Italy	Europe	0.8696	0.8126	0.6469	0.764	22

© SGBED 2019

Lithuania	Europe	0.8261	0.8717	0.6262	0.7747	23
Bahrain	Asia	0.8261	0.7178	0.7762	0.7734	24
Luxembourg	Europe	0.7174	0.7750	0.8190	0.7705	25
Ireland	Europe	0.7246	0.9218	0.6602	0.7689	26
Iceland	Europe	0.6232	0.8940	0.7814	0.7662	27
Switzerland	Europe	0.6014	0.8579	0.7980	0.725	28
United Arab Emirates	Asia	0.8913	0.6752	0.6881	0.7515	29

EGDI - E-Government Development Index; OSI – Online service Index; HCI – Human Capital Index; TII – Telecommunication Infrastructure index.
Source: https://publicadministration.un.org

Implementation Issue in E-Governance

The government of India, like everywhere throughout the world, has began investing large sums in Information and Communication Technology (ICT). The object behind these investments is to improve the efficiency of government work by, especially enabling citizen centric services. There are some technical issues which need to be discussed separated from above mentioned issue. The Above-mentioned issue can be resolved by the government however to the extent technical issues are concerned they need more concentration to resolve the issue.

E-governance, meaning the electronic-governance, has evolved as a data age model of governance that seeks to realize process and structure for hardening the potentialities of data and correspondence technologies at different level of government and in Public sector Undertakings. E-governance is the commitment to utilize appropriate technologies to enhance governmental relationships in order to encourage the reasonable and efficient delivery of services. The ICT model uses the new technologies to keep up the data in government affiliation. Some of these are discussed in this paper which is very prominent technologies nowadays.

Increasingly, government association, are investigating current and noteworthy data to identify useful patterns from the large database with the goal that they can bolster their business strategy Their fundamental emphasis is on complex, interactive, exploratory examination of very large dataset created by the integration of data from over all the piece of the association and that data is genuinely static The complementary trends are: (i) Data warehousing, and (ii) Data Mining.

Data Mining

The potential use of arrangement-based data mining techniques, for example, Rule-based decision tree and Artificial Neural Network (ANN) to healthcare data were examined by Kaur and Wasan (2006). Specifically, their study discussed Data utilizing techniques on a medical dataset of diabetic patients. There is abundant data available inside the healthcare systems. However, there is a need for effective examination apparatuses to discover hidden pattern and relationships in and among data. This hidden data might be the valuable knowledge base that needs to be discovered from the utilization of data mining techniques in the healthcare system (Kaur and Wasan, 2006).

Tomar and Agarwal (2013) offered an investigation results on challenges and future issues of Data mining in healthcare and gives his proposal regarding the suitable choice of available data mining technique. This study explores the utility of different Data Mining techniques with its pro's and con's, for example, grouping, clustering, affiliation, regression in the health

© SGBED 2019

area and furthermore features uses of Data Mining techniques in healthcare. In this paper, they use fusion or integrated Data Mining technique, for example, the mix of different classifiers, the mix of clustering with arrangement or relationship with clustering for delivering better knowledge. They observed that GA with clustering or order, PSO-SVM, Fuzzy KNN, AR-PSO-SVM etc, can produce great results as compared to single customary approach.

Dave and Dadhich (2013) also present a systematic approach to data mining techniques in the healthcare business and a survey of current techniques of knowledge discovery in databases utilizing data mining techniques that are being used today in medical research and healthcare sector. This paper focuses on some basic issues and challenges associated with the use of data mining in healthcare practices.

Bhanti et al. (2011) discussed E-governance implementation of the higher education system with the use of data warehousing and data mining techniques. For this purpose, they propose a legitimate architecture of data warehouse for the university system. This architecture is divided into several layers these are data layer, data and services integration layer, services layer, service integration layer, application layer, user interfaces layer and security services layer. The users of this architecture are candidates, students, staff, workforce etc. Furthermore, the data like student data, research data, library data, finance data etc. are the significant yield. This architecture likewise helps out for developing the consistent design of databases.

Guan et al. (2009) discussed how data mining technique can provide the better results for government decision-making. In this research they discussed three steps methodology; these steps are establishing general sentiment collection mechanism, user the data architecture approach to bear on the investigation and examination, and data warehouse and data mining technology. In this methodology, the principal techniques used by the researcher were multidimensional cross table analysis and correlation investigation method.

This paper applied data mining technique in e-government construction. Firstly, investigates the populace suggestion, then process the collected data by SPSS cross tab and correlation, locate the imminent rule of people really need, they can provide the better help for a government decision.

The Spatial Data Mining based on E-Government Data System was discussed by Li et al. As we realize that there are large measures of data stored in the database of E-Government Data System and from these databases, 80% of the data is concerned with the spatial area[11]. Researchers emphasized that Spatial Data Mining, i.e. SDM, is a sort of essential and useful device in the down to earth utilization of E-Government Data System database, and is very useful to discover and describe a hidden mode in the specific multi-dimensional data aggregation. Especially, researchers presented a useful example ashore use and land grouping in a certain district of Guizhou Province, China. A derived star-type model was used to organize the raster data frame multi-dimension data set and these conditions take after the clustering method for using the raster data. This clustering method takes after examination methods. Some useful data and knowledge were extracted like which types of vegetation were suitable for being cultivated in the specific region by utilizing related knowledge in a naturally visible view. It was convenient for the departments of different level to make aided decision based on these results.

© SGBED 2019

Shen et al. (2009) proposed e-government evaluation model named SCISS which remains for the benchmark, correspondence, informationization, service and security. To acquire data from websites, the developers proposed a data extraction model. They assume that the data acquired from the Metasearch engine might be complex and pluralistic, so they proposed "adaptive text segmentation and co-occurrence algorithm" to achieve effective examination of the data. Then based on the proposed model, the developer contented mining and semantic examination on the Web data of five major cities in China namely Beijing, Shanghai, Wuhan, Guangzhou, and Chengdu with the help of self-made ROST Content Mining System, to get initial 30 high-frequency e-government words respectively. Based on the empirical examination, the developer comes up with some countermeasures; they gave advice for the development/improvement of e-government in China.

A methodology for knowledge discovery from birth registration e-governance data was presented by Desai in 2014. This methodology includes fundamental three imperative phases of data mining: In first phase data preprocessing tasks on birth registration or source data are performed, In second phase multidimensional schema for Data Warehouse implementation is designed and In the third phase, Clustering algorithm is used to identify essential clusters from e-governance data, after these phases Affiliation Rules Mining algorithm is applied to critical data clusters. This method provides novel relationship among essential attributes like Zone, Religion, Name, Delivery Attention and Delivery Method, and these results can be utilized by the company for better arranging and service to the citizens (Desai, 2014).

In the above same manner Desai (2014) again proposed a data mining model and its implementation on Vehicle e-governance data. In this paper, multidimensional schema, data cube and OLAP operations on Vehicle e-governance data is discussed. Desai (2014) had presented his work in three phases: In the principal phase, clustering algorithm is used to identify critical clusters from the Vehicle data. In the second phase, Affiliation Rules Mining algorithm is applied to explore the relationships from the essential clusters of data that are observed in the primary phase. In the third phase we get the results, these results are unique in sense that e-governance data can be utilized by private companies to increase their sales, improve marketing of their products and analyze the vehicle purchase trend of the citizens.

Data mining in e-government is the process of deciphering data from the government website in the useful knowledge that can be used in decision making. The framework for open data mining on open government data includes four undertakings: data collection, data processing, and pattern discovery and pattern examination. They had chosen the dataset from U.S. government website and the data was on earthquakes around the globe that occurred over the most recent 7 days. They applied steps of framework following with Apriori algorithm and produced a result as "areas in which most earthquakes happen" etc. The researcher concluded that this type of knowledge can be used with the help of efficient decision making.

Rao (2014) proposed a framework for e-government data mining application and presented a case think about on normal and department's specific uses of e-government. The eGDMA is divided into two categories initially is the normal application that includes grievance management, citizens' ID, HRM and project management and second is departments specific that include agriculture, health, law transport, education and police. In this research Rao V.R. additionally examined different issues and challenges utilizing data mining techniques for decision making inside the government association and concluded that data mining techniques can help in to detect extortion and security threats, as well as it can be used for measuring influence realities like citizen's behavior, desire and need, that effect on enhancing e-government services such Government to Citizen (G2C), Government to Government(G2G), Government to Employee (G2E) and Government to Business (G2B).

© SGBED 2019

Data Mining in E-Governance

It is well realized that in Technology driven society, knowledge is one of the most basic assets of any affiliation. Its role in E-governance is well established. Knowledge Down to business use of Database systems, Data Warehousing and Knowledge Management technologies can contribute a great deal to decision emotionally supportive networks in E-governance. Knowledge discovery in databases is the well-defined process containing several specific steps. Data mining is the core step, which results in the discovery of hidden yet useful knowledge from massive databases. A formal definition in databases is given as:"Data mining is the country immaterial extraction of understood previously obscure and potentially useful data". Data mining technology provides a user-oriented way to deal with novel and hidden approach in the data. The discovered knowledge can be used by the E-governance directors to improve the nature of service. Generally, decision making in E-governance is based on the ground data, lessons learnt in the past resources and assets requirements. However, data mining techniques and knowledge management technology can be applied to create the knowledge-rich environment. An affiliation may implement Knowledge Discovery in databases (KDD) with the help of a skilled employee who has the great understanding of affiliation. KDD can be effective at working with large volume of data to determine the meaningful pattern and to develop strategic arrangements. Expert and decision makers can learn lessons from the use of KDD in other industries E-governance data are massive. It includes centric data, resource management data and transformed data. E-governance affiliations must have the ability to analyze data. Huge Patient's treatment records can be stored and automated. The Data mining techniques will help in answering several imperative and fundamental questions related to patients and the Healing centre/Corporate.

Data Warehousing

Since the mid-1990s, information distribution centres have been at the bleeding edge of IT applications as a way for the relationship to viably utilize propelled information for business and basic leadership (Ramamurthy, 2008). As scientists, we know vulnerability will experience the information distribution centre wonder; consequently, a comprehension of information stockroom framework design is or will be basic for parts and obligations of information administration. A DW is considered as a standout amongst the most capable choice help and business insight advancements that have risen in the latest decade. In any case, the acknowledgement of DW benefits by business affiliations has been underneath expectations (Watson, 2001).

The information distribution centre is an archive of a business association's electronically put away information; they are intended to encourage detailing and examination (Inmon, 1995). In any case, the way to recover and break down information, to concentrate, change and load information, and to deal with the information reference is in like manner considered basic parts of an information warehousing framework. Various references to information warehousing utilize this more extensive setting. Thus, an extended meaning of information warehousing incorporates business knowledge mechanical assemblies. Basically, the information warehousing idea was planned to give a structural model to the flood of information from operational frameworks to basic leadership environments (Wu, 2001). Information distribution centres are PC based information frameworks that are home to "auxiliary" information that began from either another application or from an outer framework or source. Information stockrooms are perused just, coordinated databases intended to answer near and questions (Giorgini et al., 2008). Dissimilar to operational databases that are set up to deal with trades and that are kept best in class as of the last trade, information distribution centres are interpretive, subject-arranged and are organized to total exchanges (Al-Debei, 2011).

© SGBED 2019

Also, DW is subject-arranged, coordinated, non-unstable, and time variety, the non-updatable gathering of information to help administration choice procedures and business insight (Inmon, 2002). DWs contain cleaned, totaled, solidified extensive volumes of information that is amassed to help multidimensional examination. Inmon states that the information stockroom is: "Subject-situated: The information in the information distribution center is sorted out with the objective that each one of the information components identifying with a similar certifiable occasion or protest are connected together; Time-variety: The progressions to the information are followed and recorded so reports can be created showing changes after some time; Non-unstable: Data is never finished composed or erased - once dedicated, the information is static, perused just, and held for future revealing; Integrated: The information distribution center contains information from most or most of an association's operational frameworks and this information is made reliable".

Be that as it may, in the wake of considering the diverse characteristics and ideas of information warehousing frameworks, a far-reaching meaning of an information distribution center can be the going with: An information stockroom is an organized extensible condition intended for the examination of non-unstable information, astutely and physically changed from various source applications to agree with business applications, refreshed and kept up for a long time period, and outlined for smart examination. DW is an information vault which is important to the administration of a business firm and from which the required information and learning to viably deal with the business are emerged (Watson, 2001).

A wide assortment of substantial and impalpable advantages can be picked up from DWs' applications. At, to begin with, Data warehousing is seen as a course by which business firms could take care of the issues related to their autonomous inheritance frameworks which frequently contains off base, copy, and different information about the same entity. DW innovation can enable directors to make more powerful decisions by outfitting them with appropriate information which is on a very basic level not quite the same as the sort of information that organizations use in their regular operations (Griffin,1998).

DWs have intended to help directors with answers to imperative business addresses that require examination, for instance, turning, enter downs, move-ups, conglomerations and information cutting and dicing. DW empowers a business to control a lot of information in ways that are helpful to it, for instance, cleaning, dealing with, depicting, laying out and securing substantial volumes of information to be changed, broke down and reported. Additionally, all levels of administration choice procedures are bolstered by DW. Alshawi et al. (2003) have expounded how a DW could give helpful and profitable information and learning at a key, administration control, information and operational levels. DW offers successful administration information administration and information conveyance forms by extending stovepipe learning into cross-utilitarian integrative business intelligence (Shin, 2003). In like way, Hog contends that organizations could contend better by having the capacity to gain from the past, to dissect current conditions, and to anticipate the future scenarios. The information warehousing gives the substantial scale IT framework for contemporary choice help and business intelligence was argued by Arnott and Pervan (2008). They contend that the essential explanations for that are the utilization of Multi-Dimensional Data Model "MDDM" or solid shapes, which sorts out huge informational indexes in ways that are important to chiefs other than being moderately simple to inquiry and analyze (Kimball, 1996). It has been demonstrated that MDDM is the most appropriate for some explanatory procedures, for instance, information mining, OLAP, and dashboards that used to break down information from various points and refining it into noteworthy information continue running over DWs (Gunnarsson et al., 2007).

© SGBED 2019

Additionally, DW gives a foundation to IS/IT application improvement (i.e. ERP, CRM) which could give leader key aggressive advantages. Another potential advantage of DW is that using a solitary information source (DW) diminishes information irregularity and excess and may encourage business process re-building at business firms (Watson and Haley, 1998). In spite of the contention that they want to enhance choice and business execution has been the major business driver behind information warehousing, specialists recommend that dealing with the strain to consent to administrative directions, for instance, Sarbanes-Oxley Act and others outer weights which require an ongoing revelation of business tasks is the essential explanation for the ebb and flow improvement rate of such initiatives (Yang, 1998).

Liu and Luo (2010) proposed a DW engineering which incorporates open source business insight innovations for E-Government. The advancement of this information stockroom is to store the benchmarking e-Government administrations brings about four observatories: Accessibility, Transparency, Efficiency and Effect.

Data Warehouse in E-Governance

Governments deal with the enormous measure of data. In order that such data is put to an effective use in encouraging decision-generation, a data warehouse is constructed over the chronicled data. It permits several types of queries requiring complex examination on data to be addressed by decision-makers.

When used properly, it can help planners and decision makers in settling on informed decisions leading to the positive effect on the targeted gathering of citizens. However, to use the data to its fullest potential, the planners and decision makers need moment access to relevant data in a properly summarized shape. In spite of taking bunches of initiative for computerization, the Government decision makers are currently experiencing issues in getting meaningful data in a timely manner because they have to request and depend on IT staff for making special reports which often takes quite a while to generate. An Information Warehouse can deliver strategic intelligence to the decision makers and provide knowledge into the overall circumstance. This greatly facilitates decision-makers in taking miniaturized scale level decisions in a timely manner without the need to depend on their IT staff. By orchestrating person and land-related data into a meaningful Information Warehouse, the Government decision makers can be empowered with a flexible mechanical assembly that enables them to make informed arrangement decisions for citizen assistance and accessing their effect over the intended section of the populace.

Conclusion

This research work examined that measures of progress of E-governance in data analyzing are not even enough but substantially improved using Data mining and Data Warehousing. To support this accomplishment DM, DW venture groups ought to intentionally and sensibly address the continuous DM and DW framework, and guarantee top-notch attributes, and this can't be achievable without the nearness of best administration, consultancy, vendors, and so on. In whole, this observation underscores these focuses and features the significance of further model upgrades and avocations in the developing nations which still stays high on the analyst's motivation, as the model is tried through various stages on various time scales.This is the ideal time for showing DWM in the e-Governance field and to additionally reinforce the e-Governance framework. Once the coveted outcomes are accomplished, the same can be imitated in different parts of the administration.

© SGBED 2019

References

Al-Debei, M. (2011). Data Warehouse as a Backbone for Business Intelligence. *European Journal of Economics, Finance, and Administrative Sciences, 33*, 153-166.

Alshawi, S., Saez-Pujol, I., and Irani, Z. (2003). Data warehousing in decision support for pharmaceutical R and D supply chain. *International Journal of Information Management, 23*, 259-268.

Arnott, D., and Pervan, G. (2008). Eight Key Issues for the Decision Support Systems Discipline. *Decision Support Systems, 44*, 657-672.

Bhanti, P., Kaushal, U., and Pandey, A. (2011). E-Governance in Higher Education: Concept and Role of Data Warehousing Techniques. *International Journal of Computer Applications, 18*(1), 875-895.

Carter, L., and Belanger, F. (2005). The utilization of e-government services: citizen trust, innovation and acceptance. *Information Systems Journal* , 5-25.

Dave, M., and Dadhich, P. (2013). *Applications of Data Mining Techniques: Empowering Quality Healthcare Services.*

Desai, P. (2014). Knowledge Discovery from Birth Registration E-Governance Data using Data Mining. *Indian Journal of Applied Research*, 529-532.

Giorgini, P., Rizzi, S., and Garzetti, M. (2008). GRAnD: A Goal-Oriented approach to requirement analysis in Data Warehouses. *Decision Support Systems, 45*, 4-21.

Griffin, R. (1998). Data Warehousing. *Cornell Hospitality Quarterly, 39*, 28-35.

Guan, G., Zhou, L., and Tang, P. (2009). Research of Data Mining in Government Transparent Decision-making. *The 2009 International Symposium on Web Information Systems and Applications (WISA 2009)*, (pp. 335-350).

Gunnarsson, C., Walker, M., and Walatka, V. (2007). Papers Lessons Learned: A case study using data mining in the newspaper industry. *Database Marketing and Customer Strategy Management*, 271-280

Inmon, W. (1995). Tech Topic: What is a Data Warehouse? *Prism Solutions*, pp. 3-11.

Inmon, W. (2002). *Building the Data Warehouse.* Wiley Computer Publishing.

Kaur, H., and Wasan, S. (2006). Empirical study on applications of data mining techniques in healthcare. *Journal of Computer Science, 2*(2), 194-200.

Kimball, R. (1996). *The data warehouse toolkit. Practical techniques for building dimensional data warehouses.* New York: Wiley.

Lee, Y. (2010). *E-Government Applications.* UN-APCICT.

Li, B., Liu, J., Wang, L., and Shi, L. (2012). *Research on Spatial Data Mining in E-Government Information System.* INTECH Open Access Publisher.

Liu, X., and Luo, X. (2010). A Data Warehouse Solution for E-government. *International Journal of Research and Reviews in Applied Sciences-IJRRAS, 4*(1), 110-124.

Moon, M. (2002). The evolution of e-government among municipalities: Rhetoric or reality? *Public Administration Review, 62*(4), 424-433.

Ramamurthy, K., Sen, A., and Sinha, A. (2008). An Empirical Investigation of the Key Determinants of Data Warehouse Adoption. *Decision Support Systems, 4*, 817-841.

Rao, V. (2014). A Framework for e-Government Data Mining Applications (eGDMA) for Effective Citizen Services - An Indian Perspective. *International Journal of Computer Science and Information Technology Research, 2*(4), 209-225.

Reffat, R. (2003). Developing a successful e-Government. *E-Government: Opportunities and Challenge.* Oman: Muscat Municipality.

Reynolds, M., and Regio, M. (2001). *E-government as a Catalyst in the Information Age.* Microsoft E-Government Initiatives.

Shen, Y., Liu, Z., Luo, S., Fu, H., and Li, Y. (2009). Empirical research on e-government based on content mining. *International Conference on Management of e-Commerce and e-Government ICMECG'09* (pp. 91-94). IEEE.

Shin, B. (2003). An Exploratory Investigation of System Success Factors in Data Warehousing. *Journal of the Association for Information Systems, 4*, 141-170.

Tomar, D., and Agarwal, S. (2013). A survey on Data Mining approaches for Healthcare. *International Journal of Bio-Science and Bio-Technology, 5*(5), 241-266.

Watson, H. (2001). Recent Developments in Data Warehousing. *"AMCIS 2001 Proceedings"* (pp. 2289-2292). Association for Information Systems .

Watson, H. (2001). Recent Developments in Data Warehousing. *"AMCIS 2001 Proceedings"* (pp. 2289-2292). Association for Information Systems .

Watson, H., and Haley, B. (1998). A Structural Model of Data Warehousing Success. *Journal of Data Warehousing, 2*, 10-17.

Wu, L., Miller, L., and Nilakanta, S. (2001). Design on Data Warehouses using Metadata. *Information and Software Technology, 4*, 109-119.

Yang, J. (1998). *Ware House Information Prototype at Stanford (WHIPS).* Stanford University.

© SGBED 2019

DXB105

IMPACT OF EMIRATIZATION ON UAE PRIVATE SECTOR

Anuradha Reddy, gar_129@yahoo.co.uk
Freelancer & Research Scholar

Sudhakar Kota, skota60@hotmail.com
Professor, Head of Quality Assurance,
Skyline University College,
University City of Sharjah, UAE

ABSTRACT

UAE has been implementing emiratization policy over a decade during this time the effectiveness of the policy and its challenges have been discussed at various platforms by the stakeholders but no empirical study has been carried out to understand and evaluate the challenges experienced by private entrepreneurs. This study aims to identify key issues and the finds may help organizations in formulating appropriate strategies for maintaining balance among employee performance and create a healthy organizational culture that focuses on achieving organizational objectives. A Questionnaire was developed using a 5 point Likert scale to get responses for qualitative variables. Factor analysis is used to identify the critical factors. To test the appropriateness of data and for conducting factor analysis, Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett Test of sphericity is performed and hypotheses were tested. This study was conducted on a sample population of 126 managers working in UAE's private organizations. Suggestions from the study may help managers to overcome the issues and challenges through formulating effective strategies.

Keywords: Emiratization, UAE Nationals, Expatriates, Private sector, Challenges, Strategies.

Introduction

UAE has been implementing emiratization policy over a decade during this time the effectiveness of the policy and its challenges have been discussed at various platforms by the stakeholders but no empirical study has been carried out to understand and evaluate the challenges experienced by private entrepreneurs. Few works have been carried out on the emiratization program but its focus remained on areas of improving the implementation of emiratization policy strategies (Al Shaiba, 2008b) so that it helps to increase the placement of Emirati workforce in organizations (Al-Qubaisi, 2012). Some studies focused on emiratization policy, their challenges and barriers in the implementation of policies. These studies also developed challenges faced by private sectors while recruiting nationals (Fergany, 2001; Toledo, 2006; Nelson, 2004; Godwin, 2006). Few other studies (Yussof, 2006; Oakes, 2004) focus on managing balance between expats and nationals in organizations. But very few or no research is available on what challenges private sector management is facing due to Emiratization program, this research attempts to bridge that gap in understanding challenges faced by managers and what best strategies could be adopted to overcome the challenges of post emiratization in UAE private sector.

Since 2009 the UAE Government has emphasized employment of nationals in private sector and to facilitate this process the government made it mandatory for the organizations to employ nationals in government and private sectors (Emiratization in Abu Dhabi, 2012). According to the new rule 30 percent of private sector workforce should be UAE nationals but till now only 15 percent of the target could be achieved. On the other hand Emiratis employed in private sector compare the workload, work timings, compensation and other benefits with working culture in government organizations and are reluctant in joining private sector jobs. This situation calls for the government and corporate to address this issue on priority. This study aims to identify key issues and may help organizations in formulating

© SGBED 2019

appropriate strategies for maintaining balance among employee performance and create a healthy organizational culture that focuses on achieving organizational objectives.

Statement of the Problem

The government of any country adopts appropriate strategies and develops quality of its workforce so as to build a strong base of manpower with varied skills and competencies and reach to higher efficiencies of its economic activities. In the Gulf region and the UAE major part of their nationals are largely employed in government sector, especially in police, army, immigration, service industry like utilities and fully owned manufacturing sectors or semi government organizations. Most of the expatriates are engaged in the private owned businesses like retail, hotels restaurants, banking, trading, transportation, logistics and supply chain organizations. These organizations are mostly owned by expatriates and are operating in small and medium sector. These organizations are mostly owned by expatriates and are operating in small and medium sector.

After the impact of recession on the economy UAE Government in 2009 has re-emphasized the importance of employment of nationals in private sector. In order to facilitate this process the government made this policy mandatory by fixing up certain percentage of nationals to be employed (Emiratization in Abu Dhabi, 2012). Initially it was 2 percent reservation then it was raised to 10 percent followed by 15 percent and the new regulations mandates 30 percent of private sector workforce should be UAE nationals (Wam, 2012). Cabinet of UAE (Wam, 2012) announced that 2013 will be the year of emiratization and appealed UAE nationals to get prepared to work in all sectors. This also is an indication despite challenges private sector will have to increase the participation of nationals in their workforce. Similar situations of productivity and managing performance of the employees in the government sector the leadership and management in private organizations have adopted technology to resolve the challenges of productivity and performance of national workforce. Using the same philosophy, the private sector also can use technology intervention; however its cost is beyond the reach of private sector as most of them are small and medium units.

Due to drastic changes made in the staffing procedures in private sector organization in UAE (Toledo, 2006; Rees, Mamman & Braik, 2007; Ranadheer, 2009) and focusing on enhancing the performance of Emiratis, inducted under emiratization process, in private sector organizations is the major challenge for leaders (Forstenlecher, 2010). According to Khan (2012) major challenges from management side include lack of experienced and knowledgeable nationals, increased expenditure on training local staff, increased pay structure and incentives as per emiratization rules etc. Nationals also have some reservations to work in private sectors because of inadequate pay structures, insufficient incentives, long work timings and the barriers in medium of communication. Therefore, to evaluate performance of Nationals under this context becomes necessary so that appropriate strategies can be developed that could fulfill the government's policy of emiratization and optimize the human resources contribution in an organization so that both the parties have win-win situation. Following figure 1 depicts internal and external factors effecting emiratization.

© SGBED 2019

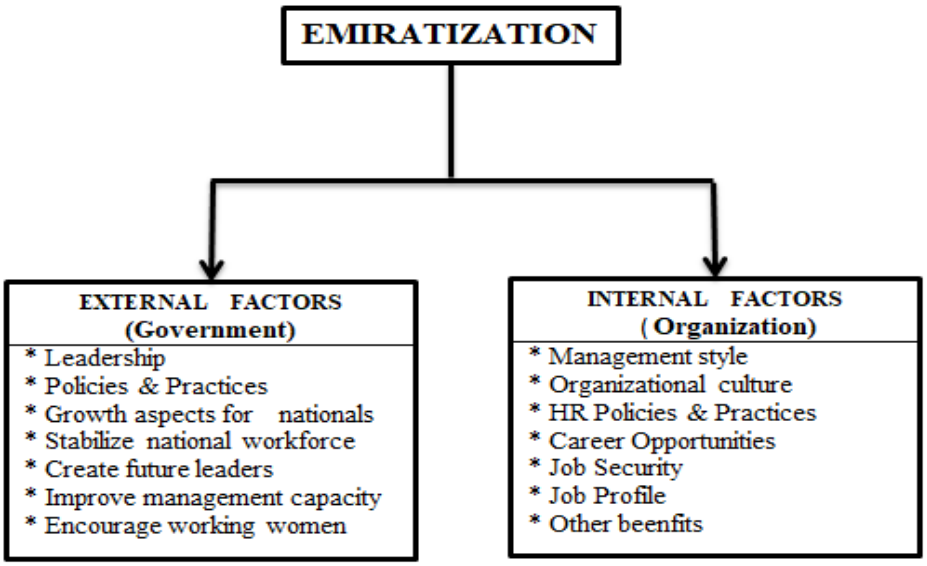


FIGURE 1: EXTERNAL AND INTERNAL FACTORS IMPACTING EMIRATIZATION

This study was conducted on a sample population of 126 managers working in UAE's private organizations. The sample includes UAE nationals and expatriate employees. The scope of the study includes the challenges in managing employee performance in the context of emiratization. Main focus is on assessing the impact of emiratization in the private sector. This study enables researcher and practitioners to understand approaches of managers in organizations operating in UAE and the impact of strategies on organization and employee performance. Suggestions from the study may help them to overcome the issues and challenges through formulating effective strategies.

Literature Review

Emiratization

According to Mashood, Verhoeven and Chansarkar (2007) Emiratisation is said to be an interventionist approach taken by the UAE government, it is a policy that aims to increase participation of nationals in labor marker. Emiratization is affirmative quota driven by the employment policy of UAE as a result government has selected some industries which are suitable for the men and women of nationals. Emiratisation is an employment program for locals in labor market programmed and a policy of 'positive discrimination', which can increase the presence of nationals in organization. This policy adoption is to fulfill the UAE federal government objective 'to create job opportunities for the UAE national workforce, reduce the unemployment ratio, enhance the skills and productivity of national workforce and recommend relevant policies to the UAE Federal Government.

Emiratisation is a process which has been implemented by United Arab Emirates (UAE) Ministry of Labour and Social Affairs (MOL) to employ nationals in both private and public sectors. This program has been a success in recent years especially in public sector companies like telecommunication and banking. An agreement has been made in April 1999, giving priority to graduates of the Higher Colleges of Technology (HCT) in recruitment for jobs in both private and public sectors which were signed between HCT and Ministry of Labor (MOL). The ministry is in favor of simultaneous development of the economy and human resources and increase employment in the private sector through a quota of employment of nationals. Nearly thousand members registered with ministry in 1998, most of them are women at that time (Government.ae, 1998).

© SGBED 2019

According to Randeree (2009) UAE is largely perceived as having economies of limited competitiveness in a global context, as it faces many challenges including current and future demographic, employment of its national workforce named as Emiratization. Further Emiratisation is a most valuable decision taken by the government of UAE, for the welfare of the nationals to reduce the unemployment among nationals and to grow the trained labour force of the nation. Most organizations have also been benefited through this program i.e instead of importing the skilled and talent labour from other nations they can hire nationals. Meanwhile to increase the number of the national workforce in Abu Dhabi, the government started implementing subsidies for the both workers and organization which could attract large number of locals towards work in the private sectors.

Godwin (2006) stated that emiratization policy is a UAE decree that imposes employment quotas on various business sectors with penalties for non-compliance. The Abu Dhabi state generated enormous publicity concerning the placement of young Emiratis into private sector. After UAE implemented the Emiratization in MOL, government requested the private sectors to help them through reducing the unemployment by utilizing this policy. In one of the study on *"Attitude to private sector"* showed that 96.5% of students at Abu Dhabi, women of Higher Colleges of Technology want to work after the graduation.

According to a report given by Nelson (2004) UAE is a diverse and multicultural society and 70% of its population are migrants on work permit from different parts of the world largely from the Asian sub-continent, South East Asia, Arab world, Africa and western countries. The burden on government organizations is ever increasing therefore government is encouraging the nationals to compete in the private sector and find suitable placements for them necessary legal support is extended in this regard. Therefore, labor market in UAE has both locals and non-locals in different positions at all levels in both private and public sector organizations. According to another report on *Labor market in UAE* (2007) it is stated that percentage of expatriates is larger in private sector when compared to nationals and most of the senior positions in both public and private sectors are been occupied by foreign nationals (especially Europeans, Canada UK and US nationalities). Further the report states that approximately 5,066,000 expats are imported from different countries for different organizations and positions in all the emirates.

According to (Latta and Cummins, 2007) economic development and the relative lack of locally available skills drive the basic need for expatriates in the region. Thus here are the firms major challenge is to design the competitive HR practices to attract the employees group for work culture, manage their performance, brings integration between them and many more. Apart from this government started encouraging both private and public sector that to increase the role of local in the job area. Language has importance in administration and leadership. There is need for English communication in the emiratisation program. Majority of jobs in UAE require English language (Al Ali, Shee & Foley, 2008) and a certain level of skill in national graduates. Lack of communication system and brainstorming sessions are in fact essential from the point of view of coming to conclusions within the organization (Al-Waqfi & Forstenlechner, 2010).

Emiratization process has been observed to be highly successful under the circumstances when the employees are allowed flexibility in work options. Private sector organizations are therefore recommended to take into account the needs of the employees so as to balance the amount of work and the nature in which it is conveyed to them. This has proved to give excellent results in some of the western countries where outsourcing is commonplace.

© SGBED 2019

In his research Mellahi (2007) focuses on the implications of a new legal framework on private sector managers and policy makers. Further Budhwar & Mellahi (2006); Budhwar & Mellahi (2007); provide extensive background on the growth of the HR function in Middle East in general, discussing the GCC's HRM systems against the background of increasing levels of globalization and internationalization of business. According to Forstenlechner (2010) One topic missing – in both scholarly and practitioner literature – is a focus on practical implications for key HR practices for organizations aiming to start or advance their Emiratization initiatives.

In UAE there are number of restrictions on the women considering the fact that they follow Islam. Based on past history, women can't manage to take the stress of their work and generally are not comparable to expatriate population. In view of the above, diversity can be managed if Islamic women are given different responsibilities so as to reach better employee satisfaction. Majority of local population graduates like to work for public sector jobs and process of Emiratisation for strengthening private sector has not come out successfully as local nationals classify themselves as "middle class" and normally accept the work that is consistent with their expectations (Morris, 2005). Local nationals prefer white-collar jobs in managerial roles, regardless of whether they have the qualifications and expectations and accordingly retail and service sector industries "are unlikely to suit the aspirations of nationals" (Emiratization, 2013). The impact of the working environment can be observed in behavior of Emirati nationals as majority of them find the private sector's working conditions unacceptable. Local nationals are not habitual for the long and irregular working hours and being restricted to spend time on cultural and religious observances. There are differences in private sector as compared to public sector as regards to short periods of leave and a disciplined approach to employee performance (Abdelkarim & Ibrahim, 2001). Private sector employers are also not much keen to employ nationals as they have negative perceptions about local nationals on their levels of productivity, skills, and motivation and being more expensive than non-nationals (Gulf, 2007; Nelson, 2004).

Further Emiratization cannot be compared with quota system prevalent in other countries. In fact, quota is just one part of Emiratization process and it includes policies initiated by UAE administration to influence supply and demand (Mashood et. al., 2009). According to Shah (2006) the various policies implemented in UAE are linked to cost of living, apprehension and deportation of over stayers and illegal, stricter regulation of visa issuance, and restrictions on visa trading. These polices have impact on supply of workers in private sector. Mashood et al (2009); Forstenlecher (2008) & Godwin (2006) in their research stated that Emiratization process is supported not only by priority quota for nationals but also imposing ban on public private sector for recruitment of expatriates beyond some limits. To support the implementation UAE administration has taken into consideration the need for creating job opportunities for locals through training. To have competitive edge there is policy for providing incentives for hiring local nationals and charging fee for hiring expatriates. The diversity of employment in private sector can be observed in various non-oil industries. Jobs for locals are targeted in banking, insurance and hospitality sectors, as well as jobs of HR Managers, secretaries, and public relations officers to facilitate Emiratisation. The effect of such policies has been concluded by research study conducted by Boer & Turner (2007), wherein it was informed that the UAE is making immigration policy more rigid and labour market regulations less rigid for example, providing more investment in human capital and less protection against termination. The report will stimulate employers to hire UAE nationals. The employment of nationals has also been supported by increased efforts to educate locals, reforms in education policy, implement education-to-employment programs, and finance private sector organizations to employ and then train locals have not proved.

© SGBED 2019

In spite of all these efforts, the overall observation about nationals being preferred in Private Sector has not found good success. The studies do indicate that there may be various reasons but key issues with private sector management are in the field of human resource management with the lack of career development prospects, relatively standards of education among the nationals as compared to global education standards, low wage in private sector, little or no training facilities, no consistency in promotional policies, lack of English language proficiency, and lack of trust in the competence of Emirati nationals. Additionally, absence of a work culture, attitude to work, and gender issues, which are also important factors in increasing the participation of nationals in the workforce. According to Al Ali, (2008) in general, nationals prefer to work in public sector organizations because these are seen as more secure and rewarding, and there are fewer career development prospects in private sector. This can be treated as the factors leading to the ineffectiveness of the Emiratisation policy (Emiratization, 2013).

Emiratization: Issues and Challenges

According to a report given by Nelson (2004) UAE labor law has mandated 15% quota for Emaratis in private sector, but this has become a hurdle and a challenging job for private sector to fill up the gaps and the big challenge is that there should be a good communication to overcome this issue. Ministry has mandated private sector to pay according to government jobs to attract nationals, further it is seen that many organizations are trying to bridge a gap between Emarati work force and private sectors and this will take a long time (www.arabianbusiness.com). The report also states that most of the Emaratis (both male and female) have a favorable opinion on the employing in public sector than in private and some of the reasons were found as

- Private sector is not able to provide alternatives such as high salaries, non-monetary benefits, less working hours etc. It is identified that many private sectors have 10 hrs day, 6 days per week and split shift (which is most common in Al Ain region) in contrast it is understood that public sector works in straight and single shift, 8 hrs day and 5 day week system.
- On the other hand private sector organizations find nationals to be less productive
- Nationals need to be remunerated more than expats, they require flexible work hours due to their religious demands (taking care of family, restrictions women face etc)
- Private firms have a multicultural and multinational work environment where in public sector they have a single one.
- Nationals believe that public sector jobs are more secure then private sector
- Nationals are even not interested to join private sector and they only opt it only when they do not get a job in public sector (rather as a last option) and thus private sector are not willing to employ them.

In an article published on Emiratization (*Rethink of Emirati workforce quotas*) many private organizations expressed that it is difficult to find suitable candidate for the job and that these employees often have unrealistic expectations in terms of pay and promotions. The government wants to close the wage gap between the public sectors and private sectors. The UAE was simply aiming for high quality governance that needed proper compensation, this quota system requires some business sectors to employ certain percentage of emiratis, the government officials also recommending companies try to attract emiratis, many of young educated people showing interest to work in public sectors instead of private sectors, so government started emiratisation website of employment information exchange that would make information on careers and job openings in the private sector easily available to nationals (emiratisation.org).

© SGBED 2019

According to (Godwin, 2006) it is reported that replacing the foreign workers with local national workers is present challenge for government and creating a lot job opportunity. Recently, women in Abu Dhabi are participating significantly in the private sector companies. UAE nationals prefer to work in government sector for the betterment of life and higher salaries, which has resulted in very small percentage accepting employment in private sector. Even though nationals are employed in private sector that are to be paid more as per the emiratization policy with basic pay and other HR incentives which is causing a large gap between nationals and expats compensation levels. Further this is causing overburden to private organizations who hire expats at a very low cost when compared to what they have to pay off to nationals for the same position. Further there is a threat to expatriate work force who are been issues pink paper (terminating from their job with one-month notice) with no reason and are facing low levels of job security (Randeree, 2009). On the other hand, Figliolini, Hofmann & Kanjirath (2008) state that talent management is critically important to companies operating in the UAE because of the substantial opportunities and challenges these organizations face today. With the challenge of attracting and retaining qualified and affordable talent in the UAE is so daunting, employers in the region must do everything they can to cultivate a powerful, persuasive reputation for talent management. This is because most of the UAE nationals are not experienced and have less work knowledge and processes when compared to expats. In this process it is costing the private companies in imparting training programs for nationals. Identifying talented nationals is a big task for companies instead they prefer to hire talented and experienced expats for their organizations.

Aim and Objectives of the Study

Aim of the study is to identify the impact of emiratization on UAE private sector. Objectives of the study are (i) To examine the impact of emiratization in UAE private organizations (ii) To analyze the challenges faced by HR managers in context of emiratization (iii) To identify suitable strategies for meeting challenges in context to emiratization. A Questionnaire was developed using a 5 point Likert scale (highly agree, agree, neutral, disagree, highly disagree [1-5]) to get responses for qualitative variables. Factor analysis is used to identify the critical factors. To test the appropriateness of data and for conducting factor analysis, Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett Test of Sphericity is performed. Null hypotheses were developed based on chosen factors from literature. This study was conducted on a sample population of 126 managers working in UAE's private organizations.

Research Hypothesis

- H01: HR Managers do not face challenges with local employees
- H02: HR Managers do not face any challenges due to Emiratization
- H03: Suitable strategies employed in context of emiratization have an impact on employee performance

TABLE 1: HYPOTHESIS STATEMENTS

HYPOTHESIS – H01
H01: HR Managers do not face challenges with local employees
H01A – HR managers are not able to find local candidate with expected educational qualification
H01B – HR managers are not able to find local candidate with expected work experience, knowledge and job skills
H01C – HR managers are not able to find local candidate with communication skills and English language proficiency
H01D – Local employees do not have acceptance and competency towards given task
H01E – Local employees performance and productivity is not satisfactory
H01F – Local employees are not able to integrate easily with expatriates
H01G – Local employees do have un realistic demands in relation to pay

© SGBED 2019

HYPOTHESIS H02
H02: HR Managers do not face any challenges due to Emiratization
▪ H02A – National employees do not need more training and motivational programs before they get into the job
▪ H02B – There is no need to make changes in the academic system so that national could meet future challenges
▪ H02C – There is no need for specialized education and vocational guidance for nationals to take up challenging jobs currently
▪ H02D – Training programs are not needed for local employees in finding suitable jobs
▪ H02E - Emiratization policies are not favorable and are not helping private sector management in finding suitable candidate
HYPOTHESIS – H03
H03: Suitable strategies employed in context of emiratization have an impact on employee performance
▪ H03A – Motivation does not have an impact on employee performance
▪ H03B – Communication does not have an impact on employee performance
▪ H03C – Training and guidance programs does not have an impact on employee performance
▪ H03D – Having good relationship with subordinates does not have an impact on employee performance
▪ H03E – Encouraging teamwork does not have an impact on employee performance
▪ H03F – Remuneration, promotion and rewards does not have an impact on employee performance
▪ H03G – Bi-annual or annual performance appraisals does not have an impact on employee performance

Research Methodology

Data collection for the study is collected through a survey carried out by distributing questionnaires to managers in selected organizations. The selection of the organizations and samples is carried out and required data was collected from primary and secondary sources. Prior permission from the managers was sought to conduct survey with them. For the ease of manager's questionnaire is prepared in English and Arabic languages (as managers included nationals and expatriates) enabling them fill in details after having clear understanding so that biases are minimized.

Personal visits to the selected organizations were undertaken and questionnaires were distributed to selected sample employees and structured data was collected as per the questionnaire. Some were contacted through references and other directly. In situations where managers were busy or were not willing to fill it at that time their email ids and contact numbers were collected from HR and questionnaire were sent in mail and continuous follow ups were done to get back responses. Language was a barrier at the time of data collection, to overcome it personally communicating and explaining about the questionnaire when managers had any doubt, in some situations researcher took the help of other managers who were bi lingual and were able to communicate in English and they helped the researcher to explain others.

Sources of data

Largely primary and secondary sources were used to collect the required data. Primary source played an important role because very little research data and literature was available to meet the objectives of this study. Therefore, some of the non-scholarly sources like newspapers, personal information for resource persons was used to fill the gaps. For Authenticity and reliability of the data is dependency on informed reasoning became necessary to a large extent especially with respect to emiratization.

© SGBED 2019

Data Collection

Survey questionnaire for HR managers

First the researcher has conducted survey with HR mangers from selected organizations in UAE. Survey questionnaire consisted of two parts. Part one was focused on identifying various challenges HR managers are facing with respect to recruiting national employees, managing national employee performance and challenges managers are facing in restructuring HRM policies and practices especially due to Emiratization. Part two of the questionnaire focused on the strategies employed by the organization to manage national employee performance.

Research Design

Chi square analysis is used extensively to test the hypothesis and the impact of emiratization on private sector, major challenges faced by the management of private sectors and also measure the effectiveness of interventions by the managers to manage the performance of the employees. Researcher was able to map out important research variables, emiratization factors and leadership and management as interventions and measured their effectiveness.

Instrument

Major goal of this study is to determine the challenges faced by management in managing employee performance. Understand manager's perspectives of challenges emerging due to Emiratization, understand the impact of strategies employed in managing employee performance in private sector. Instruments aimed at collecting data on three areas; viz: demographic information of respondents, perceptions of HR managers working in private organizations in UAE. All the questionnaires are based on the data requirement drawn from the objectives of the study. Questionnaires for managers have three parts. Part one covers perspectives of challenges due to Emiratization focusing on objective one of the study (To examine the impact of emiratization in UAE private organizations). Challenges in managing employee performance, focused on covering the requirements of objective two (To analyze the challenges faced by managers in managing employee performance in context of emiratization). The third part covers strategies employed for managing employee performance focusing on objective three of the study (To identify suitable strategies for meeting challenges in context to emiratization).

The Questionnaire used a 5-point Likert scale (highly agree, agree, neutral, disagree, highly disagree [1-5]) to get responses for qualitative variables. As a first step factor analysis is used to identify the critical factors. To test the appropriateness of data and for conducting factor analysis, Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett Test of Sphericity is performed. Four different null hypotheses were developed based on chosen factors from literature, H01A – H01G indicating challenges to HR managers with local employees, H02A-H02E) indicating challenges to HR managers due to Emiratization and H03A – H03G indicating suitable leadership strategies employed in context of Emiratization.

Data Analysis and Interpretation

Primarily factor analysis is undertaken after checking for the eligibility of the data by .KMO (Kaiser-Meyer-Olkin) analysis and Bartlett's test was performed for testing the adequacy and eligibility of the data. KMO and Bartlett's Test of spherecity is conducted because if the identity matrix in the dataset is not suitable for factor analysis thus these tests are conducted and the results are shown below in the table 2

© SGBED 2019

TABLE 2: RESULTS OF KMO AND BARTLETT'S TEST

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.929
Bartlett's Test of Sphericity	Approx. Chi-Square	22205.625
	Df	1378
	Sig.	.000

Demographic Profile of HR Managers

Connell (2013) states there are few factors such as population, age, gender, education, employment and socio economic status are predictable and relevant to understand the impact of demographic factors on HR related issues. To understand the behavior of Human Resources managers and their effects on managing human resources few important factors are considered as given below**.**

TABLE 3: PERCENTAGE DISTRIBUTION OF DEMOGRAPHICS OF RESPONDENTS

Nationality	No of respondents	% of respondents
UAE	96	76.2
Others	30	23.8
Total (n)	126	100
Age	No of respondents	% of respondents
25 – 35	21	16.6
36 – 45	73	57.9
46 – 55	32	25.5
56 and above	-	-
Total (n)	126	100
Experience	No of respondents	% of respondents
0 - 2 yrs	7	5.3
3 - 5 yrs	15	11.5
6 - 10 yrs	72	57.1
11 yrs and above	33	26.1
Total (n)	126	100
Salary	No of respondents	% of respondents
5000 - 10000 dhs	28	22.2
11000 - 15000 dhs	79	62.8
16000 - 20000 dhs	14	11.1
20000 and above	5	3.9
Total (n)	126	100

Nationality mix of HR mangers as shown in the table 3 above shows that 23.8% of the Managers are foreign nationals, whereas 76.2% are UAE nationals working as shown in table 3. Age also has an influence on the decision making of the managers therefore this factor is considered for the analysis. Broadly, the data on age groups is collected in four categories classified into 25-35, 36-45, 46-55 and 56 and above. Table 3 above shows the distribution of HR mangers 57.9% of the managers are between the age of 35 - 45 years and about 16.6 % are between 25 - 35 years of age. Work Experience of the respondents is an important factor which could further help in improving the efficiency of employee and organization as well. Demographic information on experience of HR mangers indicates that majority (57.1%) of the managers have an experience of 6 - 10 years and 26.1% of the managers have 11 years and above of experience. About 81% are highly experienced and the remaining mangers are

© SGBED 2019

young and have an experience up to 2 years. Salary is an important component to attract industry experts to the organization and has an impact on the performance. Demographic information of salary of HR mangers indicates that 62.8% of the managers draw salaries ranging from AED 11000 to 15000 and the highly experienced lot gains over AED 20000. About 3.9% of the managers are paid AED 20000 and above. This indicates that the pay packages of the managers are almost uniform irrespective of nationality and are at par with the standard pay scales.

Hypothesis Testing

The following analysis and results on impact of emiratization in UAE private sector is done based on two major aspects. First this study analyzed the management perspective of challenges in private sector due to emiratization in UAE. Further this study has also collected the views of HR managers working in private organizations and based on the results this study puts forward the following analysis.

Impact of Emiratization on UAE Private Organizations

The following table 4 indicates five major factors (pre job training, changes in academic systems, special and vocational guidance, on job training and emiratization policies) identified with regards to HR managers perception towards challenges due to Emiratization through literature review. To understand the challenges to HR managers are facing in context to employee performance the following hypothesis has been developed.

TABLE 4: RESULTS OF CHI SQUARE AND P VALUES OF HYPOTHESIS 1

Hypothesis 1	Number of valid cases	Chi sq value	P values	Degree of Freedom	Accept/Reject
H01A – National employees do not need more training and motivational programs before they get into the job	126	578.645	0.003	12	Reject
H01B – There is no need to make changes in the academic system so that national could meet future challenges	126	423.344	0.000	12	Reject
H01C – There is no need for specialized education and vocational guidance for nationals to take up challenging jobs currently	126	420.856	0.000	12	Reject
H01D – Training programs are not needed for local employees in finding suitable jobs	126	422.800	0.000	12	Reject
H01E - Emiratization policies are unfavorable and are not helping private sector management in finding suitable candidate	126	412.989	0.016	12	Reject

From the above table 4 chi square value of H01A is 578.645 and significance is 0.03 which indicates that sig. value is < 0.05, thus reject stated hypothesis. It means national employees need training and motivational programs before they get into job. Chi square value of H01B is

© SGBED 2019

423.344 and significance is 0.00 which indicates that sig. value is < 0.05, thus reject stated hypothesis. It means that there is a need to make changes in the academic system so that national employees could meet future challenges. Chi square value of H01C is 420.856 and significance is 0.00 which indicates that sig. value is < 0.05, thus reject stated hypothesis. It means that there is a need for specialized education and vocational guidance for nationals to take up challenging jobs currently. Chi square value of H01D is 422.800 and significance is 0.00 which indicates that sig. value is < 0.05, thus reject stated hypothesis. It means that there is a need for training programs for local employees in finding suitable jobs. Chi square value of H01E is 413.989 and significance is 0.016 which indicates that sig. value is < 0.05, thus reject stated hypothesis which indicates that Emiratization policies are unfavorable and not helping private sector management in finding suitable candidate.

HR Managers challenges with local employees

To understand the challenges HR managers are facing in context to employee performance the following hypothesis has been developed. Hypothesis (H02A – H02G) is listed in the table 5, considering the various aspects of challenges identified such as education qualification, work experience, knowledge and job skills, communication skills and English language proficiency, acceptance and competency towards given task, performance and productivity, nationals integrating with expatriates and finally unrealistic demands in relation to pay. The same is show in table 5 below

TABLE 5: RESULTS OF CHI SQUARE AND P VALUES OF HYPOTHESIS 2

Hypothesis 2	Number of valid cases	Chi sq value	P values	Degree of Freedom	Accept/Reject
H02A – HR managers are not able to find local candidates with expected educational qualification	126	17.933	0.518	12	Accept
H02B – HR managers are not able to find local candidate with expected work experience, knowledge and job skills	126	11.565	0.441	12	Accept
H02C – HR managers are not able to find local candidate with communication skills and English language proficiency	126	4.801	0.434	12	Accept
H02D - Local employees have low acceptance and competency towards given task	126	13.503	0.334	12	Accept
H02E - Local employees performance and productivity is unsatisfactory	126	17.728	0.327	12	Accept
H02F - Local employees are not able to integrate easily with expatriates	126	11.034	0.026	12	Reject
H02G - Local employees have unrealistic demands in relation to pay	126	22.670	0.541	12	Accept

From the above table 5 chi square value of H02A is 17.933 and significance is 0.518 which indicates that sig. value is > 0.05, thus accept the stated hypothesis. It means that HR managers are not able to find local candidates with expected educational qualification' and hence their disagreement towards availability of educated national man power. Chi square value of H02B is 11.565 and significance is 0.441 which indicates that sig. value is > 0.05, thus accept the stated hypothesis. It means that HR managers are not able to find candidates' with sufficient work experience, knowledge and job skills. Chi square value of H02C is 4.801

© SGBED 2019

and significance is 0.434 which indicates that sig. value is > 0.05, thus accept stated hypothesis. It means that HR Manager's agreement towards non availability of locals with appropriate English proficiency and communication skills to the need for exclusive education to increase the national's fit to challenging jobs. Chi square value of H02D is 13.503 and significance is 0.334 which indicates that sig. value is > 0.05, thus accept stated hypothesis. It means that there is a need for training to find suitable jobs and the locals competency and acceptance towards given task. Chi square value of H02E is 17.728 and significance is 0.327 which indicates that sig. value is > 0.05, thus accept stated hypothesis. It means that there is a need for education and vocational guidance for challenging jobs currently to the agreement of HR Managers towards the low productivity and performance of the local employees. Chi square value of H02F is 11.034 and significance is 0.026 which indicates that sig. value is < 0.05, thus reject stated hypothesis which states that there is significant association between the HR Managers towards the national employees mingling with Expats. Chi square value of H02G is 22.670 and significance is 0.541 which indicates that sig. value is > 0.05, thus accept stated hypothesis. It means that HR Manager's perception towards unrealistic National Employee pay demands and Emiratization policies and their favorableness to national employees in private sector.

Strategies Employed For Managing Employee Performance

To test this objective a hypothesis has been developed (H03A – H03G) by selecting various HR strategies. This hypothesis aims at identifying different strategies such as motivation, training, communication, having good relationship with employees, teamwork, remuneration, promotions, rewards and performance appraisals adopted and practiced by managers to improve national employee work performance and see which of the stated strategies help managers to improve employee performance. Chi square test is been performed to understand the significant values. The following table 6 shows the results obtained.

TABLE 6: RESULTS OF CHI SQUARE AND P VALUES OF HYPOTHESIS 3

Hypothesis 3	Number of valid cases	Chi sq value	P values	Degree of freedom	Accept/Reject
H03A – Motivation has no impact on employee performance	126	11.034	0.05	12	Reject
H03B – Communication has no impact on employee performance	126	22.670	0.031	12	Reject
H03C – Training and guidance programs have no impact on employee performance	126	22.670	0.027	12	Reject
H03D – Having good relationship with subordinates has no impact on employee performance	126	22.670	0.029	12	Reject
H03E – Encouraging teamwork has no impact on employee performance	126	22.670	0.028	12	Reject
H03F – Remuneration, promotion and rewards have no impact on employee performance	126	22.670	0.032	12	Reject
H03G – Bi-annual or annual performance appraisals have no impact on employee performance	126	22.670	0.028	12	Reject

From the above table 6 chi square value of H03A is 11.034 and significance is 0.05 which indicates that sig. value is = 0.05, thus reject stated hypothesis which indicates that 'Motivation always has an impact on employee performance. Chi square value of H03B is

© SGBED 2019

22.670 and significance is 0.031 which indicates that sig. value is < 0.05, thus reject stated hypothesis which indicates that Communication strategy has significant impact on employee performance. Chi square value of H03C is 22.670 and significance is 0.027 which indicates that sig. value is < 0.05, thus reject stated hypothesis. This indicates training and guidance programs have significant impact on employee performance. Chi square value of H03D is 22.670 and significance is 0.029 which indicates that sig. value is < 0.05, thus reject stated hypothesis which indicates that having good relationship with subordinates has a significant impact on employee performance. Chi square value of H03E is 22.670 and significance is 0.028 which indicates that sig. value is < 0.05, thus reject stated hypothesis which indicates that encouraging teamwork has a significant impact on employee performance. Chi square value of H03F is 22.670 and significance is 0.032 which indicates that sig. value is < 0.05, thus reject stated hypothesis which indicates that 'Remuneration, promotion and rewards have an impact on employee performance'. Chi square value of H03G is 22.670 and significance is 0.028 which indicates that sig. value is < 0.05, thus reject stated hypothesis which indicates that **'**Bi-annual or annual performance appraisals have significant impact on employee performance**'.**

Conclusions and Recommendations

Inferences of hypothesis 1 indicate that management is facing challenges with respect to emiratization policies and believe that there is a need for pre job and on job training for nationals. Apart from this management is of the view that nationals should be given special and vocational training and there is a need for changes to be made in academics so that they can meet the future job challenges. This clearly indicates that private sector management is facing challenges due to emiratization policies. There is a stronger appeal from all the HR Managers that Local employee easily mingle with the expatriates in the company and at work floor to provide a productive work culture. Almost all the HR managers feel that the employee attitude has been the key in creating a positive work culture at the work place. All the HR managers are not satisfied with the Productivity and Job Performance of the employees. HR Managers opined that all the employees do not have the competency to meet the set targets.

There was a strong agreement from all the HR Managers in this context. HR Managers feel that there is a low level of acceptance to the task allocated to the employees. HR Managers feel that national employee's demands towards pay are unrealistic when compared to the performance and this would increase their cost of operations. Almost all the managers were in agreement with this statement. HR Managers opined that the local employees get along well with the expats and form highly productive teams. Hence, most of them were in agreement to the fact that locals show interest to work in teams with expats. From the analysis it is clearly evident that HR managers face hurdles in identifying right candidates to the jobs and there is a lack of local talent pool with expected qualification, work experience and enough job skills. It is evident that most of the local employees mingle with expats and are interested in forming teams with expats to create a productive and positive work environment. HR Managers experience the job performance and productivity of the employees to be promising and their acceptance to the target and work allocated is low.

HR Managers also felt that their demands on pay packages are unrealistic. Inferences of hypothesis 2 indicate (challenges faced by HR managers in managing employee performance in context of emiratization) that the significance values are for two major aspects HR managers are not able to find local candidate with expected educational qualification (p = 0.518), work experience, knowledge and job skills (p=0.441) and local employees have unrealistic demand towards pay' (p = 0.541). Another attributes communication skills,

© SGBED 2019

English language proficiency (p = 0.434) and acceptance towards given task shows a significance value of (p = 0.334) which seems to be moderate thus it indicates that these aspects also have an impact. It is a good sign that national employees are able to integrate easily with expatriates (p = 0.026). There has been a stronger appeal from all the HR Managers that Local employee would easily mingle with the expatriates in the company and at work floor. Almost all the HR managers feel that the employee attitude has been the key in creating a positive work culture at the work place. All the HR managers are not satisfied with the Productivity and Job Performance of the employees. HR Managers opined that all the employees do not have the competency to meet the set targets. There was a strong agreement from all the HR Managers in this context.

HR Managers feel that there is a low-level acceptance to the task allocated to the employees. HR Managers feel that national employee's demands towards pay are unrealistic. Almost all the managers were in agreement with this statement. HR Managers opined that the local employees get with the expats and form highly productive teams. Hence, most of them were in agreement to the fact that locals show interest to work in teams with expats. From the analysis it is clearly evident that HR managers face hurdles in identifying right candidates to the jobs and there is a lack of local talent pool with expected qualification, work experience and enough job skills. It is evident that most of the local employees mingle with expats and are interested in forming teams with expats to create a productive and positive work environment. HR Managers experience the job performance and productivity of the employees to be promising and their acceptance to the target and work allocated is low. HR Managers also felt that their demands on pay packages are unrealistic. Inferences of hypothesis 3 indicate that suitable HR strategies employed in context to emiratization has impact on employee performance.

HR strategies such as remuneration, promotion and rewards and bi-annual or annual performance appraisals resulted low significance values (p = 0.031) which clearly indicate that these strategies have high impact on employee performance when considered to communication, training and guidance programs (p = 0.027), having good relationship (p = 0.029) and encouraging team work (p = 0.028) has an impact but considerable less. It is understood that almost all the HR managers felt that there is a need for proper training and motivation programs to properly guide and groom the locals to right jobs. Managers strongly recommend that there is a need for regular development practices through training on updated technologies in order to increase employee's productivity and there by organization's productivity. Managers are of the opinion that the need for proper performance appraisal policy to assess the employees develop them and reward them to boost their performance and retention.

Number of studies have suggested regarding performance appraisals as a tool for providing feedback, deciding promotions or termination, determining compensation, identifying strength and weakness or areas for change and identifying development needs that can help with career planning. This is the methodology used by majority of the organizations to enhance the performance of employee and the organization. Significant concept is the type of appraisal that is used in line and the requirements and structure of the organization in order to reap the benefits.

© SGBED 2019

References

Abdelkarim, A. and Ibrahim, S. (2001) *Productivity Problems in the UAE: The Role of Productivity Organisation* (Dubai: Tanmia, UAE)

Al Ali, J. (2008), "Emiratisation: drawing UAE nationals into their surging economy", *International Journal of Sociology & Social Policy*, 28 (9/10), 365-79

Al Shaiba, A. A., (2008b). 'Emiratisation – present situation and future needs.' *Gulf News*, 1 August 2008. [Electronic version] http://archive.gulfnews.com/articles/08/08/01/10233334.html

Anthony J. Figliolini, Amanda Hofmann & Trisha Kanjirath (2008), Growth in middle east and HR capabilities, *Centre for advanced Human Resource Studies*, Spring International Sponsor Meeting, Dubai, UAE

Budhwar, P. and Mellahi, K. (2006), *Managing Human Resources in the Middle East*, Routledge, New York, NY.

Budhwar, P. and Mellahi, K. (2007), "Introduction: Human resources management in the Middle East", *The International Journal of Human Resource Management*, Vol. 18 No. 1, pp. 2-10

Connelly, Lynne M. **Medsurg (2013), Nursing** 22.4 , Demographic Data in Research Studies (Jul/Aug 2013): 269-70.

Emiratization (2013), [Electronic version] http://www.ukessays.co.uk/essays/management/work-force-in-abu-dhabi.php

Emiratization in Abu Dhabi (2012), [Electronic version]: http://www.abudhabi.ae/egovPoolPortal_WAR/appmanager/ADeGP/Citizen?_nfpb=true&_pageLabel=p_citizen_en_homepage_hidenav&did=254196&lang=en

Fergany, N., (2001). *Aspects of labour migration and unemployment in the Arab region*. Egypt: Almishkat Center for Research

Geoffrey W.Latta, Slobhan Cummins (2007), Human Resourece Strategy, The growth of expatriate assignments in to the Middle East, *World At Work Journal*, Qty

Godwin, S., (2006). 'Globalization, education and Emiratisation: a study of the United Arab Emirates.' *The Electronic Journal on Information Systems in Developing Countries*, 27(1), pp. 1-14.

Gulf (2007), Labour Market Problems Threaten Relations, September 2007, Gulf pp. 4-5

Ingo Forstenlechner, (2010) "Workforce localization in emerging Gulf economies: the need to fine-tune HRM", Personnel Review, Vol. 39 Iss: 1, pp.135 - 152

Jasim Al-Ali, Himanshu Kumar Shee and Patrick Foley (2008), Structural Barriers to Emiratisation: Analysis and Policy Recommendations

Labor market in UAE, 2007, [Electronic version]: www.rakftz.com/en/article/business...uae/labour-workforce-uae.html

Mellahi, K. (2007), "The effect of regulations on HRM: private sector firms in Saudi Arabia", The *International Journal of Human Resource Management*, Vol. 18 No. 1, pp. 85-99

Mohammed Al-Waqfi, Ingo Forstenlechner, (2010) "Stereotyping of citizens in an expatriate-dominated labour market: Implications for workforce localisation policy", *Employee Relations*, Vol. 32 Iss: 4, pp.364 - 381

Mohammed N Al Khan (2012), UAE private sector 'cannot compete' with government for Emirati staff, The National, published Nov 8, 2012, [Electronic version]: http://www.thenational.ae/news/uae-news/uae-private-sector-cannot-compete-with-government-for-emirati-staff

Morris, M. 2005, *Organisation, social change and the United Arab Emirates, Paper presented to the Social Change in the 21st Century Conference*, Centre for Social Change Research, Queensland University of Technology, 28 October 2005

Neelofer Mashood, Helen Verhoeven and Bal Chansarkar (2007), Emiratisation, Omanisation and Saudisation-commoncauses: common solutions?, [Electronic version]: http://wbiconpro.com/17.%20Helen-UAE.pdf

Nelson, C., (2004). *UAE national women at work in the private sector: conditions and constraints*. *Labour Market Study No.20*. Dubai: Centre for Labour Market Research & Information, National Human Resource Development and Employment Authority (Tanmia).

Oakes, M., (2004). 'Coming to a shop near you.' *Middle East Economic Digest*, 48(13).

Omar Saeed Al-Qubaisi (2012), ICT, Human Capital Development and Emiratisation of the Labour Market in the United Arab Emirates, iCOM Centre for Research in Information Computing & Communication, Royal Holloway University of London

Randeree, K. (2009). Strategy, Policy and Practice in the Nationalisation of Human Capital: 'Project Emiratisation', *Research and Practice in Human Resource Management*, 17(1), 71-91

Rees, C., Mamman, A. and Braik, A.B. (2007), "Emiratization as a strategic HRM change initiative: case study evidence from a UAE petroleum company", *International Journal of Human Resource Management*, Vol. 18 No. 1, pp. 33-53

Toledo, H. (2006). "The Problems and Prospects of Emiratization: Immigration in an Imperfect Labor Market", Dubai Economic Research Awards, Dubai.

Wam (2012), UAE charter for national values approved, published November 27, 2012, [Electronic version]: http://gulfnews.com/news/gulf/uae/government/uae-charter-for-national-values-approved-1.1110843

© SGBED 2019

DXB102

A NOVEL HYBRID CLASSIFICATION (NHC) ALGORITHM FOR DIABETES CLASSIFICATION

Karamath Ateeq, karhce@yahoo.com,
Faculty Member, Skyline University College, UAE

Gopinath Ganapathy, gganapathy@gmail.com
Professor & Head, School of Computer Science, Engineering and Applications,
Bharathidasan University, Tiruchirappalli, India.

ABSTRACT

In this study, an intelligent diagnosis system for diabetes prediction is developed based on Genetic Algorithm-Relative Reduct Algorithm (G-RR) and Modified Particle Swarm Optimisation – Neural Network (MPSO_NN) Algorithm and Fuzzy K-means Algorithm (FKM). This proposed Novel Hybrid Classification (NHC) Algorithm works in three phases. The GA-RR is applied to reduce the feather and then MPSO-NN is applied to classify the reduced features. The classified features which are diagnosed with diabetes are then clustered into three types as Type 1, Type 2 and Gestational diabetes. The diagnosis performance of the proposed NHC is measured based on Sensitivity, specificity, False Positive Rate and Accuracy. The Pima Indian diabetic dataset and US diabetic dataset is taken from UCI website for experimentation. An accuracy of 92.1 and 94.78% is obtained using the NHC Algorithm.

Keywords: Diabetes, Genetic Algorithm, Relative Reduct Algorithm, Particle Swarm, Neural Network, Preprocessing, Classification, Prediction, hybridization.

Introduction

An estimate by World Health Organization report that around 250 million people all over the work suffer from diabetes (Sathya et al (2016)). It is also estimated that this number will double by 2030.This disease develops many risk factors like eye disease, kidney failure and other complications. The early detection of the disease and proper care management can make a difference for the diabetic patients. Data Mining techniques can be applied to predict the disease with more accuracy in less time (Kaur B and Singh W (2014)).

The objective of this study is to develop a hybrid prediction model by using the Data Mining Techniques for the prediction of the dataset. The dataset required for the experimentation is taken from UCI website. The Pima Indian Diabetic Dataset (PID) and US Data set (USD) was applied for the experimentation.

Literature Review

A new way of classification of medical data using hybrid intelligent system was introduced by (Manjeevan Seera and Chee Peng Lim (2014)).

Rahman Ali et al (2015) proposed a novel hybrid set reasoning model (H2RM) that resolves the problem of inaccurate prediction and management of diabetes mellitus. The data was transformed into structured format and the rules for prediction were mined. Rough Set Theory based techniques and algorithms were applied for mining the rules. Correlation-based trend analysis techniques were used to manage diabetic observations. Experimental results proved that the proposed model achieved an accuracy of 95.9%.

© SGBED 2019

Sathya S et al (2016) implemented two data mining algorithms like Random Tree and ID3 on the PIDD (Pima Indian Diabetic Dataset). It was implemented on Weka Tool. Random tree yielded an accuracy of about 94.79% and ID3 has given an accuracy of 96.36%. The proposed hybrid model which combined the Random tree and ID3 yielded an accuracy of about 99.05%.(Dilip Kumar Choubey and Sanchita Paul (2016)) implemented the proposed methodology in two stages. Genetic Algorithm (GA) was applied for feature selection and Multilayer Perceptron Network (MLP_NN) was used for classifying the selected features. The experimental results proved that the algorithm worked well for classification. The classification accuracy was 79.13%. Nasib Singh Gill and Pooja Mittal (2016) proposed a novel hybrid model for diabetic prediction by using the Data Mining Techniques. Three rank based selection techniques are used for the attribute selection. Hidden Markov Model and Fuzzy Improved Neural Network is used to form cluster after finding the association between different attributes. The proposed hybrid model achieved an overall accuracy of 92%.

Ahmed Hamza Osman and Hani Moetque Aljahdali (2017) proposed an integration approach between the SVM technique and K-means clustering algorithm for diagnosing the diabetes disease. (Seyyed Mohammad Hossein Dadgar and Mostafa Kaardaan (2017)) proposed a hybrid approach based on UTA Algorithm and two-layer neural network. This approach involved two stages, Feature selection based on UTA Algorithm and Prediction using Neural-Genetic. The prediction accuracy obtained was 87.46. The classification accuracy was 84.61%. The proposed model can be used as an expert system application, under the guidance of diabetic expert to assist the physicians for taking decision regarding the early diagnosis of diabetes.

Proposed Methodology

The NHC Framework is proposed to classify the diabetic patient data set. The Framework works in three phases as Pre-Processing Phase, Classification Phase and Clustering Phase. In the Pre-Processing Phase, the Genetic-Relative Reduct (G-RR) Algorithm is applied to remove the noisy data and eliminate the irrelevant data. The output at this phase will be the reduced data set.

The next phase is classification phase. In this phase, Modified Particle Swarm Optimization – Neural Network (MPSO-NN) Algorithm is employed to classify the dataset. This phase optimizes the reduced data set and classified it.

The final output from this framework will be classified binary output as 0 or 1. In Clustering Phase, the data with value 0, that is the non-diabetic patients are ignored and the diabetic patients with binary value 1 is again clustered using FKM to classify the diabetes patients into three types as Type 1, Type 2 and Gestational Diabetes. Figure 1 explains the framework for NHC Algorithm.

© SGBED 2019

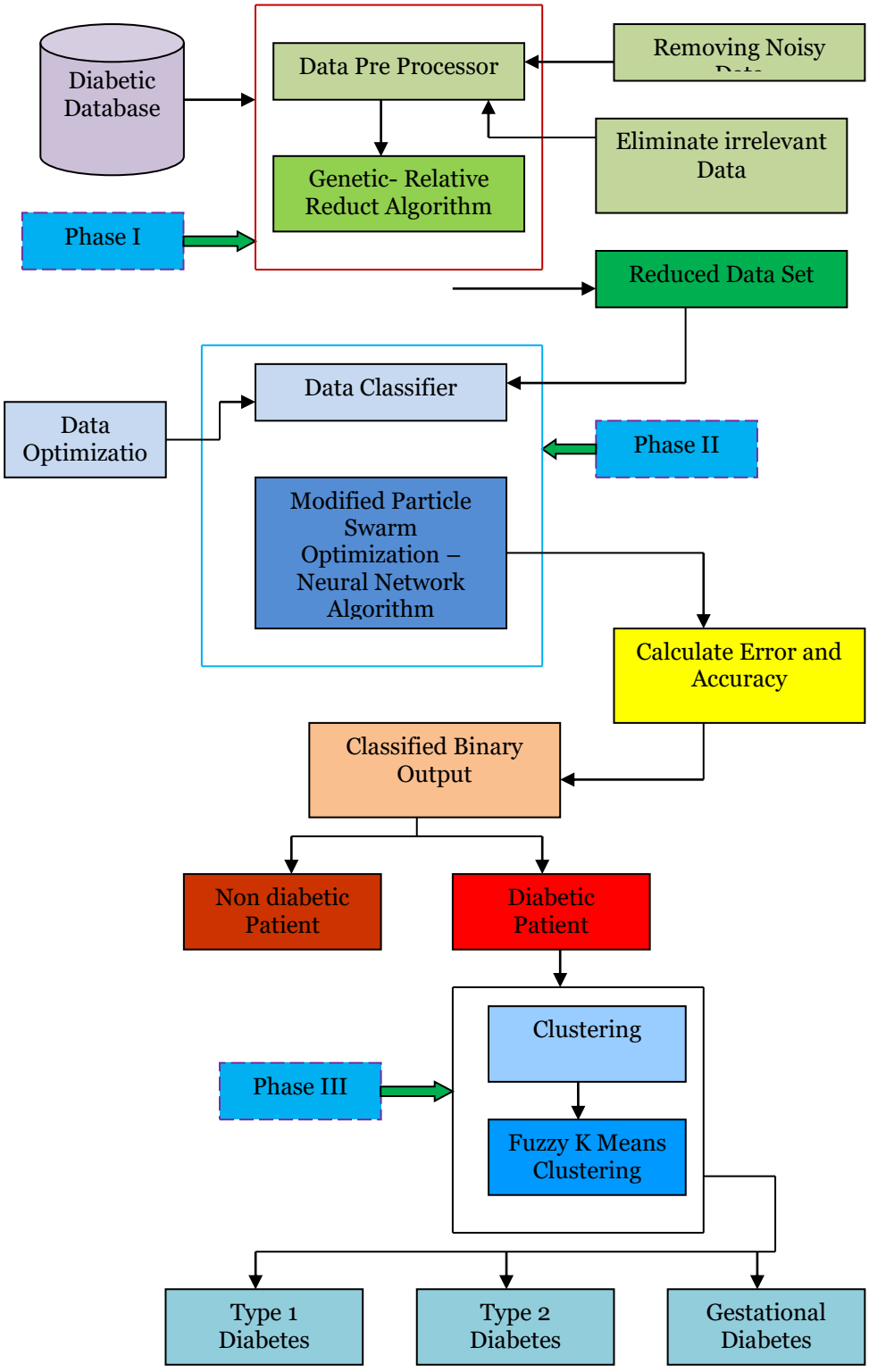


Figure 1: The Framework for NHC Algorithm

Fuzzy K-Means Algorithm for Clustering

The fuzzy k-means Algorithm (FKM) partitions data points into *k* clusters S_l *(l=1, 2… k)* and clusters S_l are associated with representatives (cluster center) C_l. The relationship between a data point and cluster representative is fuzzy. That is, a membership $u_{i,j} \in [0,1]$ is used to represent the degree of belongingness of data point X_i and cluster center Cj. The set of data

© SGBED 2019

points is denotes as S= $\{X_i\}$. The FKM algorithm is based on minimizing the following distortion:

$$J = \sum_{j=1}^{k} \sum_{i=1}^{N} u_i^m, _j d_{ij} \quad \text{..... > (1)}$$

with respect to the cluster representatives C_j and memberships $u_{i,j}$, where N is the number of data points, *m* is the fuzzifier parameters, *k* is the number of clusters and d_{ij} is the squared Euclidean distance between data point X*i* and cluster representative C*j*. It is noted that $u_{i,j}$ should satisfy the following constraint:

$$\sum_{j=1}^{k} u_{i,j} = 1, for\, i = 1 to\, N \quad \text{..... > (2)}$$

The FKM begins with a set of initial cluster centers and repeats the mapping process until the stopping criterion is satisfied. No two clusters have the same cluster representative. In case of two clusters having the same cluster centers, a cluster center should be perturbed to avoid coincidence in the iterative process.

The input is a set of cluster centers SCo = $\{C_j(0)\}$ and the value of ε. Set p =1. For the set of cluster center, the d_{ij} is computed for i=1 to N and j=1 to k. The membership $u_{i,j}$ is updated using the following equation

$$u_{i,j} = \left[(d_{ij})^{1/m-1} \sum_{i=1}^{k} (\frac{1}{d_{il}})^{1/m-1} \right]^{-1} \quad \text{..... > (3)}$$

If $d_{i,j} < \eta$, set $u_{i,j} = 1$, where η is a very small positive number.

The center of each cluster is computed using eq (4).

$$C_j(p) = \frac{\sum_{i=1}^{N} u_{ij}^m X_i}{\sum_{i=1}^{N} u_{ij}^m} \quad \text{..... > (4)}$$

A new set of cluster representatives is obtained using the eq (4). If $\left\| C_j(p) - C_j(p-1) \right\| < \varepsilon \;\; for\, j = 1 to\, k$, then stop. Otherwise set *p+1->p* and repeat the process again. The computational complexity of FKM is O(*Nkt*), where *t* is the number of iterations.

Experimental Setup

The proposed hybrid algorithm is implemented in Matrix Laboratory (MATLAB). The source code developed are run on system with Inter ® i5 with 8 GB RAM.

Results and Discussion

The performance of the Novel Hybrid Classification (NHC) Algorithm is measured with metrics like Mean Squared Error (MSE), Regression (R) and Percentage of Error (%E). The average squared difference between the input and output is given as Mean Squared Error (MSE). Regression is the correlation between output and target where the Regression value of 0 means a random relationship and 1 means a close relationship between output and target.

© SGBED 2019

%E is the percentage of error calculation. The values obtained after experimentation is tabulated in Table 2.

	MSE		R		%E	
	PID	**US data**	**PID**	**US data**	**PID**	**US data**
Training	1.4	1.6	8.67	8.59	12.66	13.85
Testing	1.3	1.43	8.42	8.12	9.85	9.96

Table 2: Performance of the NHC algorithm with PID and US data

The accuracy was increased 81.8% for PID and 84.2% for US data set. The values obtained for other metrics also supports the proposed NHC algorithm in diabetic disease classification.

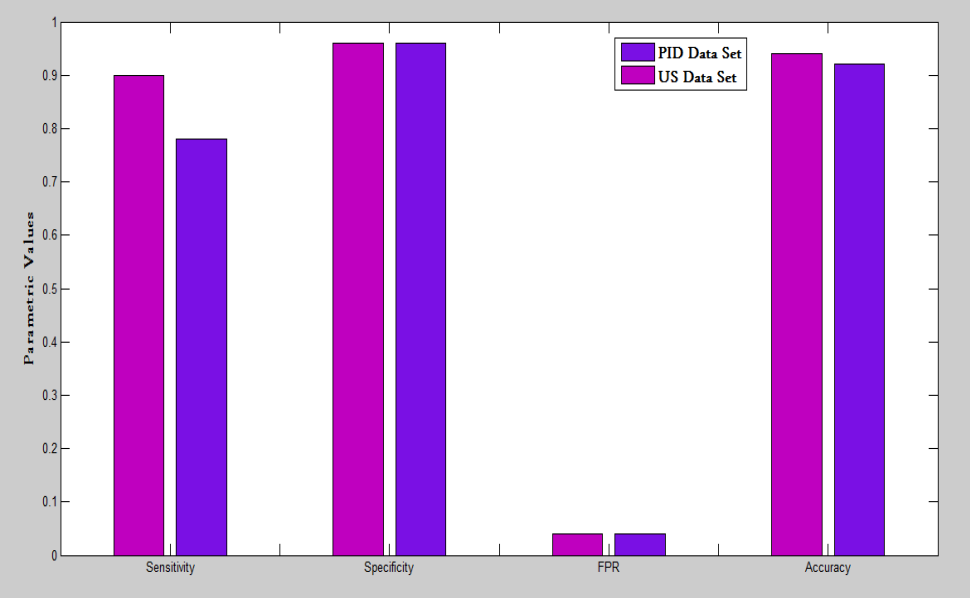


Figure 2: Performance Evaluation of proposed NHC Algorithm

Conclusion

This study proposed a novel hybrid algorithm for the prediction of the diabetes disease. The algorithm is developed by combining the Genetic, Relative Reduct, Modified PSO, Neural Network Algorithm and Fuzzy K-Means Algorithm. The GA-RR algorithm is used to reduce the size of the dataset and also to remove irrelevant and noisy data attributes. The MPSO-NN algorithm is applied to classify the patients as healthy and diabetic patients. The FKM Algorithm clusters the diabetic patient into three types. The whole hybrid algorithm supports both pre processing, classification and clustering in a single module. The accuracy obtained by using the proposed NHC is also higher than the existing work. This work is experimented on PIDD and UID.

© SGBED 2019

References

Ahmed Hamza Osman & Hani Moetque Aljahdali. (2017). Diabetes Disease Diagnosis Method based on Feature Extraction using K-SVM, *International Journal of Advanced Computer Science and Applications,* 8(1).236-244.

Ankita Parashar, Kavita Burse & Kavita Rawat. (2014). A Comparative Approach for Pima Indian Diabetes Diagnosis using LDA- Support Vector Machine and Feed Forward Neural Network, *International Journal of Advanced Research in Computer Science and Software Engineering,* 4 (11). 378-383.

Dilip Kumar Choubey & Sanchita Paul.(2016).GA_MLP NN: A Hybrid Intelligent System for Diabetes Disease Diagnosis, *International Journal of Intelligent Systems and Applications,* 1, 49-59.

Esin Dogantekin, Akit Dogantekin, Derya Avci & Levent Avci. (2010). An intelligent diagnosis system for diabetes on Linear Discriminant Analysis and Adaptive Network based Fuzzy Inference System: LDA-ANFIS, *Digital Signal Processing, Elsevier,*20. 1248-1255.

Kaur B & Singh W.(2014).Review on heart disease prediction system using data mining technique, *International Journal on Recent and Innovative Trends in Computing and Communication,* 2 (10). 3003-3008.

Manjeevan Seera & Chee Peng Lim.(2014).A Hybrid Intelligent System for Medical Data Classification, *Expert Systems with Applications, Elsevier,* 41, 2239-2249.

Nasib Singh Gill & Pooja Mittal.(2016).A Novel Hybrid Model for Diabetic Prediction using Hidden Markov Model, Fuzzy based Rule Approach and Neural Network, *Indian Journal of Science and Technology,* 9(35), 1-11.

Radha P & Srinivasan B.(2014). Diagnosing Heart Disease for Type 2 diabetic patients by cascading the data mining techniques, *International Journal of Recent and Innovation Trends in Computing and Communication,* l 2(8).2503-2509.

Rahman Ali, Jamil Hussain , Mohammed Hameed Siddiqi, Maqbool Hussain &Sungyoung Lee.(2015).H2RM: A Hybrid Rough Set Reasoning Model for Prediction and Management of Diabetes Mellitus, *Basel, Switzerland: Sensors,*15 (7), 15921-15951.

Sathya S, Rajesh A & Bhuvaneswari K.(2016).Hybrid Data Mining Techniques for accurate diabetic prediction, *International Journal of Computer Technology and Applications,* 9(28), 301-306.

Seyyed Mohammad Hossen Dadgar & Mostafa Kaardaan.(2017).A Hybrid Method of Feature Selection and Neural Network and Genetic Algorithm to predict diabetes, *International Journal of Mechatronics, Electrical and Computer Technology,* 7(24),3397-3404.

Patil B.M, Joshi R.C, & Durga Toshniwal. (2010) "Hybrid prediction model for Type 2 diabetic patients", *Expert Systems with Applications,* Vol 37, pp 8102-8108.

UCI Website .(2016,November 15).Retrieved from https://archive.ics.uci.edu/ml/datasets/Diabetes

© SGBED 2019

DXB110

ANALYZING UNSTRUCTURED DATA USING MINING TECHNIQUES

Beenu Mago, beenu.mago@gmail.com
Skyline University College, Sharjah - United Arab Emirates

ABSTRACT

In today's data-driven panorama, the ability to analyze information to drive decision-making and resolve problems is fundamental for success. SPSS Modeler is definitely a effective, flexible data and text message analytics workbench that assists you to build accurate predictive versions quickly and intuitively. Unique issues can be found when establishing out to apply text message mining to social website data. The data that social network sites, sites, and discussion boards generate falls in the category of big data. The data is definitely unstructured and semi-structured, petabytes are produced around bigger brands on a daily basis, and traditional relational databases cannot effectively scale to support real-time analytics based on the data. Furthermore, Sociable press data, if not collected and adequately kept at regular intervals, is perishable essentially. The current research is an attempt to analyze big data specially face book data using text mining tools and perform sentiment analysis to check customer opinion. SPSS modeler is used to analyze the data generated by face book that help the organizations to take key decisions. This will help the organizations to take decision to know customer preferences and their real time feedback. This will help the organizations to improve their product and strategies accordingly.

Keywords: Text Mining, Unstructured Data, Mining Technique, Big Data Analysis, Decision Trees

Introduction

Business organizations strongly rely on a data for decision making or for business analysis (Prasad & Ramakrishna , 2010). The data is either from inside the organization or outside the organization. The digital trends that accompany the widespread adoption of social media also have right implications on the business organizations and provide a lot of data. The sociable stream is definitely efficiently widening the relationship between companies and customers (Gantz & Reinsel, 2012). customer's view is definitely amplified through sociable systems, with a potential reach across the complete customer viewers. Companies understand that today's customers will be positively acquiring pre-purchase facts, where they analysis helpful or unfavourable ideas of different and ready to perform swift comparisons with a few taps or clicks (Yadav, Kamboj, & Rahman, 2016). They as well find out that their buyers happen to be way extra hypersensitive to the effect of others in their public network. Therefore, the data collected from these social media content is very important for the organizations (Gantz & Reinsel, 2012). As the amount of data increases so do the challenges faced in trying to extract information from the ever growing data. The challenges of integrating data become more complicated if the data is unstructured. The aim of current research is to analyze the unstructured data specifically from face book to analyze the customer opinion.

Literature Review

According study done by Gantz and Reinsel (2012), 90% of the digital data available through social media sites will be unstructured in the coming decade. It can't be ignored to extricate the valuable information from it. Unlike structured data which are inherently record oriented and typically stored with a predefined schema that makes it very easy to query, search, analyze and integrate (Fatudimu, Uwadia, & Ayo, 2012). Although, it is difficult to query, extract and integrate this unstructured data with other data sources. But it is imperative to

© SGBED 2019

analyze the unstructured data collected from various sources. In the light of these challenges, there is a need to have a system capable of integrating and analyzing unstructured data since bulk (80% - 85%) of organizational data critical for decision making are unstructured (Gupta & Rathore, 2013).

Unstructured data are heavily packed with text messages and it exists everywhere such because in digital files, on-line websites, and in social media content. Original text is understandable and readable for individual but it is normally not really feasible for individual to procedure high quantity of textual data and classify and obtain patterns, sentiments or meanings out of the data (Kabir, Karim, & Nawaz, 2018). Text message analytics can help classify and organize the data and extract guidelines and patterns from unstructured textual data (Chakraborty, Pagolu, & Garla, 2013). Advanced text message analytics means are presently getting applied in different sectors for finding and forecasting tendencies and understanding patterns in textual data (Gerber, 2014). Companies need to have an understanding about their own consumers. Having these understanding, they will know what they like, dislike, what they want or they do not want (Cillán et. al. , 2016). When consumers write comments in a Facebook, they usually express their opinions in words about what they are feeling at the moment they are writing the comment: joy, sadness, happiness, unhappiness, anger, and other human feelings (Moro & Paulo, 2016). These interactions can show the feelings of consumers and can give a set of important information (Liu et al., 2007). The main purpose of analysis is to identify statements, opinions (positives or negatives) and reactions in online content created by users (Wlodarczak, Ally, & Soar, 2018). Data from the social web can also be merged with internal data to create even more accurate intelligence about consumers. The objective of current research is to analyse big data specially Facebook data of organization to know customer opinion by applying text mining techniques and sentimental analysis.

Methodology

Text mining is a technique that includes different methods such as classification, clustering, associations and modeling (Sundari & Sundar, 2017). These types of different text mining methods can be used to solve different types of problems (Scott, King, & Cortina, 2018). These methods are developed based upon different mathematical and probabilistic algorithms (Scott, King, & Cortina, 2018). The advantages and drawbacks of different techniques and their corresponding algorithms are investigated to identify the most appropriate techniques for the classification and characterization issue of problem and then data gathering process will be dealt with. One of the retail organization's data is collected from its Facebook page. Researcher does not mention the name of the organization to prevent its privacy. First, Data is cleaned by using different rules in order to retrieve useful information. Further filtering, stop words are applied through various iterations to improve classification accuracy. By applying appropriate stop words, a much more accurate identification of the specific product consumer's results. Text analysis is done to retrieve the sentiments and the types from the comments. Dictionary of word is created to match the type of contents of comment. For example, comments are matched with respect to product general information, product functioning, product feature and customer Service. IBM SPSS Modeler was used as it incorporates text and sentiment analysis tools and predefined dictionaries. For sentiments analysis, researcher used the dictionary provided by the software which classifies the comments sentiments in negative and positive as major category like Feeling, attitude etc. Within the positives and negatives major category, it was incorporated sub-categories which include all the words that show negativity in feeling for example Negative feeling category contains the words negative emotions or negative feeling. Major categories for products, customer service, and feature of product are specified in SPSS modeler. This will help to have

© SGBED 2019

holistic view of products and customer's feedback. It would be possible to identify the words in text mining and associate them to the correspondent categories. This will provide descriptive information about satisfaction and dissatisfaction of customer about product general information, product functioning, product feature and customer Service. Model is applied to show performance metrics. After the data is structured it can be given to algorithms to create the different models. The data is first split into a training set and a test set in 70:30 split. The whole methodology is summarized in the following diagram.

Figure 1: Research Flow Diagram

Interpretation of results

In this section researcher has explained the results of data collected and analyzed.Tabl1 shows the descriptive about the positive and negative comments of face book posts.

Table 1: Description of Different Comments

Key Topics	Positive	Negative	Neutral	Total
4	773	935	292	2000
	38.65%	47%	15%	100%

Various models are generated and tested to get best model. Three models are compared and best model is selected and evaluated. Table 2 shows the evaluation metrics of the best model in the test sample. The model has accuracy of 62.21%, sensibility 70.21% and specificity is 51.09%. This model has the best specificity as compared to other models.

Table 2: Models Statistics

Metrics of Model	Train data set	Test Data Set
Accuracy	61.02%	62.21%
Sensibility	68.78%	70.21%
Specificity	50.34%	51.09%

Further sensibility analysis is performed to check the relationship between positive sentiments and the important predictors are characterized.

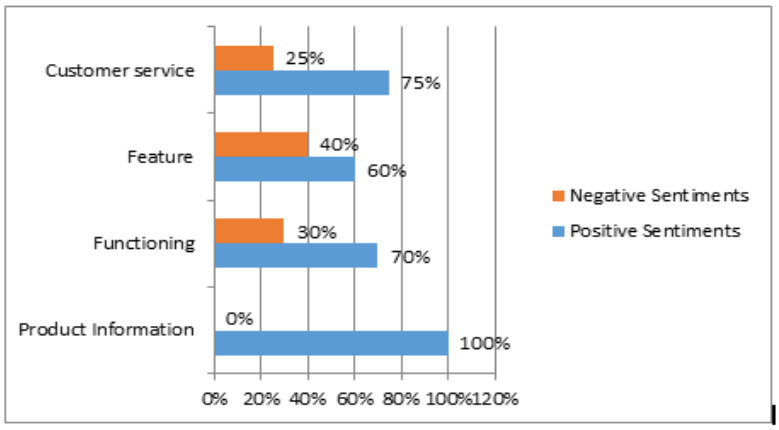


Figure 2: Percentage of Negative and Positive comments

The data above shows that most important aspect where the organization needs improvement is feature of the product followed by functioning of the product as in these cases organizations receives most important negative comments. There is also need to improve in the area of customer service. As far as product information is concerned, the customers are fully satisfied

© SGBED 2019

with organizations. This will help the organization to take decision related to above mentioned issues to satisfy customers and fulfil the requirements of the customers.

Following diagram explains the architecture of analysis for future research. Data needs to be transferred from online transaction processing system to Data mart or datawarehouse through extraction, transfer and loading techniques. This data set should be merged with data set from facebook and then techniques like neural network or decision trees should be applied to get predictive model.

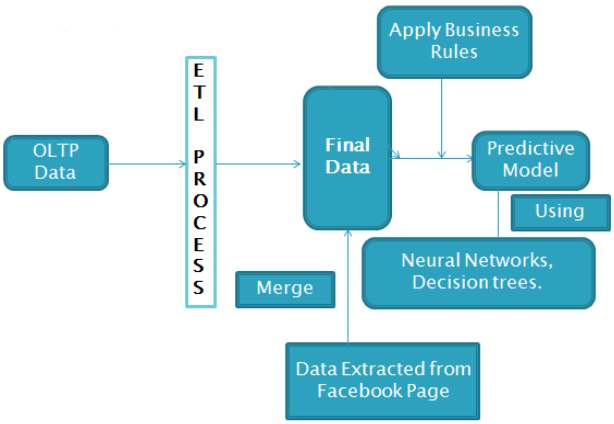


Figure 3: Framework for future research

The above architecture will provide more insights about the customer preferences and helps the organization to take appropriate decisions and make policies.

Conclusion and Future Recommendation

The current research helps the organizations to take decision based on customer opinion. Although the results show overall more positive opinion towards customer service, features, function and product information but the negative comments or opinion cannot be neglected as it also contributes a good part of customer opinion. That is the area where an organization has to make decisions or strategies to improve. The current research is limited to descriptive analysis of comments collected from Facebook page of an organization. The researcher has done the classification of comments to get positive and negative categories. The results of current research provide good insight about the positive and negative comments about four key topics. That will help the organizations to understand the behavior and intention of customer about the specified topics. However, more accurate results can be obtained with the help of artificial neural networks. Moreover, the data collected can be categorized into more categories and analyzed on different dimensions. Finally the face book data needs to be merged with organization internal data to get detailed analysis. As shown in figure 3, the architecture will provide more insights about the customer preferences and helps the organization to take appropriate decisions and make policies. This will help the organizations to have holistic view of customer's opinion. Organizations internal data can't be ignored for having detail knowledge of customer's opinion.

© SGBED 2019

References

Chakraborty, G., Pagolu, M., & Garla, S. (2013). *TM an dAnalysis:PracticalMethods, Examples, and Case Studies Using SAS.* USA: SASInstituteInc.

Cillán , J. G. (2016). How brand post content contributes to user's Facebook brand-page engagement. The experiential route of active participation. *BRQ Business Research Quarterly, 20*(4), 213-290. Retrieved from https://doi.org/10.1016/j.brq.2017.06.001

Fatudimu, I. T., Uwadia, C. O., & Ayo, C. K. (2012). Improving Customer Relationship Management through Integrated Mining of Heterogeneous Data. *International Journal of Computer Theory and Engineering, 4*(4), 518-522.

Gantz, J., & Reinsel, D. (2012). *The Digital Universe in 2020.* IDC.

Gerber, M. S. (2014). Predicting crime using Twitter and kernel density estimation. *Decision Support Systems, 61*, 115-125.

Gupta, V., & Rathore, N. (2013). Deriving Business Intelligence from Unstructured Data. *International Journal of Information and Computation Technology, 3*(9).

Kabir, A. I., Karim, R., & Nawaz, S. (2018). The Power of Social Media Analytics: Text Analytics Based on Sentiment Analysis and Word Clouds on R. *Informatica Economică , 22*(1). doi:10.12948/issn14531305/22.1.2018.03

Moro, S., & Paulo, R. (2016). Predicting social media performance metrics and evaluation of the impact on brand building: A data mining approach. *Journal of Business Research, 69*(9). Retrieved from https://doi.org/10.1016/j.jbusres.2016.02.010

Prasad , K. N., & Ramakrishna , S. (2010). Text Analytics to Data Warehousing. *International Journal on Computer Science and Engineering, 2*(6).

Scott, T., King, E. B., & Cortina, J. M. (2018). Big Data Methods: Leveraging Modern Data Analytic Techniques to Build Organizational Science. *Organizational Research Methods, 21*(3), 525-547.

Sundari , D. G., & Sundar, D. (2017). A Study of Various Text Mining Techniques. *International Journal of Advanced Networking & Applications, 8*(5), 82-85.

Wlodarczak, P., Ally, M., & Soar, J. (2018). Opinion Mining in Social Big Data. Retrieved from SSRN: https://ssrn.com/abstract=2565426 or http://dx.doi.org/10.2139/ssrn.2565426

Yadav, M., Kamboj, S., & Rahman, Z. (2016). Customer co-creation through social media: The case of 'Crash the Pepsi IPL 2015'. *Journal of Direct, Data and Digital Marketing Practice, 17*(4), 259--271. doi:10.1057/dddmp.2016.4

© SGBED 2019

DXB130

SOCIAL WORK IN TIMES OF DIGITAL TRANSFORMATION: HISTORICAL DEVELOPMENTS AND TRENDS

Stefan Klar, stefan-klar@email.de
Bismarckstraße 5a, 92637 Weiden, Germany

ABSTRACT

The importance of social work for both society and the individual as well as, consequently, for the worlds of politics and business is difficult quantify. We can, however, look to historical trends to see the impact of social assistance on the system. The first thing that becomes apparent is that, particularly in times of social change, it is not just people's circumstances that are reshaped but also the forms of assistance available. In light of the current trend toward digitisation, it is likely that we will again find it necessary to define new forms and methods of social assistance. As such, this paper begins by giving a brief overview of the historical roots of social work and professional aid as it exists today using the example of Germany. It then goes on to analytically derive specific trends for social work in the digital age.

Keywords: Social work, social management, digitisation, social assistance, professionalisation of social work, social policy, social economics

Introduction

Social work today is a scientific discipline with extremely practical application and a significant pillar in German social policy (Lampert & Althammer, 2007) as well as its own industry (Grunwald, 2014, 36) and an economic force on the market. If one were to summarise the objective of the field, it would be to help people who are undergoing hardship. Unlike other types of assistance, such as that provided by the fields of medicine or law, social work helps people adjust to changes in society (Keck, 2008). Societies undergo periods of transformation, which in and of itself justifies the need for social assistance. As both our society and our personal environments are facing a transformation triggered by digitisation, what becomes even more important than this justification is the question of having the right tools and methods to address new forms of hardship. This paper is an attempt to find effective solutions.

Methodology

This paper is based on relevant literature, primarily written in the German language. This choice was made in part because the history of social work in Germany is taken as an example over the course of our analysis. These resources are used to identify and illustrate trends in social assistance and social work. As digitisation is a worldwide phenomenon and because the fundamental understanding of social work is based on international standards such as human rights (Staub-Bernasconi, 2007), this paper makes a contribution to international research on trends in social work in times of digital transformation.

The historical development of assistance

Ever since the dawn of human kind, some 300,000 years ago according to the latest findings (Richter et al., 2017), humans have relied on the help of their fellow man. Scherpner describes helping others as "one of the original categories of human behaviour" (1962, 122). Not only can this be seen in phylogenesis, or the prehistory of man, but also in human ontogeny, or man's individual development from the beginning to the end of his life (Schilling & Zeller, 2012, 18).

© SGBED 2019

Looking at human history it is true that the concept of helping others can be associated with the existence of a certain deficiency. Arnold Gehlen looks at this association in further detail, for example, by describing man as a "deficient being" (Gehlen, 1950). This deficiency is something that is inherent in mankind. People help and accept help from others for their own benefit, for that of their species and for that of their culture. Help can therefore be understood as generally existential and preservational.

This argument is supported by one major leap in human evolution: the Neolithic Revolution. The term comes from the word "Neolithic," which is used to describe the New Stone Age and can be traced back to Gordon Childe. Without wanting to dwell on the scientific discussion regarding temporal classification, please note that, according to Riehl, humans in the Zagros Mountains systematically gleaned wild grain for the first time more than 12,000 years ago (2015, 7). This revolution, which should be understood as a process, was characterised by an increasing shift from hunting and gathering to a more settled, agrarian way of life. People began to turn to farming, animal husbandry and food storage. Not only did this cause community to grow, it also made it easier for individual groups to defend themselves against other groups as well as protect themselves from natural forces, bringing better chances of survival for the individual.

While we can assume that chance of survival among hunters and gatherers was dependent on physical as well as intellectual abilities, the Neolithic Revolution added the social aspect to the mix (Riehl, 2015). Having larger groups of people also required greater complexity in the rules governing co-existence as well as how to help each other. One can therefore assume that, at a rudimentary level, rights and obligations had to be defined accompanied by explanations of why something was the way it was or why a particular strategy was the best one for guaranteeing survival.

It is no wonder then that the first accounts of great thinkers are concerned with the question of the "right form of co-existence" and how people could most effectively help each other. Tempting though it may be to examine the topic of "assistance" as it was understood in Ancient Greece, e.g. in works such as Plato's Republic, Aristotle's Nicomachean Ethics or even in non-occidental texts, we will instead take another jump forward in time. The history of social work begins in the Middle Ages, in particular with Thomas Aquinas. Here we have a unique take on the issue.

According to the clergyman, we should *not fight* poverty. It was expressly not the goal of Thomas Aquinas to eliminate poverty. The idea was rather to lessen poverty. His justification is so simple but so different from today's approach. Thomas Aquinas said that it was God's will that poverty exists and that its purpose was to enable the faithful to prove their devotion by giving alms to the poor (Thomas von Aquin, 1266; Kuhlmann, 2013). Such a purely religious justification for helping others appears strange in today's secular society.

The concept of helping others shifted during the transition from the Middle Ages to the Modern Age, which is associated with events such as the *Copernican Revolution*, the *discovery of the Americas* and the *invention of the printing press*. One representative of this paradigm shift was humanist Juan Luis Vives. In 1526, he justified the obligation to care for the poor by declaring that it was "in the own interest of the citizens". He claimed that if people did not *fight* poverty would lead to more crime. With this, Vives proposed the idea of *organised, city-sponsored aid for the poor* (Vives, 1526; Kuhlmann, 2013).

© SGBED 2019

Vives also emphasised the importance of education in agreement with Thomas Aquinas as well as with current theory (Kuhlmann, 2013). With the dawn of the Modern Age, those involved in helping the poor received what you might call a double mandate: to *help* while also *managing the poor*.

As concern with the state of human existence before death grew, the importance of *work* continued to grow as well. Kuhlmann describes initial approaches in institutionalised education to prepare people for a profession. Noteworthy is that from the 16th – 18th century, education was still dominated by the concepts of submission and discipline (2013, 27-29).
The outline of modern social work became clearer in the 19th century. With industrialisation and capitalist forms of economy colouring the times, people were starting to ask the "social question": *How can we help the impoverished working class?* In Germany, the answers were, to put it loosely, quite creative. Pestalozzi, for example, wanted to teach morality to the poor. According to Malthus, the poor should be taught to practice chastity. Marx, on the other hand, saw the answer to the impoverishment of the working class in a political revolution. (Kuhlmann, 2013, 32-40)

Wichern developed the first concept of professional social work (Kuhlmann, 2013). According to him, more people needed to become *full-time, professional* social workers. However, his take on how to best structure the education process for this profession had strong missionary tendencies (Wichern, 1849). It is also important here to point out that, with the famous introduction of *social insurance* initiated by Bismarck, a far-reaching political solution was found in response to the social question. Today, social insurance remains the symbol for the German *social* market economy.

A trend began in the 19th century that still impacts social work today and is likely to continue to do so in the future. This trend is the tendency to *differentiate* between clients. Social work is not just targeted toward the poor or those undergoing hardship; it is also increasingly being structured around gender, age and the type and severity of limitation. Today's institutions are becoming progressively specialised. This is triggering an increase in both qualitative as well as quantitative requirements on institutions providing assistance as well as on the social workers themselves. (Kuhlmann, 2013, 52 ff.)

At the turn of the 20th century, Alice Salomon played a significant role by influencing the professionalisation of social work. The need for social workers was increasing in the wake of industrialisation, urbanisation and the First World War. And the importance of the social question continues to grow to this day. Salomon realised that *women* could become a valuable resource in the field. Following in the steps of Henriette Schrader-Breymann, Jane Adams and others, she emphasised the term *intellectual motherhood* to describe the innate care-taking abilities of women (Schrader-Breymann, 1848, 57-66; Kuhlmann, 2013, 48 ff.). This concept was well received, particularly among women in the higher classes, expanding the attractiveness of the social worker profession. (Sachße, 2001, 673)

After establishing and integrating social work as a woman's profession in the German education system of the time, Salomon founded the Academy for Women's Social Work in 1925. She created curricula that focused on an *interdisciplinary approach*. In addition to social work, the academy taught law and administration as well as care, health, psychology and education (Gängler, 2001, 1047-1049). She also developed the concept of "social diagnosis" in reference to the work of Mary Richmond (Kuhlmann, 2004).
According to Salomon, helping others was only possible if the person in need actually wanted to be helped! Unlike the efforts of the 19th century, the idea was not to discipline those in need and force them into a better situation. She called upon social workers to "encourage (...)

© SGBED 2019

(people) to make their own plans, to think for themselves, and, in everything you do, try to see them for who they are, to be understanding and to treat them with dignity". (Salomon, 1926, 88) Today, this is what we would call *resource orientation* or *empowerment*.

Salomon also based her theory of social work around people's *ability to adapt*. She described life as an ongoing process of adaptation. The goal of welfare is to help people adapt to new life circumstances. (Salomon, 1926, 80 ff.)

The significance of this *individual-oriented* approach is indispensable in today's professional social work. Although differentiation is made between clients and they are placed into different categories, e.g. students, the severely disabled, the unemployed and addicts, it is also the job of social workers to see each person as an individual, learn to understand them, show them respect and help them.

Alice Salomon created standards both in terms of theory and approach by addressing all of these varied aspects. The rise of Nazism in Germany, however, constituted a break in this line of thinking. The racist, anti-humanist interpretation of social work in Germany at that time divided clients into "valuable 'useful' people" who *deserved* assistance and "inferior 'worthless' people". Those who were considered "worthless" were either arrested as "malicious" or sent to hospital facilities as "ill" (Kuhlmann, 2013, 105). However, Salomon's standards were again taken up after the war.

Following the Second World War and the division of Germany, two fundamentally different approaches to helping people emerged. Social work in the Federal Republic of Germany, or West Germany, was characterised by the re-education programs introduced by the British and the Americans. The objective of these programs was to teach people to think and act as democratic citizens. The relationship between private and publicly funded social work institutions established during the Weimar Republic was reinstated. In the German Democratic Republic (GDR), or East Germany, the socialist government created party affiliated organisations, which assumed the role of providing what was referred to as *voluntary social work*. According to GDR politics, social work as a professional service was no longer needed in a classless society. (Kuhlmann, 2013, 107-122)

When looking at the 1960s, 70s and 80s in both East and West Germany one can generally say that social work became both *political and democratic*. Social problems were perceived as the result of unfair social conditions. The field of social work also continued to differentiate its areas of specialisation. (Kuhlmann, 2013, 123-143)

There are at least two pioneers that need to be touched upon in order to link the professionalisation of the social work of the past to today's landscape, especially in Germany. With the term "lifeworld orientation," Hans Thiersch put the client within their "everyday life". The goal is to help people be "more successful" and not necessarily successful in their daily lives. Thiersch uses the following keywords, which are highly relevant in today's world, to describe how this can be done: prevention *before* intervention, focus on local offers, integration to prevent exclusion, cooperation and networking among assistance programs systems as well as the participation of those in need. (Kuhlmann, 2013, 138; Thiersch, 1978; Engelke, Borrmann, Spatscheck, 2008, 427-443)

© SGBED 2019

The work of Silvia Staub-Bernasconi was of central importance as well. She expanded the *double mandate* of social work to what can be called a *triple mandate* (Staub-Bernasconi, 2007, 36 ff.). Not only are professional social workers responsible to the client they are *helping* as well as the *state* for which they are *managing* the assistance being provided, they are also responsible to the standards of their own profession. As such, simply having a program of study in place that is differentiated from other scientific disciplines focused on helping people is not enough. We also need to define ethical principles for social work as a *human rights profession*. This still applies today, both at a national level, e.g., through organisations such as the German Association for Social Work (DGSA), and at an international level, e.g. through organisations such as the International Federation of Social Workers (IFSW), which was founded in 1988 (Staub-Bernasconi, 2007).

Social work today

This historical backdrop gives us the framework for social work today. These developments indicate a trend toward professionalisation (Biermann, 1994).

Expanding on Schilling and Zeller (2012, 263-264), social work can be termed a profession in that –

(1) academic education in the field is based on high theoretical and practical standards. The German Association of Social Work published a final version of the core curriculum in 2016, which defines the guidelines and guiding principles, specific fields of study, program content for the purpose of standardisation and, last but not least, quality assurance (DGSA, 2016).

(2) this academic education leads to qualification for specific activities. That means that those paying for specific commissioned activities and services set requirements on those services, which requires human resources planning to include a certain quota on social workers or social education workers.

(3) the relevant activities are associated with the expectation that the best possible assistance will be provided based on individual needs and that the scope of those activities has been expanded to meet the needs of an increasingly diverse society. This *differentiation* within social work has made *specialisation* necessary within academic education as well as outside of the academic degree in the form of continuing education.

(4) it is not a gender-specific field. By moving away from the idea that women are better caregivers and helpers than men because *motherhood* is in their nature, the clientele can benefit from a broader diversity of people in the profession.

(5) those in the profession are organised under an association. The variety of activities and functions assumed by these associations significantly impacts quality, i.e. the requirements on the profession, as well as advancing the profession itself.

(6) those involved in the profession adhere to a specific professional code of ethics, such as that published by the DGSA (2014), or international standards (Lob-Hüdepohl & Lesch, 2007, 355 ff.). Such codes and standards contribute to the individual's understanding of their profession while providing guidelines and orientation in a field that is so closely tied to questions of fairness.

(7) social workers are professionally protected from taking on too much responsibility, e.g. in the form of supervision (Langfeldt-Nagel, 1993).

(8) as a profession social work enables people to earn a livelihood.

© SGBED 2019

We have also been seeing new developments in methods, working models and work approaches in social work since the 1990s. Following the *traditional methods* (individual assistance, group work, community work), which came into practice after the war, the methodology critique of the 70s and the further differentiation that took place in the 80s, Schiller and Zeller point to four newer trends (2012), as previously summarised by Galuske and Müller (2002):

(1) "Orientation to daily life and the personal environment as well as socio-spatial approaches"
(2) "Social case management and networking"
(3) "Case work and diagnosis"
(4) "Social management"

Horcher even managed reduced these trends in social services and social work to just two "megatrends". The first of these is social work oriented to the personal environment and daily life and the second, the commercialisation of social work (Horcher, 2014, 322 f.).

It is noteworthy that digitisation basically plays a role in determining the future course of all of these approaches and trends. New media, for example, are increasingly claiming a key role in the daily life of young people as well as adults. To ignore this development would go against the idea of orientation in the profession to daily life. And it is difficult to imagine networking today without the use of the latest technological communications systems. Today, technological systems are also used in diagnosis, e.g. to analyse skills and competencies and make recommendations on where efforts should best be focused. Last but not least, digitisation has made its way into social management along with a strong tendency towards standardisation in the form of certification according to standards such as the DIN EN ISO 9000 norm series, or, in Germany, the AZAV regulation for accreditation and certification. Software and hardware systems are more than just tools to be used for faster documentation of participant data or organisational purposes. Even more, they meet the requirements specified by the party commissioning the services. As such, digital tools have become relevant to the economy and, ultimately, to the field of social work.

Social work in times of digital transformation

What will the social work of *tomorrow* look like? What will be the *next social question*? In other words: What is *Social Work 4.0*? These questions are justified as the professional world is hovering at the edge, or is perhaps already right in the middle, of a radical change moving into the digital age. And, based on history, we can see that it is particularly at times such as these that forms of assistance undergo major transformation. *Transformation in the professional sphere brings with it transformation in society and therefore new challenges for both individuals as well as for assistance programs.* To what extent can this formula be applied to the future of social work?

There is no doubt that people will continue to find themselves experiencing hardship in the future and will need help. Of course, we can only speculate as to *which* people will be helped by *whom* or *what*, in *what form* and to *what extent*. One thing that we can be certain of, however, is that digitisation will bring about a far-reaching transformation in the professional world.

In its *white paper, Work 4.0* (2017), the German Federal Ministry of Labour and Social Affairs emphasises the significance of the topic, even defining guidelines under the concept of "decent work in an era of digital transformation".

© SGBED 2019

The white paper argues for a socially balanced future world of work that offers security and flexibility (BMAS, 2017, 9). This is an excellent example of the fact that the political sphere is already aware of the social aspects of this transformation.

From an economic perspective, it is difficult to touch on in detail all of the individual factors that are driving this digital transformation. Technological innovation, catchwords and trends such as *big data*, *virtual reality*, *augmented reality* and *AI* will change the way we think about work in the future. One key aspect here is that technology will take over some of the work previously performed by humans or at least modify it significantly. Arguments for this change include improved efficiency and effectiveness as well as the demand for such solutions.

This will bring with it improvements in products and services, which can be more precisely designed and manufactured to meet the needs of the individual. A digital medical diagnosis, for example, is based on more data than a single human doctor could process; energy production will become more environmentally friendly; new forms of mobility will save both energy and time.

At first glance, these scenarios give one cause to hope for a better, easier future in which technology works for people, who will finally have more free time that they can spend volunteering for a good cause. However, there is also an alternative reality. As was the case in all past phases of industrialisation, even highly skilled workers are now in danger of losing their jobs to machines. Some of the professional skills previously required are becoming less valuable or even entirely obsolete. This drop in employability is not only dangerous when it comes to earning capacity but also in terms of the sense of purpose and value that people find in their profession. As we have seen, work has served a fundamental function for both the individual and society over the centuries.

Therefore, if the societal structures that revolve around work change in the ways described above, there will be people who will need help adjusting to this transformation. And, at the latest with the work of Salomon, this help falls under the responsibility of social work. Take this example from the field of education:

A highly respected council of experts published a report on "Digitale Souveränität und Bildung" (*digital confidence and education*) in 2018. Among other aspects, the report takes a look at the ability of people to adjust to new qualification requirements. According to the report, these range "from the development of specific skills in the field of information and communications technology (ICT), the ability to use technological innovation in both a personal and professional digital world and various basic skills that make constant learning easier, to having the opportunity to learn entirely new professional skills and the ability to apply technology, even at a later point in one's career" (Vbw, 2018, 60 f.).
Of course, it cannot be the responsibility of Social Work 4.0 alone to train people, such as those working in manufacturing, who have lost their jobs so that they are qualified for a new job. What social work can do, however, is position itself clearly within the context of this scenario.

The *social question* in times of digital transformation and possible solutions

Based on all we have discussed above; the *Social Question 4.0* could be as follows: *How can we help people who are unable to keep up with the digital transformation?* Answers to this question will be (socio)political, economic, technological and ideological. Taking history as our starting point and using Salomon's social diagnosis (Kuhlmann, 2004) as inspiration, we

© SGBED 2019

find answers and methods within the sphere of social work that can be broken down into several steps.

(1) Firstly, people in need will remain the focal point of social work in the future. The idea is to help them right where they are, i.e. in their daily lives and personal environment. We will need to conduct and analyse surveys in which technological systems will play an increasingly significant role. It will be important to give those in need the feeling that they are understood, both in terms of their practical as well as their emotional state. Taking technology into account, there are therefore two aspects that make human social workers indispensible: a) The sentence "I can relate" sounds inauthentic, pointless and absurd coming from a machine. b) According to Salomon, one of the most important tools in this first step is "scepticism". It is questionable as to whether machines will have access to scepticism in the future. Nida-Rümelin and Weidenfeld, for example, found "that humans are more than a series of algorithms" (2018, 202).

(2) The second step is to identify the resources available in the individual's environment. Technological systems can also help here, e.g. to develop customised continuing education offers, sponsored education and coaching measures or simply to help people identify which skills they have. This step, however, requires more than just providing information. How does it feel to have to make these changes or adjustments? And again: Do I have someone who, as a human, can help me and who can relate to my concerns and fears?

(3) The third aspect of social diagnosis according to Salomon is what she referred to as "*stellvertretende Diagnose*" (*derived diagnosis*). Salomon used this term to describe the interpretation of hopes, life plans and dreams. If the digital transformation requires people to learn entirely new job skills, it may mean having to "re-interpret" life plans. In this case, a machine may be able to help by saying to the client, "Maybe you would rather be here in 10 years instead of there!" However, the extent to which algorithms are able to take the client's personal concerns into account is up for debate.

(4) The next step is coming up with a plan as to how to best help the client. Technological support would be both feasible and helpful in this step. Social workers would be able to access large data pools as well as plans that have proven effective and of which they may not have become aware without the help of technology. Whether the final decision regarding such a plan should be left to a machine is a question of ethics.

(5) The final step is evaluation. The digital transformation offers tremendous opportunities for improvement here as well. Technology could be used, for example, to identify the reasons why a particular plan proved more or less helpful. However, the extent to which data and findings reflect the client's reality is another matter altogether. If a machine were to come to the conclusion that the client now lives a more successful daily life but the client disagrees, this cannot be attributed solely to a gap in perception. There is also the possibility of a systemic problem between man and machine, an issue that would have to be clarified.

© SGBED 2019

Professionalisation of social work in times of digital transformation

Looking at this scenario, what does social work as a profession mean in times of digital transformation? Here are some suggestions for further trends, taken from historical developments and upcoming technological innovation:

(1) Academics: The requirement of completing an academic program of study will remain in place. In addition to the arguments outlined above, this is supported by the motivation of universities and higher institutions of learning to keep up with the times in terms of digital methodology, practices and teaching methods. Clients of social work can only benefit from these standards.

(2) Qualification: The tendency of university-trained social workers to specialise requires ongoing continuing education. When it comes to re-training clients who are struggling to keep in step with the digital transformation it will be necessary to keep social workers up-to-date with the latest digital innovations and needs in the various fields.

(3) Differentiation: It is difficult to foresee the degree to which the fields of activity involved in social work will experience further differentiation. On the one hand, digitisation could lead to a general grouping of clients, a development that could have economic justification in that fewer groups would require fewer resources. On the other hand, there is also the possibility that the field will shift more towards focusing to a greater degree than ever before on identifying the complex needs of the individual and being able to provide targeted assistance. This option seems likely as well. In this case, the way in which "social machines" and humans working to provide assistance will continue to specialise will depend on technical innovation.

(4) Diversity: The advantages of having diverse personnel have become very apparent, particularly in the wake of diversity management efforts. This also applies to social management. Especially in times where machines are becoming systematic instruments in social assistance, it appears even more logical and necessary that we have access to a wide spectrum of human qualities and skills to cover all of the activities involved in social work that cannot be handled by technology.

(5) Associations: With increasing digitisation in the field of social work, it will become even more essential to not only differentiate the profession from other professions but to effectively position the field, particularly in terms of technological possibility. One question that arises in this scenario is what should machines be allowed to do. Umbrella associations are able to more effectively influence policy in these matters than are individual social institutions or companies.

(6) Professional code of ethics: Just the fact that we need to consider what machines should be allowed to do makes it very clear how great the need for ethical discourse regarding the future of social work in a digital age will be. A sensible approach would be to start with values and norms that have established themselves over the years and then add to these the relevant technological aspects.

(7) Full-time profession: Being able to pursue social work as a full-time profession is a historical achievement. However, as it is likely that the need for social assistance will increase, we can expect volunteering to become an increasingly important factor in the field. That will mean professionals taking on more social

© SGBED 2019

management tasks and responsibilities. The same also applies in times of growing commercialisation of the field (Kuhlmann, 2013, 147).

It is of note at this point that digitisation will bring with it the development of "social machines" (Bischof, 2017). There is no question of the use and practicality of such machines in the health and social work sectors. However, it is also important to point out the boundaries, which both Nida-Rümelin and Weidenfeld touched upon and which Bischof discussed in further detail. The problem with social robotics has been referred to as the "wicked problem". This means that "the problems with social robotics are so complex and mutable that there are no standardised solutions". And the "solution (...) is (...) a process that requires choices to be made by developers". (Bischof, 2017, 277) Bischof does say that "social robotics (could) benefit from the methodological models of related fields in the dealing with daily applications and their complexities (...)". (2017, 280) However, one can conclude from this that machines will remain deficient because they are created by people. The possibility that social robotics will be able to fully replace humans in the future therefore remains questionable. It may be that, in the future, social machines are able to do specific activities better than humans and therefore provide people with better assistance that is more tailored to specific needs. These machines, however, will not be people, which is what Salomon meant when she said, "The most effective help a caregiver can provide lies not so much in what they do but in what they are". (Salomon, 1928, 183, as cited in Kuhlmann, 2013, 87)

Conclusion

This paper focuses on the trends in social work in times of digital transformation. All facts, assumptions and findings aside, it is important to point out that times of progress are inevitably tied to new ethical challenges and implications. This particularly pertains to social work when it comes to its basic principle of helping people. It will be the work of further studies to show the extent to which the technology of tomorrow will support or limit this basic principle. However, it is important to note that the status quo of professional social work and assistance in Germany is the result of a non-consistent development over time. The human devastation seen in the 20th century under the Nazis serves as an incomparable example. And even if machines are able to help people who are undergoing hardship and even if people are able to socially optimise machines, the responsibility for people in the face of all these technological, economic and environmental challenges, will remain the responsibility of people, even in times of digital transformation.

References

Biermann, B. (1994). Soziale Arbeit als Beruf: Institutionalisierung und Professionalisierung sozialer Arbeit. In: Biermann, B. (ed.), *Soziologie: gesellschaftliche Probleme und sozialberufliches Handeln*, 2nd ed., Berlin: Luchterhand, 231-279.

Bischof, Andreas (2017). *Soziale Maschinen bauen. Epistemische Praktiken der Sozialrobotik*, Bielefeld: transcript.

BMAS (ed.) (2017). *Arbeit weiter denken. Weißbuch. Arbeiten 4.0*. Retrieved October 21, 2018 from https://www.bmas.de/SharedDocs/Downloads/DE/PDF-Publikationen/a883-weissbuch.pdf?__blob=publicationFile

DBSH (ed.) (2014). *Berufsethik des DBSH. Ethik und Werte*. Retrieved October 21, 2018 from https://www.dbsh.de/fileadmin/redaktionell/pdf/Sozialpolitik/DBSH-Berufsethik-2015-02-08.pdf

DGSA (ed.) (2016). *Kerncurriculum Soziale Arbeit. Eine Positionierung der Deutschen Gesellschaft für Soziale Arbeit*. Retrieved October 21, 2018 from https://www.dgsa.de/fileadmin/Dokumente/Aktuelles/DGSA_Kerncurriculum_final.pdf

© SGBED 2019

Engelke, E., Borrmann, S., Spatscheck, C. (2008). *Theorien der Sozialen Arbeit, Eine Einführung*, 4th ed., Freiburg: Lambertus.

Galuske, M., Müller, C. W. (2002). Handlungsformen in der Sozialen Arbeit. Geschichte und Entwicklungen. In: Thole, W. (ed.), *Grundriss Soziale Arbeit. Ein einführendes Handbuch*, Opladen: Leske + Budrich, 485-508.

Gängler, H. (2001). Klassiker der Sozialen Arbeit. In: Otto, H.-U., Thiersch, H. (ed.), *Handbuch. Sozialarbeit Sozialpädagogik*, 3rd ed., München Basel: Ernst Reinhardt, 1044-1057.

Gehlen, A. (1950). *Der Mensch. Seine Natur und seine Stellung in der Welt*, Bonn: Athenäum.

Grunwald, K. (2014). Sozialwirtschaft. In: Arnold, U., Grunwald, K., Maelicke, B. (eds.), *Lehrbuch der Sozialwirtschaft*, Baden-Baden: Nomos, 33-63.

Horcher, G. (2014). Handlungsfelder sozialer Dienstleistungen und Sozialer Arbeit. In: Arnold, U., Grunwald, K., Maelicke, B. (eds.), *Lehrbuch der Sozialwirtschaft*, Baden-Baden: Nomos, 320-395.

Keck, A. (2008). Gibt es das Helfen noch?, Zur Rehabilitation eines vergessenen Begriffs. In: *Sozial Extra*, 9/10 2008, 11-13.

Kuhlmann, C. (2004). Zur historischen Dimension der Diagnostik am Beispiel von Alice Salomon. In: Heiner, M. (ed.), *Diagnostik und Diagnosen in der Sozialen Arbeit – Ein Handbuch*, Berlin: Eigenverlag des Deutschen Vereins für öffentliche und private Fürsorge, 11-25.

Kuhlmann, C. (2008). *Geschichte Sozialer Arbeit II*, Schwalbach/Ts.: Wochenschau Verlag.

Kuhlmann, C. (2013). *Geschichte Sozialer Arbeit I, Studienbuch*, 3rd ed., Schwalbach/Ts.: Wochenschau Verlag.

Lampert, H., Althammer, J. W. (2007). *Lehrbuch der Sozialpolitik*, Berlin: Springer.

Langfeldt-Nagel, M. (1993). Helfen als Beruf. In: Langfeldt, H.-P. (ed.), *Psychologie – Grundlagen und Perspektiven*, Berlin: Luchterhand, 411-420.

Lob-Hüdepohl, A., Lesch, W. (eds.) (2007): *Ethik sozialer Arbeit, Ein Handbuch*, Paderborn: UTB.

Nida-Rümelin, J., Weidenfeld, N. (2018). *Digitaler Humanismus, Eine Ethik für das Zeitalter der Künstlichen Intelligenz*, München: Pieper.

Richter, D., Grün, R., Joannes-Boyau, R., Steele, T. E., Amani, F., Rué, R., Fernandes, P., Raynal, J.-P., Geraads, D., Ben-Ncer, A., Hublin, J.-J., McPherron, S. P. (2017): The age of the hominin fossils from Jebel Irhoud, Morocco, and the origins of the Middle Stone Age. In: *Nature*. 546, Nr. 7657, 293-296.

Riehl, S. (2015). Evolution oder Revolution? Der lange Weg zur Landwirtschaft. In: Spektrum der Wissenschaft, Kompakt (ed.), *Neolithische Revolution, Vom Jäger und Sammler zum Bauern*, Heidelberg: Spektrum der Wissenschaft, 4-12.

Sachße, C. (2001). Geschichte der Sozialarbeit. In: Otto, H.-U., Thiersch, H. (eds.), *Handbuch, Sozialarbeit Sozialpädagogik*, 3rd ed., München Basel: Ernst Reinhardt, 670-681.

Salomon, A. (1926). Zur Theorie des Helfens. In: Kuhlmann, C. (ed.) (2008): *Geschichte Sozialer Arbeit II*, Schwalbach/Ts.: Wochenschau Verlag, 80-96.

Scherpner, H. (1962). *Theorie der Fürsorge*, Göttingen: Vandenhoeck & Ruprecht.

Schilling, J., Zeller, S. (2012). *Soziale Arbeit, Geschichte – Theorie – Profession*, München, Basel: UTB.

Schrader-Breymann, H. (1848). Geistige Mütterlichkeit. In: Kuhlmann, C. (ed.). (2008): *Geschichte Sozialer Arbeit II*, Schwalbach/Ts.: Wochenschau Verlag, 57-66.

Staub-Bernasconi, S. (2007). Soziale Arbeit oder Menschenrechtsprofession? Zum Selbstverständnis Sozialer Arbeit in Deutschland mit einem Seitenblick auf die internationale Diskussionslandschaft. In: Lob-Hüdepohl, A., Lesch, W. (eds.), *Ethik sozialer Arbeit*, Paderborn: UTB, 20-53.

Thiersch, H. (1978). Alltagshandeln und Sozialpädagogik. In: Kuhlmann, C. (ed.): *Geschichte Sozialer Arbeit II*, Schwalbach/Ts.: Wochenschau Verlag, 158-188.

Thomas von Aquin (1266). Das Almosen. In: Kuhlmann, C. (ed.). (2008), *Geschichte Sozialer Arbeit II*, Schwalbach/Ts.: Wochenschau Verlag, 7-12.

Vbw – Vereinigung der Bayerischen Wirtschaft e.V. (ed.) (2018). *Digitale Souveränität und Bildung, Gutachten*, Münster: Waxmann Verlag.

Vives, J. L. (1526). Über die Unterstützung der Armen. In: Kuhlmann, C. (ed.). (2008). *Geschichte Sozialer Arbeit II*, Schwalbach/Ts.: Wochenschau Verlag, 13-23.

Wichern, J. H. (1849). Allgemeines über die innere Mission. In: Kuhlmann, C. (ed.). (2008), *Geschichte Sozialer Arbeit II*, Schwalbach/Ts.: Wochenschau Verlag, 42-56.

© SGBED 2019

DXB140

APPLICATIONS, MODELS AND USES OF DATA MINING IN E-GOVERNANCE FOR SUSTAINABLE DEVELOPMENT

Deepak Kalra, deepak.kalra@skylineuniversity.ac.ae
Associate Professor and Head, School of Information Technology
Skyline University College, Sharjah, UAE

ABSTRACT

The Governmental bodies around the globe collects voluminous amounts of data in a multidimensional formats and information being collected and flows in across various functional and non-functional entities for further usage. The huge storage of information when kept idle will not suffice the day to day requirements and does not deliver any benefits out of storage for decision making or planning purposes. So it is necessary to extract the data pool for purposeful information to help in decision making at various governance level. The contemporary data mining procedures and techniques have used in this research work to measure influence factors for the collected data that normally affects the e-governance services which includes services between government-to-employees(G2E), government-to-government (G2G), government-to-business (G2B), government-to-citizen (G2C) mainly for the purpose of delivering government services, information exchanges, transactions in communications, integration of standalone systems. This research work elucidates the various applications and uses of data mining for easy decision making and knowledge management through e-governance.

Keywords: Data Mining, Decision Making, e-governance, Knowledge Management

Introduction

The evolution of Information and Communications Technology (ICT) has extended resources for more rapid and enhanced communications, competent storage, recuperation and processing of data, exchange of data and distribution of information to its users, groups, individuals, businesses, governments and organizations (Padmapriya. A, 2013). In view of the Government the emergence of computerization and web enabled association with the process of re-engineering, guarantees faster and effective information processing thereby leading the information to be quicker without compromising its quality by better decision making with a higher reach and liability with paramount utilization of its resources and all-embracing good governance.

The rising responsiveness and awareness among people about their fundamental rights and the ensuing interests' augments in terms of its expectations from the government to execute and deliver the complete paradigm shift of governance by knowledge management. Dissimilar governments and organizations describe this term to ensemble their own aims and objectives. From time to time, the term "e-government" is also used instead of e-Governance". In accordance to the World Bank (Hart, J., and Kamber, M, 2001) "E-Government attributes to the exercise by government agencies of information technologies which includes the Internet, Wide Area Networks and mobile computing that have the capability to alter relations with businesses, people and other arms of the government. These technologies are capable of serving improved delivery of government services to its populace, enhanced interactions with commerce and industry, inhabitant empowerment through right to information, or further well-organized government management. UNESCO characterizes e-Governance as (Hart, J., and Kamber, M, 2001) "Governance refers to the implementation of

© SGBED 2019

political, economic and administrative authority in the administration of a country's affairs, including its general public".

It also includes the expression of their wellbeing and exercise of their legal rights and ethical requirements. "E-governance may be comprehended as the attainment of its governance by means of the electronic medium, in order to assist a well-organized, quick and apparent process of publicizing information to the public at large and mainly for performing the government administration activities." Data mining is an extensive category of technologies and applications for collecting, storing, examining and giving access to data to assist the choice makers in making appropriate and fitting decisions. Data Mining, also recognized as knowledge unearthing in the database, assigns to haul out implicit latent functional information and data from a huge quantity of defective, noisy data, blurring, random data which people are unaware in the previous stage (S.C. J. Palvia and S.S. Sharma, 2007).

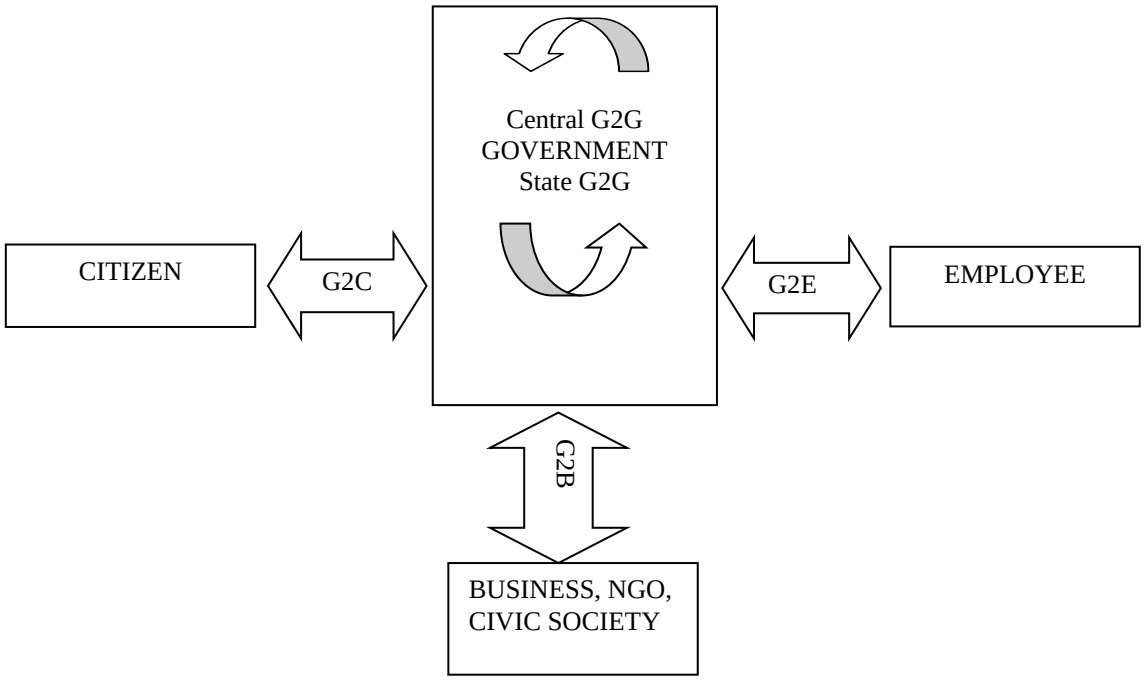


Fig 1: Various Services of the Government (G2C, G2E, G2B, G2G)

Literature Review

The revolution from conservative government services to E-government services foreruns a new epoch in public services. E-government services are capable of replacing the government's long-established services with services of enhanced quantity, excellence and reach, and augment resident's satisfaction, by means of Information and Communication Technology (ICT). E-governance intends to formulate the connections between, government and business enterprise (G2B), government and citizens (G2C) and friendly inter-governmental department dealing (G2G), expedient, apparent and lesser expensive (Singh. V.J., Chande. A, 2014). A mounting amount of edifying text regarding government resolutions, information, rules and regulations are now disseminated on the web using a range of portals, such that citizens can look through and read in detail about them. This estimates, nevertheless, that the knowledge seekers are competent of entrapping the immense volume and intricacy of the lawfully worded credentials (Haran. M. H, 2016).

© SGBED 2019

Government regulation policies are capacious, profoundly cross-referenced and repeatedly unclear. Government information is in formless / semi-structured form, the sources are manifold and the compositions are diverse thereby constituting serious obstruction to their probing, indulgent and make use of by ordinary citizens. In the G2G field, the government departments are in greater need of a scheme that is capable to afford information reclamation, data exchange, metadata-homogeneity, and appropriate information of dissemination across the administrative channels of national, regional, state, and local governments (Kettani. D,2014).

The increasing demand for and involvedness of government regulations on different aspects of economic, social, political life, and calls for advanced knowledge-based framework for knowledge gathering of information, its flow and the distribution. Also, Government regulations are repeatedly updated by government departments to replicate environmental changes and innovations in policies. Tools that can identify indistinctness, discrepancy and disagreement are needed because the Government regulations, enhanced provisions, legal primacy and interpretive course of action together produce a colossal volume of documents with potentially alike content but likely differences in terms of its format, context and terminology. Infrastructures and the information that can combine, compare and contrast diverse regulatory documents will very much augment and aid the understanding of prevailing regulations and dissemination of new ones.

Government regulations ought to be reclaimable and explicable with ease by lawyers, policy makers as well as general populace of the world. In spite of several attempts, it is accepted that e-government services are hitherto render the preferred pro-citizen services and are generally targeted towards inner efficiency (Alarape. M.A, Suleiman, M.A, 2014). (Kwon et. al. 2007), suggested a system that facilitates the rule makers comprehend and react to the public comments, prior in finalizing the projected regulations. These public comments are the oriented with views and arguments about the regulations. The skill of recognition and classification of major subject of the claims and opinions provided by the tool helps Government to preview and summarize the comments (Kwon et. al. 2007).

Kumar, D. and Panchanatham, (2017) hypothesized that the accomplishment of e-governance lies in applying the ideology in a logical and holistic way by many people across the country, states time and again over a stipulated period. E-Governance by now is playing an indispensable role in the worldwide economy. The multifarious agencies of the United Nations Organization (UNO) and the World Bank are providing an immense support for the most of E-Governance initiatives. E-Governance augments the effectiveness of citizen and Government communications. (Purao and Desouza, 2011; Abrahams, 2009) evaluates the complication in e-government applications pose a challenge to designers and developers, because of the fragmented nature of government administration and communication process. The integration of technologies to deliver government services are given in Figure. 2

© SGBED 2019

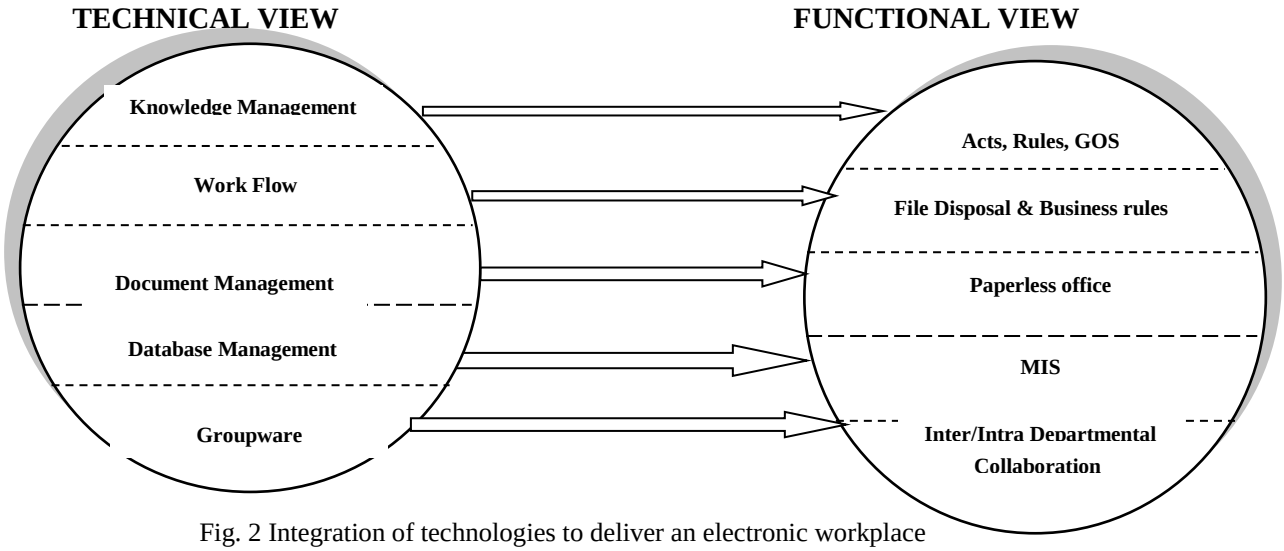


Fig. 2 Integration of technologies to deliver an electronic workplace
[Source: (Satyanarayna, J. 2013)]

Bhatnagar, S. (2009) reported that the early government applications were focused on building management information systems for planning and monitoring). The process of information systems development is a formal step by step scientific process that does not coincide with practical experience (Avision et al, 2004). Heeks (2003) suggested that e-Government system should be country specific and not an off-the-shelf system from another country. Most of the government applications are not a "One Size Fits All" solution every application must take into account the variable factors influencing that application. It is just because each society has dissimilar requirements and priorities, there are no unique model for e-government and no worldwide standard for e-government readiness (AI-Eryani, 2009). E-Government applications countenance innumerous challenges because of the disjointed nature of government administration and its communication processes (Abrahams, 2009). A top-down approach has been followed by several e-government applications which have often not worked and the resultant system has not been able to fulfill the needs of the citizens despite the cost of these applications (Agarwal, 2007). Bhatnagar, S. (2009) pointed out that the early government applications were centered on building administration data frameworks for arranging and checking). The procedure of data frameworks improvement is a formal well-ordered logical process that does not agree with down to earth involvement (Avision et al, 2004). Heeks (2003) believed that e-Government framework ought to be nation particular and not an off-the-rack framework from another nation. A large portion of the administration applications are not a "One Size Fits All" arrangement each application must consider the variable components affecting that application. Since each general public has diverse necessities and needs, there is nobody showing for e-government and no all-inclusive standards for e-government preparation (AI-Eryani, 2009). E-Government applications confront challenges as a result of the divided idea of government organization and its correspondence forms (Abrahams, 2009). A best down approach has been trailed by a few e-government applications which have frequently not worked and the resultant framework has not possessed the capacity to satisfy the necessities of the residents in spite of the cost of these applications (Agarwal, 2007).

© SGBED 2019

E-GOVERNANCE MODELS

S.No	Model	Principle	Applications	Instances
1	Broadcasting / Wider Disseminating on Model	More learned individuals can see better the administration techniques and exercise its rights and obligations. Access and confirm data existing in the neighborhood area from outside sources	Setting Government laws and enactment on the web. Making accessible data relating to legislative budgetary plans, strategies, consumptions and introductions on the web. Receiving court judgments/legal proclamations for normal natives and making priority for future activities on the web.	Information Services Terminal of National Informatics Center (GISTNIC) is an example of this model. In this project the Government propagates of information of about 25 subjects such as Economy, Education, Census, Tourism, etc
2	Critical Flow Model	Engage positioning users to whom the accessibility of the exacting information set would make a critical difference in initiating good governance. intrinsic characteristic of ICT that makes the notion of distance and time redundant	Endows with information on corruption of a department or government officials. Availability of information about human rights violation and criminal prosecution records against government officials to concerned citizens. Provide environment related information to local communities.	Administers research studies, enquiry reports and appraisals.
3	Comparative Analysis Model	This model incessantly assimilates new facts and uses them as benchmark to appraise. Used to get a snapshot of past and present state of affairs. Lays in the unlimited capacity of ICT to store information in a retrievable manner and transmit it all geographical and hierarchical barriers.	Enforcing informed decision making at all stages by enhancing the background knowledge and endow with a rationale for future course of action. Evaluating the performance record of any government official or ministry.	Evaluating the efficiency of current policies and actions of the past.
4	Mobilization and Lobbying Model	It is based on planned, strategic, directed flow of information to build strong virtual allies to strengthen action in the real world. This is able to effectively overcome geographical, institutional and bureaucratic barriers to shape concerted action. Provides a strong virtual arm to several activities such as directing campaigns against a particular individual or decision-making body.	Civilizing the voices of marginalized groups who are conventionally marginalized from the decision-making process. Encouraging wider participation in decision-making processes.	Promoting public debates on global issues, subjects of upcoming conferences, treaties etc.
5	Interactive-Service Model	It is G2C2Gmodel. This model captures the potential of ICT and leverages it for greater participation, efficiency and transparency in the functioning of government. Make possible various services offered by the government to be directly accessible to citizens. It creates an interactive Government-to Citizen to Government (G2C2G) channel in various functions. Decision.	Maintaining an interactive communication channel with decision makers such as video conferencing and online dialoguing. Conducting electronic ballots for election of government officials. Conducting public opinion polls on issue of wider concern before formulation of policies and legislative frameworks. Filling of petitions, feedback and reports by citizens with the concerned governmental body.	Carrying out video conferencing and online discussion to policy makers

Table 1: E-Governance Model suggested by Dhulipalla Vijay Krishna (2014)

© SGBED 2019

Data Mining Technique For E-Government

The Data Mining is connected with the process of extracting legitimate, formerly unknown, understandable, and actionable information from big databases and using it to make appropriate business decisions (Cabena et al., 1997). The data mining is an encouraging field of information and knowledge discovery (Han et. al., 2011). Fayyad, U. M. (1996) determined six data mining functions are:

- Classification is a process that helps to find models that assess and categorize a data item into several predefined classes
- Regression is a process of mapping a data item to a real valued prediction variable
- Clustering is a process of identifying a finite set of categories or clusters to illustrate the data
- Dependency Modeling (Association Rule Learning) is finding a model which describes important dependencies between variables
- Deviation Detection (mainly referred as Anomaly Detection) is discovering the most noteworthy changes in the data
- Summarization is discovering a compact description for a subset of data.

Grossman, R. L., et. al (2013) defined five principles for the operation of data mining is:

- Lucidness, Transparency and notice
- Accountability, omissions, and indemnity
- Authority and alternatives
- Data Integrity and security
- Data Appropriateness / Minimization.

The government organizations were using the data mining applications to detect fraudulent activities, but in due course of time they have started using it for the purpose of measuring, improving the overall program performance and recovered millions of dollars in deceitful Medicare payments (Cahlink, G., 2000). There have been several promising reports of thriving data mining applications which are used in various government applications such as the healthcare (Milley, A. 2000), the employee's performance prediction (Jantan, H., et. al, 2010), prediction of the joblessness rate to make decisions and design policies (Xu, W., et al, 2013) and to detect the anomalies in tax patterns (Rao, V. R., 2014).

Knowledge Management In E-Government

A thriving e-Governance necessitates Knowledge Management (KM). The objectives for KM proposals in the public sector include (Riege, A., & Lindsay, N., 2006):

- Taking full advantage of efficiencies across all public services by connecting information across different levels of government and across borders
- Expand new or combined systems to amalgamate and reachable knowledge base
- Progress accountability and extenuating and
- Distribute enhanced and more cost effective services.

HuiYuen Yum (2007) reported that, KM is central to information sharing and access between government agencies and between the government and the citizens. The governments of rising countries can use KM as a main driver towards enhancing productively in public sector productivity and building trust in government by focusing on a few novel policies and designating the appropriate department to drive these policies into effective implementations. A survey conducted by HuiYuen Yum in the year 2007, stated that all the respondents are conscious of KM and have KM programs in place, are locating the program, or probing the need for such programs. 67% of the partakers of the survey pointed out that the objective of

© SGBED 2019

KM programs is to share knowledge and to offer access to information and expertise. This survey also accounted that the paucity of time and lack of attentiveness and comprehending are the topmost two reasons for resisting the KM initiatives. Insufficient or zero knowledge management practices within the Government normally leads to loss of prospects as a result of lost institutional memory, knowledge gaps and non-availability of fitting inputs for decision making (Rao, V. R., 2014).

USAGE OF E-GOVERNMENT DATA MINING APPLICATIONS (eGDMA) IN DECISION-MAKING

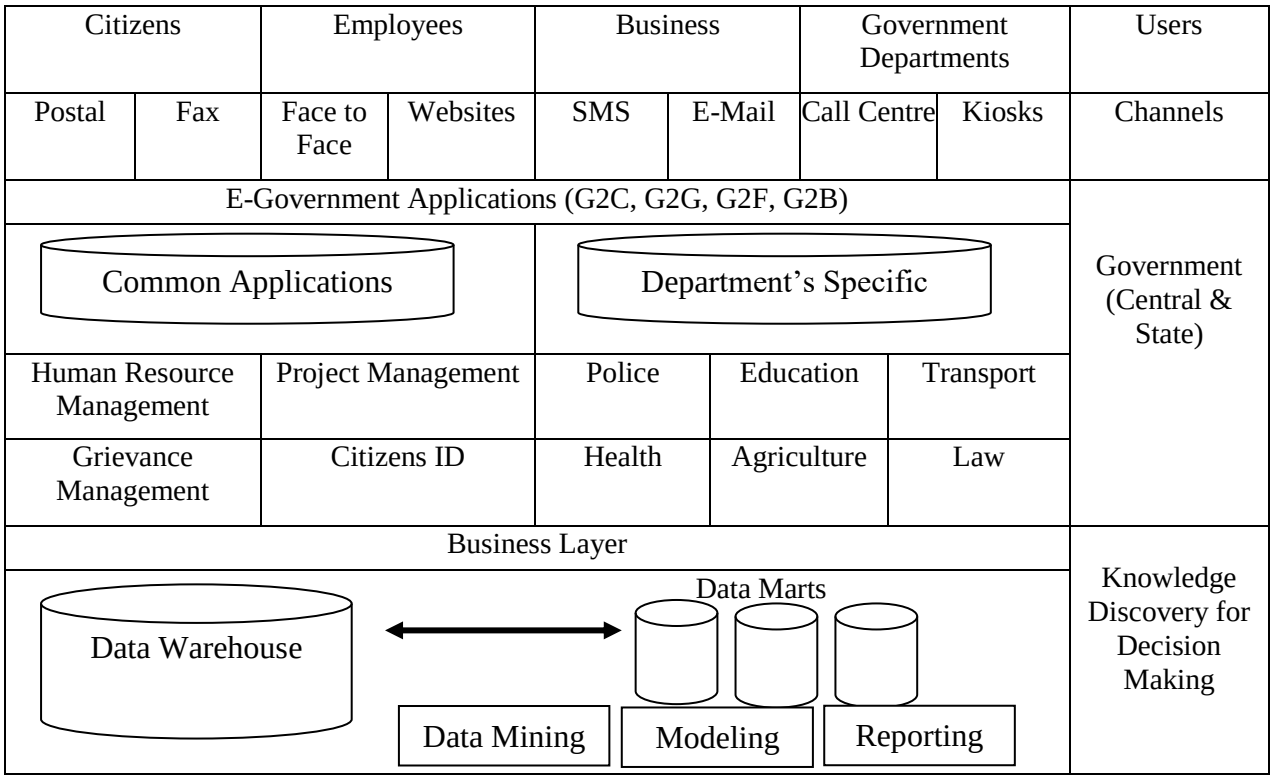


Fig. 3 E-government Data Mining Application (eGDMA)

Summary

Asia is home to 60 percent of mankind. With some Asian nations, including China and India, averaging around 8 to 9 percent of the mainland's GDP, Asia all in all kept on growing e-taxpayer supported organizations further. Ventures were made on a level plane to extend foundation, including support for broadband and versatile access, while in the meantime governments connected with give more noteworthy online administrations and enhance applications of data mining in e-governance. In 2016, three of the world's best 20 e-pioneers are from Asia, and the locale in general has a larger amount of e-government advancement than the world normal. While there has been change in giving e-benefits over the landmass, a portion of the biggest additions are found in Western Asia. Subsequent to the analysis of E-Government index in 2012 an another survey was taken in the year 2016 where the countries E-Government rankings were considered by United Nations E-Government survey (2016) summarizes the sustainable development of the E-Governments in Asia region. Figure 6 shows the number of countries grouped by the E-Government Development Index (EGDI) in 2016 as compared to 2014. Notably, in 2016, there are more countries with very high E-Government Development Index values (i.e., EGDI values greater than 0.75). There were twenty-nine nations scored high EGDI values during the year 2016 and this gathering contains each of the 25 nations that had additionally scored high EGDI in the last release of the Survey (DESA, U., 2014). The four additional countries that joined this group of top performers are Slovenia (ranked 21st), Lithuania (ranked 23rd), Switzerland (ranked 28th),

© SGBED 2019

and the United Arab Emirates (ranked 29th). It is also observed in the Survey taken in the year 201 that, the inclination that the leadership in e-government development is not exclusively dependent on the income level of a country (DESA, U., (2014).

In the second- (high-EGDI) and lower-tier (middle-EGDI and low-EGDI) some lower income countries perform as well as higher income countries, if not better in some instances. Similarly, the quantity of nations with high-EGDI esteems (i.e., in the vicinity of 0.50 and 0.75) expanded to 65, up from 62. The nations which includes Barbuda and Antigua, Fiji and Egypt were discarded from high-EGDI to medium-EGDI, ten nations (the Bahamas, Bosnia and Herzegovina, Lebanon, the Philippines, Saint Kitts and Nevis, South Africa, Thailand, Trinidad and Tobago, Uzbekistan also, Vietnam) enhanced their e-government execution and made the jump from middle EGDI to high-EGDI esteems (as in Fig. 4 & 5). Then, the quantity of nations with middle-EGDI values (i.e., in the vicinity of 0.25 and 0.50) declined from 74 to 67 nations.

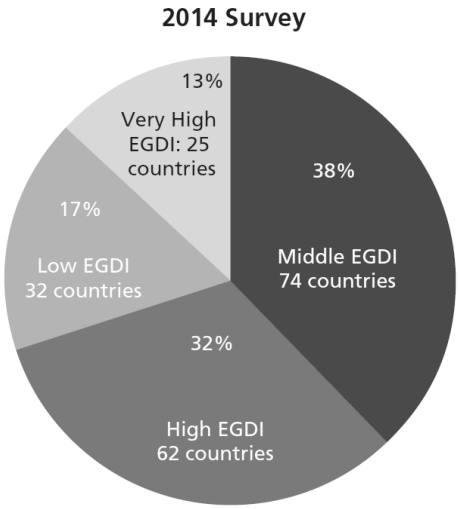


Fig. 4 Number of countries grouped by E-Government Development Index (EGDI) levels, in 2014 (Source: United Nations E-Government survey, 2014)

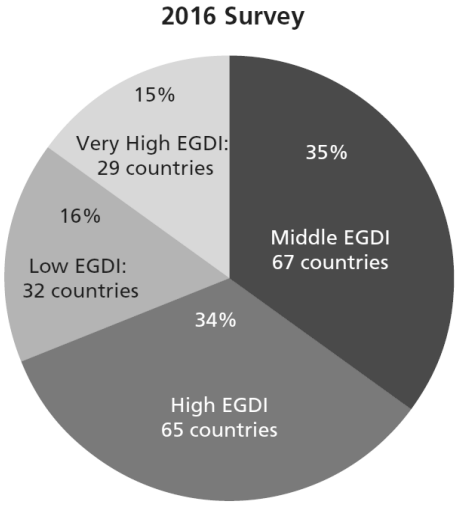


Fig. 5 Number of countries grouped by E-Government Development Index (EGDI) levels, in 2016 (Source: United Nations E-Government survey, 2016)

The best performing nations in the locale are recorded in Table 3 with Very High EGDI levels. For the Gulf Cooperation Council (GCC), which includes six Arab nations, e-government itself has turned into an improvement pointer. Much accentuation has been set on

© SGBED 2019

propelling e-government in the locale, as both a methods and an end in improvement. In advancing learning sharing among the GCC nations, the biennial GCC e-government Awards are displayed to government substances that have illustrated brilliance in e-government. The Republic of Korea (positioned third), Singapore (fourth), Japan (eleventh), Israel (positioned twentieth), Bahrain (24th), and the United Arab Emirates (29th) are among the worldwide pioneers with Very-High-EGDI levels, while Kazakhstan (33rd), Kuwait (40th), Saudi Arabia (44th) and Qatar (48th) are among the best Asian nations with High-EGDI levels.

Table 3. Top 10 countries for e-government in Asia

Country	Region	Sub-Region	OSI	HCI	TII	EGDI	EGDI Level	2016 Rank
Republic of Korea	Asia	Eastern Asia	0.9420	0.8795	0.8530	0.8915	Very High	3
Singapore	Asia	South-Eastern Asia	0.9710	0.8360	0.8414	0.8828	Very High	4
Japan	Asia	Eastern Asia	0.8768	0.8274	0.8277	0.8440	Very High	11
Israel	Asia	Western Asia	0.8623	0.8619	0.6175	0.7806	Very High	20
Bahrain	Asia	Western Asia	0.8261	0.7178	0.7762	0.7734	Very High	24
United Arab Emirates	Asia	Western Asia	0.8913	0.6752	0.6881	0.7515	Very High	29
Kazakhstan	Asia	Central Asia	0.7681	0.8401	0.5668	0.7250	High	33
Kuwait	Asia	Western Asia	0.6522	0.7287	0.7430	0.7080	High	40
Saudi Arabia	Asia	Western Asia	0.6739	0.7995	0.5733	0.6822	High	44
Qatar	Asia	Western Asia	0.6739	0.7317	0.6041	0.6699	High	48

(Source: United Nations E-Government survey, 2016)

Conclusions

This paper principally discusses on applications and uses of data mining of the government organizations for its sustainable development and decision making through its e-governance. The Data mining can be effectively utilized by the government to resolve the patterns or relationships from outsized data warehouse. The right information at right time is the approach that have been adopted by many governments which being possible through datamining techniques as to deal with voluminous data for generations. The technology is accessible, but the government should be convinced in figuring out their issues and challenges related to common standards in storage and contribute the information amongst various stakeholders in the process of decision making. The application, uses and methods of data mining in e-governance would help, not only in developing the internal competence but also it incredibly increases in decision making. The results and findings of data mining in e-governance of selected countries and Asia and their rankings may be helpful to the emerging counties and planners for understanding the global scenario for implementing e-governance and its importance by unearthing the hidden information from various e-Government databases to progress the part of decision making by constituting guidelines for e-governance projects and for providing better services to the existing and ensuing stake holders.

References

Abrahams, L. (2009) E-Governance Policy. Paths and limitations to progress. *Journal of public administration*. 44(41), 1011-1026.

Agarwal, A. (2007). *E-Governance, Case Study*, Hyderabad: Universities Press.

Alarape, M. A., & Suleiman, M. A. (2014). Computer literacy level among primary school teachers in BIDA: Implications for E-Governance deployment. Computer, 6(8).

Al-Eryani, A. Y. (2009). E-Government services in Yemen: Success and failure factors. Faculty of Science Bulletin, 22, 61-74.

Avison, D., Vidgen, R., & Wood-Harper, T. (2004). Forming a contingent, multidisciplinary and ethical approach to IS development. The past and future of information systems. Oxford: Elsevier Botterworth-Heinemann, 29-42.

Cabena P., Hadjinian P., Stadler R., Verhees J., and Zanasi A. (1997). Discovering Data Mining from Concept to Implementation. New Jersey, USA: Prentice-Hall PTR.

© SGBED 2019

Cahlink, G. (2000). Data Mining Taps the Trends. Government Executive, 32(12), 85-86.

DESA, U. (2014). Population division. World Population Prospects: the 2010 Revision.

Fayyad, U. M. (1996). Data mining and knowledge discovery: Making sense out of data. IEEE Intelligent Systems, (5), 20-25.

Grossman, R. L., Kamath, C., Kegelmeyer, P., Kumar, V., & Namburu, R. (Eds.). (2013). Data mining for scientific and engineering applications (Vol. 2). Springer Science & Business Media.

Han, J., Pei, J., & Kamber, M. (2011). Data mining: concepts and techniques. Elsevier.

Haran, M. H. (2016). Framework Based Approach for the Mitigation of Insider Threats in E-governance IT Infrastructure. International Journal of Science and Research (IJSR), ISSN (Online), 2319-7064.

Heeks, R. (2003). Most e-government-for-development projects fail: How can risks be reduced? Manchester: Institute for Development Policy and Management, University of Manchester. 14.

HuiYuen Yum (2007), Overview of knowledge management in the public sector: United Nations Publication.

Jantan, H., Hamdan, A. R., & Othman, Z. A. (2010). Classification and prediction of academic talent using data mining techniques. In International Conference on Knowledge-Based and Intelligent Information and Engineering Systems , Springer, Berlin, Heidelberg. 491-500.

Jantan, H., Hamdan, A. R., & Othman, Z. A. (2011). Data mining classification techniques for human talent forecasting. In Knowledge-Oriented Applications in Data Mining. InTech.

Kamber, J. H. M. (2001). Concept and technique of data mining [M].

Kettani, D. (2014). E-Government Applications in the African Context. Tangier Morocco.

Kettani, D., & Moulin, B. (2014). E-government for good governance in developing countries: Empirical evidence from the eFez project. Anthem Press.

Kodukula, S. (2008). A Novel Approach for Information Security and Risk Management in Distributed Health Care Systems, IJAER, 10(4),10119-10126.

Krishna, D. V. (2014). Data Mining in E-Governance Models and Applications. International Journal of Business Policy and Strategy Management, 1 (1).

Kumar, D., & Panchanatham, N. (2017). A Study on People Participation in E-Governance with Reference to Coimbatore District.

Kwon, N., Zhou, L., Hovy, E., & Shulman, S. W. (2007, May). Identifying and classifying subjective claims. In Proceedings of the 8th annual international conference on Digital government research: bridging disciplines & domains, Digital Government Society of North America. 76-81.

Milley, A. (2000). Healthcare and data mining. Health Management Technology, 21(8), 44-45.

Padmapriya, A. (2013). E-Governance: A move towards paperless Administration in India. *International Journal of Computer Trends and Technology*, 4(3).

Palvia, S. C. J., & Sharma, S. S. (2007). E-government and e-governance: definitions/domain framework and status around the world. In International Conference on E-governance, 1-12.

Purao, S., & Desouza, K. (2011). Looking for clues to failures in large-scale, public sector projects: A case study. In System Sciences (HICSS), 44th Hawaii International Conference, IEEE. 1-10.

Rao, V. R. (2014). A Framework for e-Government Data Mining Applications (eGDMA) for Effective Citizen Services-An Indian Perspective. *International Journal of Computer Science and Information Technology Research*, 2(4), 209-225.

Riege, A., & Lindsay, N. (2006). Knowledge management in the public sector: stakeholder partnerships in the public policy development. *Journal of knowledge management*, 10(3), 24-39.

Satyanarayana. J (2013). E-Government: The Science of the possible: PHI Learning Private Limited.

Singh, V. J., & Chandel, A. (2014). Evolving e-governance through cloud computing-based environment. *International Journal of Advanced Research in Computer and Communication Engineering*, 3(4), 6188-6191.

United Nations E-Government survey (2012) at https://publicadministration.un.org

United Nations E-Government survey (2014) at https://publicadministration.un.org

United Nations E-Government survey (2016) at https://publicadministration.un.org

Xu, W., Li, Z., Cheng, C., & Zheng, T. (2013). Data mining for unemployment rate prediction using search engine query data. Service Oriented Computing and Applications, 7(1), 33-42.

© SGBED 2019

DXB124

IMPACT OF DIGITIZATION ON CRM FOR B2B FIRMS

Parrakal Satishchandra Menon, Satishmenon66@Gmail.Com
School Of Business, Alliance University, Bangalore, India
Abhinay Varma, Abhinayvarma9@Gmail.Com
Alliance Ascent College, Bangalore, India

ABSTRACT

The drive of this report project toward the existing conversation on digitization in firms' advertising toward a client relationship management (CRM) perception by inspecting the character that aim in CRM for the utilization of community means and to assist the purposes of CRM in modern business-to-business (B2B) firms. The statistics are gathered to complete semi-structured themed conferences by main advertising/marketing managers towards their B2B organizations. CRM appears to remain affected faster to the firms for the essential action and attract everyone's expert to a better level than always earlier, then the situation towards main Objective, toward improving customer associations, resolving not essential transformation. Considering the client is active and needed for dissimilar purposes toward collaboration of the fixed consumes by the likely empathetic situation of the clienteles. Community public media tools played nearly negative share in CRM, however impassable communal media techniques strength are possible in the future. The select investigation method restricts the simplification of the consequences. It appears to be possible that organizations are determined to provide assistance to the employed class. On behalf of B2B companies, community social media prepares towards assisting CRM then self-contained social media networks that tries to influence for upcoming. The absence of experiential inspection of the modification after firm network to consumer ecology from a CRM viewpoint, and the lack of study on social media for CRM in the B2B background, regulates the determination of this analysis. Furthermore, digitization is a slightly latest then formless incidence and several firms are static contemplating in what way to reunite towards the situation.

Keywords: Digitization, CRM, B2B, Firms

Introduction

The digitalization develops a questionable presentation in the previous period and is programmed for the newest in the names of the social networks.
Power has passed from the arrows of sellers towards to the customers, which has important consequences for companies, products and brands. Today, clients are social customers, who are deliberately associated toward the citizens and firms that surround them and need legitimacy from those firms and people.

The authorization of the client has logically produced fresh challenges for the management of customer relations (CRM). As CRM imparts necessary change to a trade atmosphere wherever latest methods of conversation stand developing and wherever the traditional roles of customers and businesses become obsolete and recreated.

The lines of demarcation between the interior and exterior atmospheres of the company have been blurred and the client compromise in the processes of value creation. Customer service has been called "new marketing" and, in core, the consumer gets additional vitality to the company, closer to the basics of the company. Companies are watching for different methods to approach customers like IBM. Evolution has driven the growth of a fresh

© SGBED 2019

planned method, the 'social CRM' toward improvement of the lively transformation of the company's ecosystem to the client's ecosystem.

Social CRM signifies a fresh plan that takes CRM to a unique stage as a planned purpose, a general philosophy of the company, smoother results, expressive metrics and similarly a consciousness towards investors apart from the client, and highlights the commitment as the key impartial of the consumer association and organization in its place of fair handling clients.

In general, in the literature on CRM, commitment has been welcomed because it has the possibility towards proposal for a fresh viewpoint on CRM. The core of this approach is toward involving the customer for a cooperative discussion and understands the client at a more meaningful level. In addition to this a fresh method that the digitalization of the announcement background needs of the marketing functions of companies, technical growth takes accessible fresh chances toward achievement and ease the announcement.

The increasing awareness trend of consumer assignation takes parallel approach to the continuous development of the Internet and innovative digital technologies, such as social networks. It is even claimed that the progress of communal networks brings a fresh technical pattern of trade research. Social networks have been feasible to construct and continues the relationship and to generate interactively with the digital channels. Social media can be grasped as a tool that offers companies real opportunities to approach and attract customers and through that access the performance results of relationships.

In a new analysis of communal networks and CRM, the situation reminded that asset in social networks could bring benefits of relationship management. The habit of social networks has no influence on the performance of relationships. The habit of social networking grows the abilities of the companies to improve and assist their customs. The situation is not about technology, but about how it is used in practice.

In general, research in social networks is limited and focused mainly on the B2C domain, though it is recommended that social networks are also important for B2B companies. There was a study leads to the trend in the UK in B2B.In this SMEs, described that a sector of them used social networking inputs to attain their promotion goals and then attained the maximum significant objective and then aimed at social networking inputs to appeal for fresh clients and for support relations with customers. This suggests that the Internet and social networks are important tools for establishing relationships, level in the B2B site.

The greater interface among consumers and vendors has changed recently and has especially took the attention of executives who look toward for improving and appreciating their purchaser's fresh skills and tools. Notwithstanding the welfares and excessive benefit of the fresh tools will narrow down the information. Social media and additional digital marketing communication applications can be used in CRM in the B2B environment. Fresh skills are an essential share of the future CRM and deserve further study.

To explain, social CRM is not as similar as social networks, although in some cases it has been defined as social CRM is the strategic focus of a company and social networks are assets for the purposes of CRM Social. This report provides the present conversation on digitization in the company's promotion and applies towards CRM viewpoint when examining empirically.
What remain the characters and reasons of CRM in existing B2B firms?

© SGBED 2019

How are social network tools exploited to meet CRM objectives in existing B2B firms?

Acceptance is produced by observing the role, objective and application of CRM and the usage of digital message tools, particularly social networking tools pertaining to the B2B firms that are attentive of the encounters and accessible by digitization and the usage of tools of social networks in their advertising exercises.

The document is structured as follows.
First, the evolution of CRM and the change towards social CRM that attract the clients will be discussed. Subsequently, the document investigates social systems and their conceivable conditions of the execution of CRM in a B2B process. Then the procedure to motivate is described and their consequences in the study presented. The article ends by representation of assumptions from the investigation.

Theoretical background

a) The future of CRM: CRM, Social CRM and Engagement
CRM can be defined:
• Close and tactical to deal with the implementation of specific technology
• As a powerful technology that refers to the application of combined sequences of client-based skill solutions.
• In general and strategic terms, it is a complete methodology to organize consumer associations and creating worth for stakeholders by increasing long-term profitable relationships with key customers, customer segments and additional main investors that combine the hypothetical association of promotion approaches and IT.
In this study, the strategic point of view is adopted, since it represents the most developed CRM thinking. CRM's approach as strategy has different varieties and is vibrant and CRM must not at all be understood as a customer-centered approach, rather than it incorporates all investors, as worth makers and it is also a main fact of the social CRM ideology.
The social CRM ideology advances the CRM by capturing the social change caused by the digitalization of the communication landscape. It is the response of the firm to the customer's property of the conversation. Communal CRM preserve be distinct as a 'philosophy besides a commercial plan, backed by a technological stage, commercial policies, developments and communal features, planned to involve the client in a collective discussion in directive to deliver equally valuable assessment in a reliable and transparent business.
Environment 'as the definition indicates, social CRM uses CRM as the general idea of the business and features the joint creation of value, commitment and dialogue management instead of customer management.

CRM as a policy and social CRM:

1. The explanation of social CRM establishes that its purpose is to involve the client in a collaborative conversation. In general, the commitment of the client has been suggested to suggest a fresh outlook in CRM that presents a more strategic way for a company to see its relationships with consumers and interested parties.
2. The commitment of the client is said to be distinct as a manifestation of the brand or signature that is more than a transaction or just a buying behavior that goes beyond satisfaction, retention and loyalty.

It is 'a psychological state that is produced by virtue of the interactive and co-creative experiences of the clients through a principal manager or object (for example, a brand) in the focal service relationships'. The main fact of the client's commitment is that it happens as 'a dynamic iterative process within the facility associations that co-produce value'.

© SGBED 2019

The client's commitment increases the old-fashioned character of the client by involving it in the method of added value and considers the client equally a dynamic companion in the development of value. The client's commitment comprises the formation of a hidden and extra eloquent among the company and that continues over time.

Customer engagement as a thought helps companies understand customer needs, encourages consumer contribution in the invention, growth and progression and makes customers available to provide reaction on approaches and commodities, and converts them into defenders of products or brands.

Involved customers can produce a significant character in creating new services and products. At best, getting customers involved in an invention or facility development process can add value for the company. Other evidence of customer participation would include endorsement by word of mouth, blogs, customer recommendations, references that influence the company and its brands. If we accept the commitment to be at the center of CRM in the future, the relevant question is how to get the client to commit. Involving clients requires the firm to generate trust and commitment.

The key to a successful CRM is information for both purposes: understanding customers and creating value. This naturally requires listening and monitoring the environment, as well as to have a constant interaction with the client. Social CRM focuses on the significance of individual info, which needs further expressive data about clients, although CRM focus mainly on measuring transactional data. It was anticipated that non-transactional consumer behavior would be further significant in the future.

Obtaining relevant customer information is not so informal. Inner shareholders are in a main situation to gain a vision of the client, as they are better placed to listen to the latest needs and aspirations of the client.

Social media as a means to support CRM The idea behind social media is neither new nor innovative, although it seems to create some confusion between administrators and academics. In fact, social media has turn down the use of the Internet as a platform to share and connect. Social networks are not only a channel, but also a collection of channels that come together to form the basis of web 3.0.

Social media networks can be described as space for participation or place for communication. Today, social networks include a extensive variety of online forums, WOM, which include basic blogs, discussion forums, map rooms, forums, mob records (sites that contain digital audio, images, movies or photographs) and social networking websites.

Need to recognize six different types of social networks:
The combined plans such as Wikipedia, Oh My News, blog and Twitter podcasts, content communities, for example. YouTube and Flickr, social networking sites such as Facebook and LinkedIn.

Virtual game worlds and Virtual social worlds, for example. Second Life and Habbo. In supplement to this exterior social networking tools there are also inner social networking apps such as Salesforce.com that are used by firms.

© SGBED 2019

Social media can help make the ability of promotion to meet the needs of customers by delivering the tools to superior state consumers and encourage customer engagement. One can do it because it is able to facilitate relationships.

It is interactive in nature and provides opportunities to receive feedback from clients, for dialogue and to develop relationships. For example, in social media and other collaborative platforms, consumers have been willing to compare, discuss, review and comment on products and services. In line with these benefits, social media offers opportunities to create customer values through interaction with customers and the creation and promotion of customer relationships in the B2B. Social networks can suggest a valuable tool to enhance CRM.

Methodology

This study accepts an exploration approach and is constructed on a several case study. These companies were selected and founded on the basis of their knowledge of digital marketing tools and social networks in the B2B situation. Each company had used tools and social networks in its external marketing communications, which indicated the knowledge of how to benefit from revenue from social media channels. All companies operated in industrial markets, were well established in their particular field and did business around the world. Organization A was the youngest and operated in the renewable drive business. Organization B activated in comparatively old-style marketplaces and provided prefabricated particular skill. The major and primogenital business C worked in the business sector, delivering machinery for ships, propulsion and maneuvering solutions. In addition, the selected companies were at the lead of their particular fields at that time.

The experimental statistics was gathered by systematic interviews with key personnel responsible for the CRM movement along with promotion personnel. The exploration of the concept led to the association of four main issues related to CRM:
1) The role of CRM in companies.
2) The custom of social networks and additional digital tools for CRM,
3) Obtaining the client's vision,
4) Involve customers.

Several interviewees were selected from each case signature to avoid the subjective perceptions of a single respondent who dominates. The following use of a snowball sampling technique was created to apprentice the applicants with the most awareness, which resulted in ten individual conferences with individuals in management positions.

The data was gathered with no new characters emerged during the interview. In the situation of Firm B, single two individuals were acquainted to exchange about CRM, although persons two had significant experience and extensive experience on the CRM aspects that may affect their firm.

The analysis employed a theming containing of the three-step process was to help the reduction of data and all the material were organized under the same topics covered in the interviews. Under the themes, the sub-themes were recognized inductively. The conditions applied for that affinity of subtopics remained those which looked significant for the subject which arise during numerous consultations, that is, in topic two:
a) The handling of social media tools popular general,
b) The handling of social media tools exactly for CRM.

© SGBED 2019

The unconnected substantial was useless. The texts of the original transcript look but having bushy explanations of the content to enable extra study. Next, all the metaphors were organized and tabulated in matrices.

During this phase of data visualization, each subtopic was first analyzed individually at the company level to create a general picture of anything that exists in a single case company to allow cross-case analysis. Then the cross-case analysis was applied to identify possible resemblances and variances among the case companies. A broad description was written using the cited material from the interviewees to support the findings.

During the verification of the data, the inferences were reproduced in the raw material of the consultations to confirm that they had good support. Previous comprehension and concept directed the assembly and examination of data, but they made not tenet it out. Finally, the authors analyzed the previous theory and the empirical findings to see how the theoretical knowledge, suggestions and previous assumptions appeared in the agile of the empirical findings of the study.

Results

This segment offers the results of this study. The results corresponding to the topics discussed are presented at the company level and are clarified in more aspect below.

As anticipated everything the companies reported about CRM had a planned situation in the business. It stood strong that for the interviewees, the CRM intended was not a modestly methodical explanation to help the client process; however, this also helped as a modus operando to serve the clients. The candidates conveyed their anxiety about what can occur if their CRM structure ever failed, which focuses the significance of CRM for the companies involved.

We need this type of operation centered on the client, which is at the focus of all in the firm. My conclusion is that everything is based on that idea and there is nothing more important than being centered on the client. In smaller companies (A and B), CRM as an attitude stood more apparent than in company C, which was a much larger organization. This could also be due to the size and bureaucracy of the larger organization, where CRM was not the only tool used to support strategic decision-making related to clients, but there were also other ICT solutions to support the process. The difference clearly emerged in the sections of the interviews that address how focused the client was on the company. The smaller organizations were evaluated as much more customer-focused, while the larger firm was assessed as more product-oriented, although the latter moved towards a more customer-focused agreement.

The aim of CRM on behalf of every firm remains to establish profitable relationships with consumers in the long term and increase customer loyalty, while focusing on customer commitment. The companies shared the viewpoint that the simply way for consumers to constrain to the company is to deliver worth to those customers. The respondents acknowledged that the method advancing was to deliver excellent stuffs and sell them well. Naturally, the companies organized various events for clients and stood agreeable to suggest unique terms to their elite consumers, however they were attentive that all leads with the care of the main product and the service to the consumers in the finest way possible by being focused on the client.

© SGBED 2019

The greatest significant object is that we have to produce extraordinary that are excellent for our customers and that we then provide them at a good price, in a planned way and in the required time frame.

Discussions about the importance of consumer commitment in the B2B situation were also attractive. Buying B2B commodities is constantly an extreme participation activity, since they often require a considerable investment. Before completing the purchase, the consumer needs must be decided in order to establish a long-term relationship with the seller. As one interviewee pointed out, it is different if the client is engaged or attached.

The impartial led market research between our clients indicated that our clients are connected but not loyal. We work well together, although if they acquire a superior suggestion, they are ready to change. This is common in our field.

The interviewees highlighted the sale of plans and the assessments of future business with clients as the maximum significant substance of the CRM system. The main info was connected to the simple data of the clients. The CRM for companies also involved the collection of meeting memos, related mails and info obtained from customer visits. The objective of the info collected was to generate a coherent idea of what stood with the particular client and what is probable to occur.

Company C collected most of the realistic data. The data gathered in Company B was more engineering oriented, and Company A gathered the highest evocative data. Though, notwithstanding the element that the data are mainly in statistical form, the standing of the descriptive information in each company was recognized. In addition to the hard sales-oriented data. Firm A gathered soft data such as rumors and news related to its clients and info related to the business in overall.

The verbal expended in the memoranda of Firm B stood explained as occasionally colorful and even involved casual elements, such as advice on how to advance a particular client. However, the interviewees stressed that all the info was shaped and individual evaluation carried out by a vendor in the organization. Company A, which compiled the most descriptive data, was also the most customer-focused. It is a kind of general qualitative things in our clients 'business, what they do and where they are going, what products they have and in what market they are operating and if they are qualitative and our own customer data, they are the clients' own businesses and our perspectives.

Future and classifications for ABCD clients: this evaluation is qualitatively conditioned with numbers and probability estimates. I would say it is half and half. It is difficult to estimate, but there is a lot of descriptive data, if the memos and that kind of things are counted as descriptive data, it plays an important role, there is also the email exchange that has occurred between the client and the seller, so I would say that at least half of the information is 'soft' descriptive data. Dialogical communication was considered the most important way to get to know the customer.

Naturally, it was up to the public to gather maximum of the info in the CRM system, since the related info was the product of the conversations between the client and the seller. In adding to the data recorded in the CRM system by the sales staff, in Companies A and B, the statement and promotion purposes also played a role in the collection of customer data; these data are largely related to general trends or general market information. In these minor firms, CRM was realized as a business of all, not just a task of the sales team. In company C, the announcement part did not require approach to the CRM system, but the companies had a

© SGBED 2019

business intelligence process (BI) that collects significantly the similar records for the message and promotion purposes in the minor enterprises. None of the businesses was agreeable for the suggestion of their CRM systems to their consumers.

However, there were strategies in dwelling to use additional digital systems to connect with consumers in the upcoming period. We receive the news summaries every day outside the course, follow the clients' websites, which is a more ad hoc and safe type of activity, we receive different types of studies and other reports occasionally related to general market information. Although all companies vigorously expended and checked social networks, but with no role in CRM.

Defendants described that they found nearly unknown worth for transactions on any fresh info on community websites or social media networks of their customers. The information that the companies collected had to be of sufficient quality to form the basis of a range of estimates. The representatives of Firm C described how their BI unit would refine the information derived from social media channels in a manner relevant to the sales team. Social media was seen as a channel that provides a more general knowledge of trends and events, rather than offering strategic customer knowledge.

You can use social networks a bit to get information, mainly on LinkedIn, but rarely will clients share relevant information there. Internet sources were used to monitor the general atmosphere in the field and, for instance, to sense an increase in the quantity of visitors from a particular part of the world that indicated a potential for targeted marketing communication. The purpose of the convention of social networks in these B2B groups was mostly to generate awareness inside the arena and also to entice capacity.

The firm familiar with social networks can cause potential customers to influence and entice to go to the firm's website for interaction. Although companies substitute front runners over their web pages, the values of person’s potential customers were valued as very poor. In B2B, transactions associations are regularly very aware of potential customers and can reach them through other ways than social media networks.

Traditional trade fairs and personal contacts were the best sources of quality leads. We receive one or two potential customers per day through our website. We have a contact information form where potential customers can enter their contact information if they are interested in our products. The number of potential customers is quite large, but the quality is terrible. It is extremely rare to get a good advantage through the website. Although companies did not consider public social channel tools to be relevant to their businesses, closed social media channels, those that could, for example, be integrated into a CRM system, were considered relevant from the perspective of relationship management with the clients. At the period of the meetings, Firm C was initiation an integrated platform in its CRM scheme for the usage of a little preferred customer that used the skill that the firm made.

The idea behind the ingenuity was that clients of the fresh technology can assign involvements and the company would obtain valuable information to develop the structure. In the same company, social media channels were also widely used to facilitate internal communication. An example was a type of discussion panel where staff could ask questions. People ask many things and raise issues to which we have no direct answers and they "ask those who do" portal makes it possible for the community to give answers. You do not need to write to a specific person as why he is taking a long time to respond. People post a question there and can get an answer very quickly. All the staff follows him and who knows, someone could answer the question.

© SGBED 2019

Conclusion

Across its experiential results, this document elucidate to the present conversation on digitization in the marketing practices of companies from a CRM viewpoint. The objective was, first, to inspect the character and goals of CRM, and secondly, the manipulation of social channels tools to meet the CRM objectives in current B2B firms.

This analysis indicates that CRM as a plan is closer to the reality of B2B companies than to the social CRM ideology. The existence in these companies studied was that the CRM was static in handling customers instead of managing the negotiation that was upraised as a significant feature of social CRM.

Involving clients was seen as a necessary goal, but also as self-evident, since for the companies surveyed, the entire idea of commitment and co-creation value with the client appeared to be an essential for the purchase. Before the main process begins, the client makes a choice to commit to long-term cooperation with a service provider. Involving customers made not appear to be anything new, since the process is social from the beginning.

To really involve the clients in the long term, the candidates go with one method to continue: to know what their clients want and deliver them in the finest achievable method, at the best possible price. In adding, to the journal recommendation that the CRM was poignant from a client-centered approach to a fully multi-stakeholder approach, but this report expresses that CRM in surveyed companies is still a sales-oriented concept and that client.

The promotion purposes of a enterprise was directed to various shareholders and the objective of transactions and CRM was restricted to serving customers. The companies reflected the continuous change of the company's ecosystem to the customer's environment by identifying that the positive prospect of CRM would engage violation down its silo construction, emerging a client orientation that fosters flexible cooperation between functions and touching in an extra focused direction.

The client in addition to technological solutions was applied to facilitate the process. With respect to the info collected for the CRM system, the representatives of every firm familiar the reputation of embracing some expressive info, as was similarly recommended in the theory. Though, solid statistical data acted the further most significant character. The "soft" data was not essentially standard in the CRM structure, but remained the inferred information of sales employee.

The vital role of individual interaction in B2B statement did not diminish in the look of innovations in digital statement, and the client obtained the data collected by companies mainly across real discourse. Determining a discourse with their clients continued an aim of all firm and was considered a prerequisite for involving clients in a collective discussion, in line with the theory.

Notwithstanding the impending of social networks to help dialogical communication, the companies studied collected their CRM records in an antiquated way. The companies in this study saw the conceivable of social method tools to interact with customers and build and foster relationships with customers, but as a future possibility and, therefore, social networks were not used to interact with the clients.

Public social networks were not seen as a relevant platform from which to gather information about clients and were not considered as a place to maintain a dialogue with customers. Information collected through social networks, Media channels in general were

© SGBED 2019

considered extraneous, and the slight applicable info that existed took too long to produce in relative to its price. In this training, social media networks presence was not able to generate good prospects as informed by salespeople and supervisors who suggested that they saw social media as a viable prospect generation tool.

The exclusive features of the B2B environment could explain this finding where, unlike the B2C world the most important conversations take place in private. The outcomes of the study revealed that connected discourse in isolated groups accessible is a possible way of interacting with customers and fostering B2B relationships in the future.

They also showed that public social networking tools could have a greater potential to raise alertness and draw fresh customers instead of improving customer relationships, thus reflecting the findings in the situation of digital marketing objectives in general in the B2B environment.

The questions are answered in part previously, but to summarize the findings, this analysis indicates that CRM is becoming a more strategic function to better serve clients. In addition, the key findings of CRM are to improve relations with customers that may not change, but CRM will become an issue for everyone to a greater extent than it is today. The features of CRM in current B2B firms are summarized. Accepting the consumer is energetic and needs cautious eavesdropping and, therefore, greater cooperation between the different functions to ensure that the customer is truly the development of all. The character of individual connections will not shrink and with notwithstanding the beginning of fresh digital and social tools, however secure social networking systems may have potential in the future.

Managerial implications

As digitization is an objectively innovative and unstructured phenomenon, and many companies are still considering how to reconcile their operations with change and how to take benefit of new social tools, the results of this study have several administrative implications. First, CRM can continue to be a purely sales tool, but administrations that achieve to join advertising and announcement into the CRM structure could offer a more comprehensive facility to their clients.

As CRM increasingly focuses on more difficult outcomes, such as increased profits, marketing and communication can show an significant role in supporting smoother results by providing an sympathetic of the long-term consequences and global sympathetic of the client's business. The two functions should support each other, but achieving that goal would require facilitating an open environment to encourage efficient communication between different functions and also between clients. It is value observing that the operations of the business defined as the maximum focused on the client. In this analysis operations for the company that is considered to have the maximum effective interior statement will collect the maximum expressive statistics in their CRM system.

This result should also encourage companies to invest in internal communication practices and hire attentiveness to the internal coherence of the company. Additional outcomes propose that a watchful method is to practice communal social network channels and to improve associations or to produce indications in the B2B situation that could fetch the maximum efficiency.

© SGBED 2019

However, social media can fulfill extra significant responsibilities in B2B relationships, such as creating public awareness. It can additionally be advantageous to organize some type of filtering between the CRM and the customer data collected or the potential customers generated from digital channels. That is a task that perhaps best performs a BI unit or communication and marketing roles, which can inspect the web situation and improve the info collected for CRM purposes. Once again, effective interior statement and an exposed ambiance of Outlook look to be central. It would also be prudent to clarify the objectives of the usage of communal channels of social networks.

Although they allow online dialogue, companies must carefully consider how much effort they spend in serving existing and potential customers through social media channels. Companies actually tell their stakeholders that in what way group should use digital channels. This leads their plans to serve the maximum significant shareholders tactically. It is unlikely that a strategy of just producing as numerous prospects as possible will have lasting success, but the cautious custom of digital and conventional plans can increase the quantity of excellence prospects.

As a last proposal, inner social media networks or private networks can give proposal and esteemed info to B2B businesses. It can to be helpful to found an isolated associated stage for consumers to deliberate the vendor's commodities and other significant problems. This platform could provide a supplier with valuable information about how they perceive their clients' products and help the company develop its operations in a more customer-oriented direction. In addition, as the interviews in this document confirmed, the only way to attract customers and, therefore, involve them is in expansion and to help them in the finest conceivable way to generate worth for those consumers. This is somewhat that can certainly not be completely outsourced or digitized.

Limitations and Opportunities for Future Research

The outcomes of the current investigation should be evaluated in light of certain key limitations. First, they are grounded on a several case report and, therefore, the results cannot be generalized. In addition, the low number of interviewees of each company could be considered a limitation. Nonetheless, it is supposed that the outcomes deliver esteemed exploration information in an emerging area; the digitization in the marketing of the company from a CRM viewpoint, which justifies the approach.

In addition, this study also opens several new avenues for future research. First, it would be beneficial to gather more cases related to the issue from different contexts and countries to increase the possibility of generalizing the results and helping their further development. Additional, this analysis should support assistants to reproduce fresh ideas against realistic indication to disclose how theoretical expansions coincide with the realism of modern businesses. For example, the outcomes provide growth to a stimulating inquiry nearly to the sense of participation in the B2B situation.

Future research could try to discover what it really means to engage in a business promotion environment and inspect what fresh aspects the idea of commitment carries to B2B relations. Third it would be beneficial to inspect how social channel tools can really create relational value, in what context and under what circumstances. This would expand our information of how social channels tools can be used beneficially in the B2B situation for CRM; some B2B firms seem to be able to enable affiliations within social media networks, similar if that was not plain between the companies studied in this investigation.

© SGBED 2019

Future research could examine in what way social media tools drive engagement in open or closed platforms, and how that could influence purchasing decisions.

The internal digital solutions that have been found to increase interactions with customers that would deserve further study. In the final suggestion for additional investigation the present analysis would also be examined within digital networks in the B2B environment. As famous in this report, the superiority of the potential customers of the digital networks was insignificant, however the inquiries that arose at that time states that superiority might be enhanced.

References

Ernst, H., Hoyer, W.D., Kraft, M. Krieger, K. (2011), 'Customer relationship management and company performance – the mediating role of new product', Journal of the Academy of Marketing Science, Vol. 39 No. 2, pp. 290–306.

Economist Intelligence Unit (EIU) (2007), beyond loyalty: meeting the challenge of customer engagement. Part 1, available at: www.adobe.com/engagement/pdfs/partI.pdf (accessed November 2014).

Brasel, S. (2012), 'How focused identities can help brands navigate a changing media landscape', Business Horizons, Vol. 55 No.3, pp. 283–291.

Hennig-Thurau, T., Malthouse, E.C., Friege, C., Gensler, S., Lobschat, L., Rangaswamy, A. Skiera, B. (2010), 'The impact on new media on customer relationships', Journal of Servise Research, Vol. 13 No. 3, pp. 311–330.

Brodie, R. J., Hollebeek, L. D., Juric, B. Ilic, A. (2011), 'Customer engagement: Conceptual domain, fundamental propositions, and implications for research', Journal of Service Research, Vol. 14 No. 3, pp. 252–271.

Fan, Y.W. Ku, E. (2010), 'Customer focus, service process fit and customer relationship management profitability: the effect of knowledge sharing', The Service Industries Journal, Vol. 30 No. 2, pp. 203–223.

Greenberg, P. (2010), 'The impact of CRM 2.0 on customer insight', Journal of Business and Industrial Marketing, Vol. 25 No. 6, pp. 410–419.

Boulding, W., Staelin, R., Ehret, M., Johnston, W. J. (2005), 'A customer relationship management roadmap: What is known, potential pitfalls, and where to go', Journal of Marketing, Vol. 69 No. 4, pp. 155–166.

© SGBED 2019

DXB111

MATHEMATICAL MODELING OF NON-NEWTONIAN POWERED FLUID FLOW UNDER GRAVITY OVER AN INCLINED PLANE

Ram Karan Singh, ram@kku.edu.sa,
Department of Civil Engineering, College of Engineering,
King Khalid University, Abha City, Kingdom of Saudi Arabia

ABSTRACT

In this research article the mathematical modeling solution and analysis is done for non-Newtonian fluid under gravitational flow on an inclined plane. The general solution for the simulated problem which is inform of non-linear differential equation does not exist in closed form, the solution technique adopted here is homotopic analysis method (HAM). The index values of non-Newtonian is also computed along with the exact solution. The exact solution results were compared with the solution based on HAM technique and both the results found to be closer to each other. It has been seen that solving the non-linear differential equation by HAM technique is quite efficient. The effect of the different fluid properties such as dynamic viscosity ratio, mass density ratio on the velocity profile has been investigated for the non-Newtonian fluid. It has been seen that with the enhancement of the mass density ratio the average and maximum velocity of the non-Newtonian fluid increases and it decreases with increase in the non-Newtonian fluid parameters. This research got lot of scope in the industrial applications.

Keywords: Gravitational flow, non-Newtonian Fluid, Inclined plane, Homotopy analysis method (HAM).

Introduction

The large number of applications have been found in the real life situation specially for different industrial process such as movement of sludge, paint, blood, ketchup (Bingham plastic non-Newtonian fluids); latex, paper pulp, clay solutions (Pseudo plastic non-Newtonian fluids) and quicksand (Dilatant non-Newtonian fluid) this has attracted large number of researchers globally to work on the non-Newtonian fluid flow process using system approach.

The flow and deformation of fluid requires energy. In the process of fluid flow this mechanical energy is dissipated and gets converted into material's internal energy the rise in the internal energy is presented as the increase in temperature. In the case of elastic fluids this rise may be positive or negative but in case of viscous fluid the dissipation is always positive Golbabai, A.; Javidi, A. (2007) e.g. in space bigger planets in huge masses of gas and powerful gravitational fields. A study reported for steady mixed convection flow over a vertical flat plate taking in account the effect of viscous dissipation used the finite difference method for solving the nonlinear differential equations numerically, O. Aydn and A. Kaya.(2007). Considering the effects of viscous dissipation in vertical channel flow for parallel-plate reported the generation of entropy in the mixed convection flow, solved the problem using differential transformation C. Chen, H. Lai, and C. Liu (2011). With the viscous dissipation over a stretching sheet for the top convected Maxwell fluid under the influence of non-uniform heat source was studied and reported by (Alam, M.K., et al. 2013). In third grade fluid for the boundary layer unsteady flow and heat transfer over a permeable stretching sheet was studied and reported by Hajmohammadi, M.R.; Nourazar, S.S. (2014). For the mixed convection unsteady flow on a semi-infinite unsteady stretching sheet is performed by Hajmohammadi, M.R.; Nourazar, S.S.(2014). The decorative, protective

© SGBED 2019

painting and glazing in industry is important and gravity-driven thin film flow phenomenon is used for this process.

The glazing procedure includes the coating of papers of various grades, the audio and video tapes in the form of magnetic storage, protective coating and photo compact discs. The full glazing area should be uniform to warrant the quality of the products. The desired uniformity can be maintained. If any kind of flow trouble decreases quickly. In order to ensure the better quality of the industrial products the study of flow stability is significant and this needs the basic knowledge of the flow process. Having the basic state, the effect of different physical parameters on the velocity profile should be investigated. The number of researchers have studied and reported the thin film flow of Newtonian fluid over the flat and wavy inclined plane. Bontozoglou, V.; Papapolymerou, G.(1997), Kang, F.; Chen, K. P.(1995), Pozrikidis, C.(1988). In most real-life problems may be artificial or natural the non-Newtonian fluid is involved. The simulation modeling of such fluid in general terms involved number of fluids which differs from Newtonian property in several ways. Due to this such phenomena cannot describe by one particular model. Based on the rheological behaviors, many physical models have been developed over past decades. The classification of such non-Newtonian fluid emerged as Sisko fluid, Jojnson-Segalman fluid, 2nd, 3rd and 4th grade fluid, Power law fluid, Ellis fluid and Oldroyd-6 etc. Amaouche, M.A. El-Aziz. (2014), Kheyfets, V.O.; Kieweg, S. L. (2013), (Alam, M.K., et al. 2013).

The non-Newtonian fluids flow are described by complicated non-linear differential equations in the process of thin film flow because of its rheological behavior and does not have the closed general form of solution. In recent past many semi-analytical methods e.g. ADM, Homotopy analysis method (HAM) and Homotopy perturbation method (HPM) are used to get the approximate semi-analytical or analytical solutions to different real-life problems. Hajmohammadi, M.R.; Nourazar, S.S.(2014), Saadatmandi, A.; Dehghan, M.; Eftekhari, A.(2009), Hajmohammadi, M.R.; Nourazar, S.S.(2013), Golbabai, A.; Javidi, A.(2007).

For different physical arrangements, geometries and situations the one-layer thin film flow of non-Newtonian fluid was reported by various researchers but very limited research is available for multilayer thin film flow on non-mixing type non-Newtonian fluids. This type of flow situation is also important for various real-life applications. One such study is reported by Hajmohammadi, M.R.; Nourazar, S.S.(2014) for various situations in velocity field, stability and temperature the study was analytical for power law fluid in a micro cylinder.

In this study the thin film flow of two non-missiscible non-Newtonian power law fluids is carried out the power law fluids such as cement slurry, water born coatings, drilling fluids, lubricating greases. These physical processes are represented with high non-linear equations in terms of index n and the exact solutions cannot be obtained. Here in the present problem the solution is done by HPM analytically.

The analytic method HPM was developed by He JH. (1997), He J H:.(2005), He J H. (2006) and later it was used by several researchers to solve non-linear problems, here for a special case taking n as 2 the exact solution is obtained. Even if the lesser terms of the series is considered still it gives very accurate analytic solution. In this study the analytic solution for power fluid flow is obtained using HPM method for the situation where the plane is inclined at angle ϕ from the horizontal and two-layer thin film flow occurs under gravitational force which are non-miscible. The effect of various parameters on the velocity is also seen and the problem is also solved for a special situation of index value 2 as an exact solution.

© SGBED 2019

Problem under Study

The physical arrangement of the problem is depicted in the Fig. 1 below. In this situation the plane is inclined an angle ϕ from the horizontal axis and two non-mixing type non-Newtonian power law fluids are allowed to flow under gravitational force whose layer thickness are d1 and d2. The horizontal axis is along the direction of flow and the vertical axis is perpendicular to the horizontal axis and the flow plane is very large in the direction. The flow is fully developed, steady, laminar and incompressible.

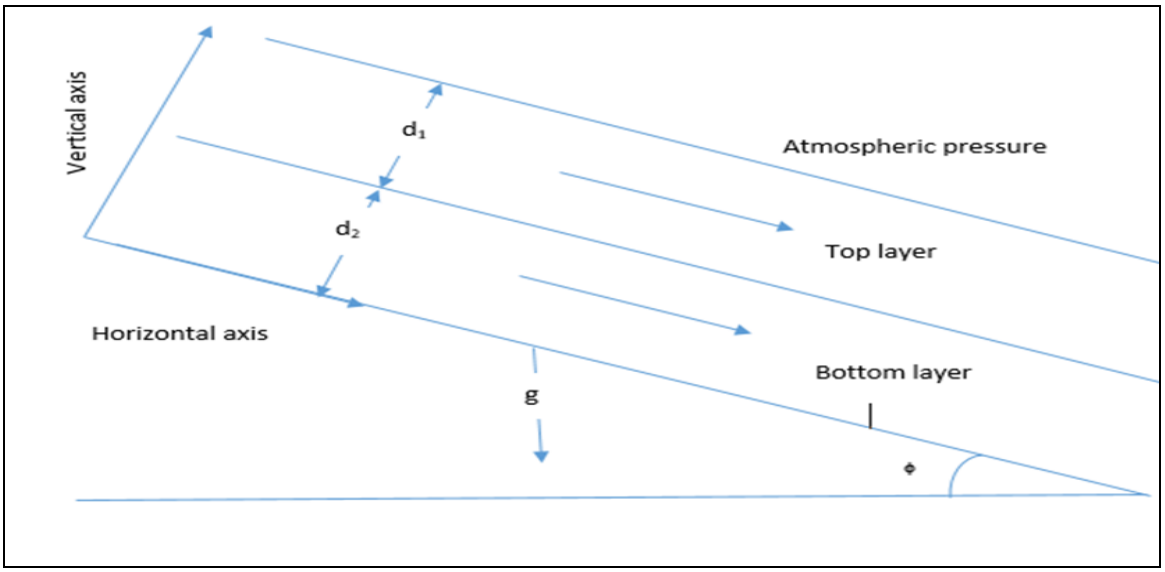


FIG. 2. FLOW OF NON-NEWTONIAN POWERED FLUID UNDER GRAVITY ON INCLINED PLANE

Materials and Methods

The basic governing equations were developed using the concept of mass conservation and momentum and the thermal effect were neglected due to gravity flow. The boundary conditions used for no slip at the plane, continuity of velocity at the interface, continuity on tangential stress at the interface, zero shear stress at the free surface. Then the solution by Homotopy Perturbation Method (HPM) is carried out. Also for n= 2 the exact solution is carried out.

$$u_1 = \frac{0.5}{b_1}\left[-y - \frac{1}{6b_1}\left\{1-4b_1(y-c_1)\right\}^{3/2}\right] + c_2 \tag{1}$$

$$u_2 = \frac{0.5}{b_2}\left[-y - \frac{1}{6b_2\left(\frac{k_1}{k_2}\right)}\left\{1-4b_2\left(\frac{k_1}{k_2}y - c_1\right)\right\}^{3/2}\right] + c_4 \tag{2}$$

$$u_1 = v_1 = v_{10} + v_{11} + v_{12} \tag{3}$$

$$u_2 = v_2 = v_{20} + v_{21} + v_{22} \tag{4}$$

Results and Discussions

In this section, at first, a comparison between the results from the analytical solution and those obtained from the exact solution is made. Then the results from the analytical solution are presented graphically. The property ratios of the two fluids have been varied widely to investigate the effect of such variation on the velocity and the flow rate.

© SGBED 2019

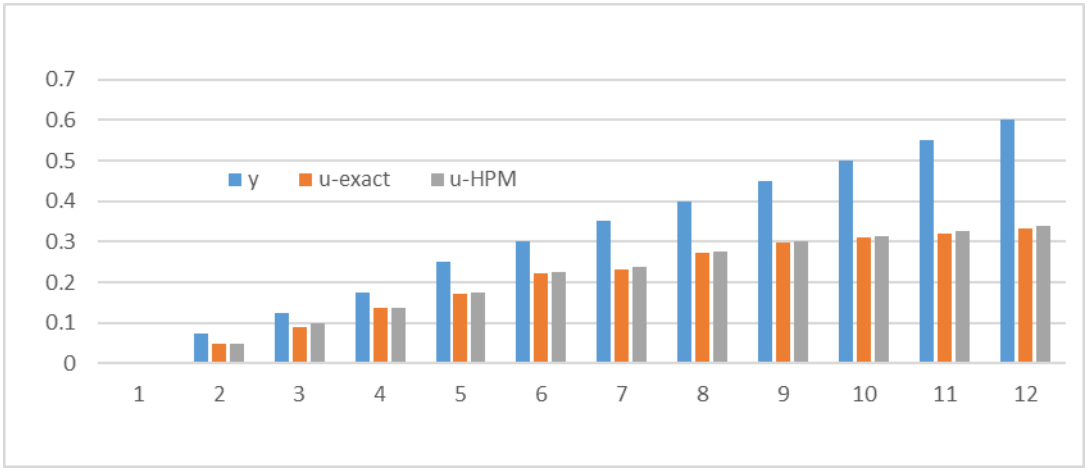


FIG. 2: COMPARISON BETWEEN THE DIMENSIONLESS VELOCITY DISTRIBUTION FROM THE ANALYTICAL RESULTS AND FROM THE EXACT SOLUTION FOR n=2, k_1=0.9, k_2 =2, k_3=3 AND b_1=0.10

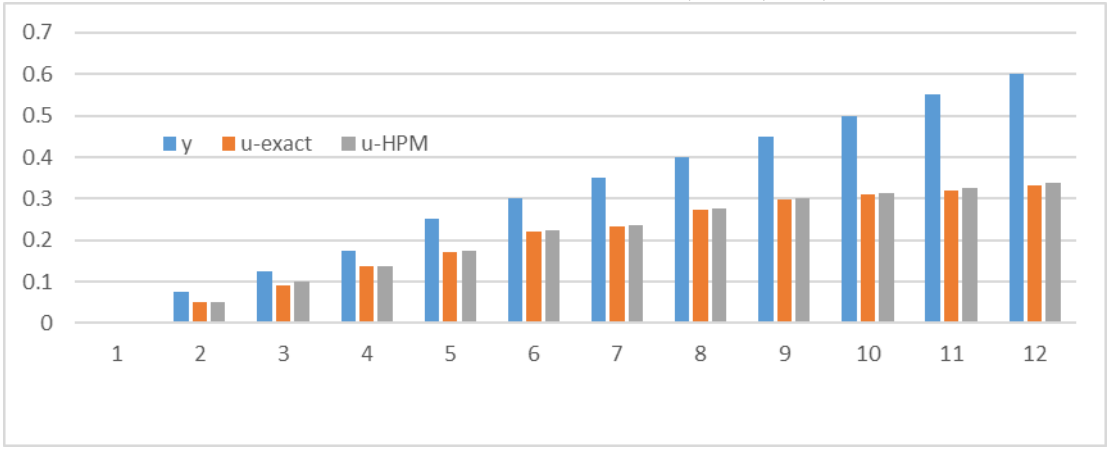


FIG. 3: COMPARISON BETWEEN THE DIMENSIONLESS VELOCITY DISTRIBUTION FROM THE ANALYTICAL RESULTS AND FROM THE EXACT SOLUTION FOR n=2, k_1=0.9, k_2 =2, k_3=3 AND b_1= 0.20

In Fig.2, Fig.3, the non-dimensional velocity distributions from the exact solution Eq. (1) and Eq. (2) for the non-Newtonian index n =2 and from the analytical solution (Eq. (3), Eq. (4)) are compared graphically for two different values of b_1 while keeping other parameters same. It is evident from the figure that the results of the analytical solution are in close agreement with those obtained from the exact solution, which demonstrates the suitability of HPM for

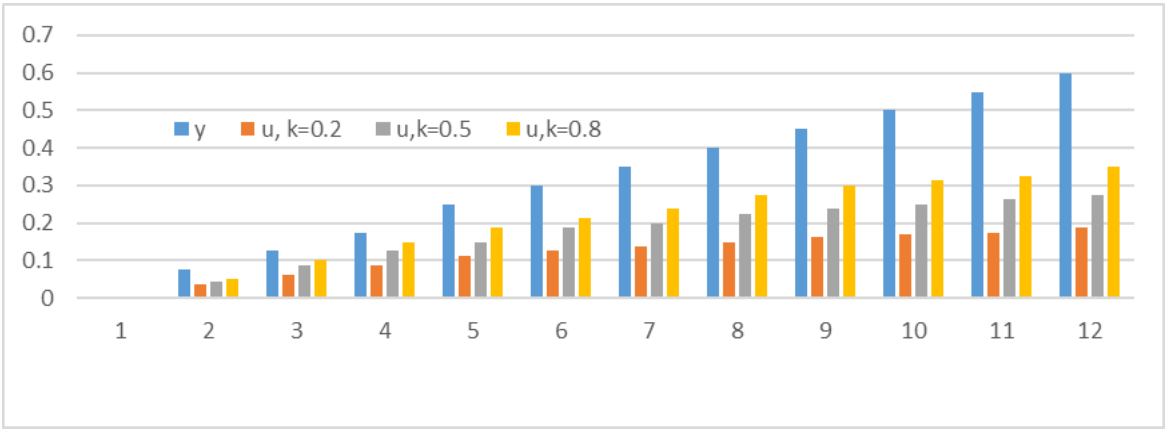


FIG. 4 (a), n=2: VELOCITY DISTRIBUTION FOR k_1=0.2, 0.5, 0.8.

© SGBED 2019

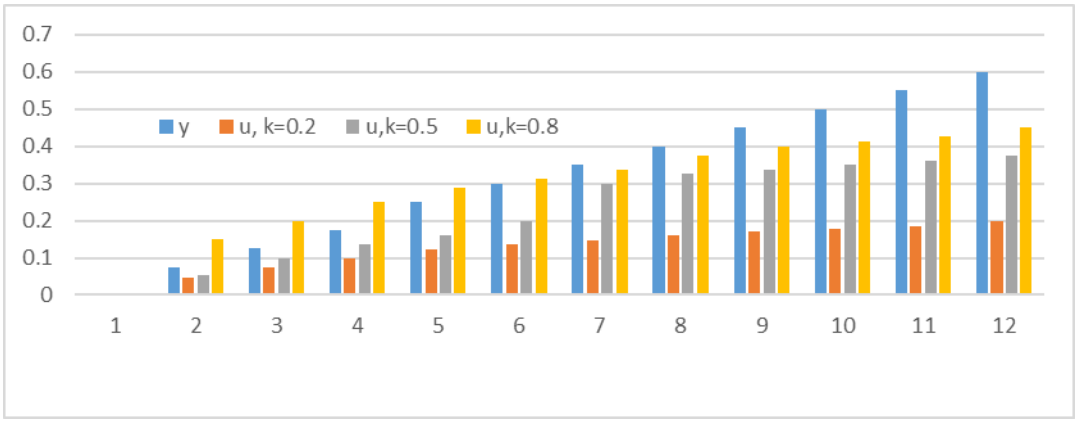


FIG. 4 (b), n=4: VELOCITY DISTRIBUTION FOR k_1=0.2, 0.5, 0.8.

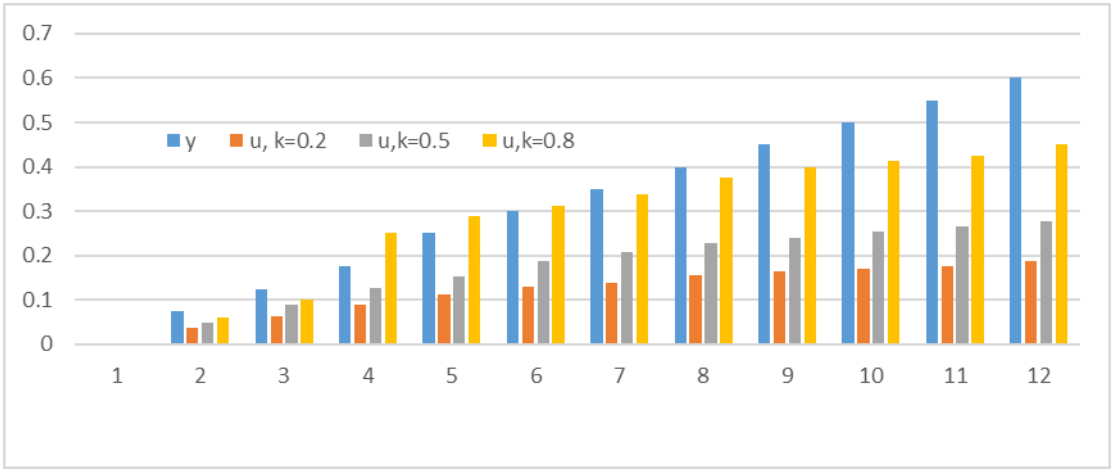


FIG. 4 (c), n=4: VELOCITY DISTRIBUTION FOR k_1=0.2, 0.5, 0.8.

Fig. 4 (a,b,c) presents the dimensionless velocity distributions for different values of the non-Newtonian index n and the density ratio k_1 as a parameter. It is evident from the figure that an increase in the density ratio of the top and bottom layer fluid causes substantial increase in the velocity in the top layer. In the bottom layer, increase in the velocity is less near the plane surface due to the presence of the solid boundary.

Conclusions

The study of the non-Newtonian powered law fluid in general is difficult due to its complicated rheological behavior and is difficult to get the closed solution. Here in the present problem the solution is done by HPM analytically. Even if the lesser terms of the series is considered still it gives very accurate analytic solution. In this study the analytic solution for power fluid flow is obtained using HPM method for the situation where the plane is inclined at angle ϕ from the horizontal and two layer thin film flow occurs under gravitational force which are non-miscible. The effect of various parameters on the velocity is also seen and the problem is also solved for a special situation of index value 2 as an exact solution. The two non-Newtonian power law fluid

used in the study considering the significant change of the property ratio of the two fluids the velocity profile has been examined and important observations drawn are as follows. The velocity profile is highly sensitive for changing the density ratio of the first and second layers of the power fluid. By increasing the power law fluid parameters there is significant reduction in the velocity in both the layers also the reduction velocity is more in the top layer.

References

Alam, M.K.; Rahim, M.T.; Avital, E.J.; Islam, S.; Siddiqui, A.M.; Williams, J.J.R. (2013). Solution of the steady thin film flow of non-Newtonian fluid on vertical cylinder using Adomian Decomposition Method. Journal of the Franklin Institute. 350,818-839.

Amaouche, M.; Djema, A.; Bourdache, L.: A (2000). modified Shkadov's model for thin film flow of a power law fluid over an inclined surface. C. R. Mecanique. 337,48-52.

B. Gebhart 232 (1962). "Effects of viscous dissipation in natural convection," J. Fluid Mech. 14, 225.

Bontozoglou, V.; Papapolymerou, G.(1997). Laminar film down a wavy incline. Int. Journal of Multiphase flow. 23, 69-79.

C. Chen, H. Lai, and C. Liu (2011). "Numerical analysis of entropy generation in mixed convection flow with viscous dissipation effects in vertical channel," Int. Commun. Heat Mass Transf. 38(3), 285-290.

Golbabai, A.; Javidi, A.(2007). Application of Homotopy perturbation method for solving eighth-order boundary value problems, Applied Mathematics and Computation. 191, 334-346.

Hajmohammadi, M.R.; Nourazar, S.S.(2014). On the insertion of a thin gas layer in micro cylindrical Couette flow involving power law liquids. International Journal of Heat and Mass Transfer. 75, 97-108.

Hajmohammadi, M.R.; Nourazar, S.S.(2014). On the solution of characteristic value problems arising in linear stability analysis: semi analytical approach. Applied Mathematics and Computation. 239, 126-132.

Hajmohammadi, M.R.; Nourazar, S.S.(2013). Manesh, A.; Semi analytical treatments of conjugate heat transfer. Proceedings of the Institution of Mechanical Engineering Science.

He J H. (2006). Homotopy perturbation method for solving boundary value problems, Phys. Lett. A, Vol. 350 ,87-88.

He J H:.(2005) Application of Homotopy perturbation method to nonlinear wave equations, Chaos, Solitons and Fractals, Vol.26, 695-700.

He JH.(1997). A new approach to nonlinear partial differential equations. Commun. Nonlinear Sci. Num. Simul, 2,230-235.

Kang, F.; Chen, K. P.(1995), Gravity-driven two layer flow down a slightly wavy periodic incline at low Reynolds number. Int. Journal of multiphase flow. 21, 501-513.

Kheyfets, V.O.; Kieweg, S.L.(2013)Gravity-driven thin film flow of an Ellis fluid. Journal of Non-Newtonian Fluid Mechanics .202, 88-98.

M.A. El-Aziz. (2014), "Unsteady mixed convection heat transfer along a vertical stretching surface with variable viscosity and viscous dissipation," J. Egyptian Math. Society 22(3), 529-537.

M.S. Abel, J.V. Tawade, and A.H. Agadi. (2012). "An analysis for non-uniform heat source for the Maxwell fluids over a stretching sheet in presence of viscous dissipation," Int. J. Adv. Comput. Math. Sci. 3(4), 471-481.

O. Aydn and A. Kaya.(2007). "Mixed convection of a viscous dissipating fluid about a vertical flat plate," Appl. Math. Modell 31(5), 843-853.

Pozrikidis, C.(1988).The flow of a liquid film along a periodic wall. Journal of fluid Mechanics. 188, 275-300.

Saadatmandi, A.; Dehghan, M.; Eftekhari, A.(2009). Application of He's Homotopy perturbation method for non-linear system of second-order boundary value problems, Nonlinear Analysis: Real World Applications .10, 1912-1922.

T. Hayat, A. Shafiq, and A. Alsaedi. (2014). "Effect of joule heating and thermal radiation in flow of third grade fluid over radiative surface," PLoS ONE 9(1), e83153, doi:10.1371/journal.pone.0083153.

© SGBED 2019

Appendix-I

Assumptions:

The flow is assumed to be steady, laminar, incompressible and fully developed. The pressure acting on the top layer is atmospheric.

Boundary conditions:

$\hat{u}_1(0) = 0$ (No slip at the plane)

$\hat{u}_1(h_1) = \hat{u}_2(h_1)$ (Continuity of velocity at the interface)

$\hat{\tau}_1(h_1) = \hat{\tau}_2(h_1)$ (Continuity of tangential stress at the interface)

$\frac{d\hat{u}_2(h)}{d\hat{y}} = 0$ (Zero shear at the free surface)

Non- dimensional boundary conditions are,

$u_1(0) = 0$

$u_1(r) = u_2(r)$, where $r = \frac{h_1}{h_1 + h_2}$

In the dimensionless form, reduces to the following form:

$$\frac{du_1}{dy} + b_1\left(\frac{du_1}{dy}\right)^n = k_2\frac{du_2}{dy} + k_3 b_1\left(\frac{du_2}{dy}\right)^n$$

where, $k_3 = \frac{\hat{b}_2}{\hat{b}_1}$, in the dimensionless form, gives $\frac{du_2(1)}{dy} = 0$

Appendix II: The Table-1 to 4 gives the model results

TABLE-1: COMPARISON BETWEEN THE DIMENSIONLESS VELOCITY DISTRIBUTION FROM THE ANALYTICAL RESULTS AND FROM THE EXACT SOLUTION FOR n=2, k_1=0.9, k_2 =2, k_3=3 AND b_1=0.10

S.No	I (b1 = 0.10)		I (b1 = 0.10)	
	Exact Sol.	Exact Sol.	HPM Sol.	HPM Sol.
	y	u	y	u
1	0	0	0	0
2	0.0750	0.0500	0.0750	0.0500
3	0.1250	0.9900	0.1250	0.1000
4	0.1750	0.1365	0.1750	0.1375
5	0.2500	0.1725	0.2500	0.1750
6	0.3000	0.2225	0.3000	0.2250
7	0.3500	0.2335	0.3500	0.2375
8	0.4000	0.2725	0.4000	0.2750
9	0.4500	0.2975	0.4500	0.3000
10	0.5000	0.3100	0.5000	0.3125
11	0.5500	0.3215	0.5500	0.3250
12	0.6000	0.3325	0.6000	0.3375

© SGBED 2019

TABLE-2: THE DIMENSIONLESS VELOCITY DISTRIBUTION FROM THE ANALYTICAL SOLUTION FOR n=2, k_1=0.2, k_1 =0.5, k_1=0.8

S.No	(a) (n=2,$k_{1=}$0.2)		(a) (n=2,$k_{1=}$0.5)		(a) (n=2,$k_{1=}$0.8)	
	y	u	y	u	y	u
1	0	0	0	0	0	0
2	0.0750	0.0375	0.0750	0.045	0.0750	0.5000
3	0.1250	0.0625	0.1250	0.0875	0.1250	0.1000
4	0.1750	0.0875	0.1750	0.1250	0.1750	0.1500
5	0.2500	0.1125	0.2500	0.1500	0.2500	0.1875
6	0.3000	0.1275	0.3000	0.1875	0.3000	0.2125
7	0.3500	0.1375	0.3500	0.2000	0.3500	0.2375
8	0.4000	0.150	0.4000	0.2250	0.4000	0.2750
9	0.4500	0.1625	0.4500	0.2375	0.4500	0.3000
10	0.5000	0.1688	0.5000	0.2500	0.5000	0.3125
11	0.5500	0.1750	0.5500	0.2625	0.5500	0.3250
12	0.6000	0.1875	0.6000	0.2750	0.6000	0.3500

TABLE-3: THE DIMENSIONLESS VELOCITY DISTRIBUTION FROM THE ANALYTICAL SOLUTION FOR n=3, k_1=0.2, k_1 =0.5, k_1=0.8

S.No	(b) (n=3,$k_{1=}$0.2)		(b) (n=3,$k_{1=}$0.5)		(b) (n=3,$k_{1=}$0.8)	
	y	u	y	u	y	u
1	0	0	0	0	0	0
2	0.0750	0.0385	0.0750	0.048	0.0750	0.6000
3	0.1250	0.0635	0.1250	0.0895	0.1250	0.2000
4	0.1750	0.0885	0.1750	0.1270	0.1750	0.3500
5	0.2500	0.1135	0.2500	0.1530	0.2500	0.2875
6	0.3000	0.1285	0.3000	0.1885	0.3000	0.3125
7	0.3500	0.1385	0.3500	0.2080	0.3500	0.3375
8	0.4000	0.155	0.4000	0.2270	0.4000	0.3750
9	0.4500	0.1635	0.4500	0.2385	0.4500	0.4000
10	0.5000	0.1698	0.5000	0.2550	0.5000	0.4125
11	0.5500	0.1760	0.5500	0.2645	0.5500	0.4250
12	0.6000	0.1885	0.6000	0.2770	0.6000	0.4500

© SGBED 2019

TABLE-4: THE DIMENSIONLESS VELOCITY DISTRIBUTION FROM THE ANALYTICAL SOLUTION FOR n=4, k_1=0.2, k_1 =0.5, k_1=0.8

S.No	(c) (n=4,k_1=0.2)		(c) (n=4,k_1=0.5)		(c) (n=4,k_1=0.8)	
	y	u	y	u	y	u
1	0	0	0	0	0	0
2	0.0750	0.0475	0.0750	0.055	0.0750	0.6000
3	0.1250	0.0725	0.1250	0.0975	0.1250	0.2000
4	0.1750	0.0975	0.1750	0.1350	0.1750	0.2500
5	0.2500	0.1225	0.2500	0.1600	0.2500	0.2875
6	0.3000	0.1375	0.3000	0.1975	0.3000	0.3125
7	0.3500	0.1475	0.3500	0.3000	0.3500	0.3375
8	0.4000	0.160	0.4000	0.3250	0.4000	0.3750
9	0.4500	0.1725	0.4500	0.3375	0.4500	0.4000
10	0.5000	0.1788	0.5000	0.3500	0.5000	0.4125
11	0.5500	0.1850	0.5500	0.3625	0.5500	0.4250
12	0.6000	0.1975	0.6000	0.3750	0.6000	0.4500

© SGBED 2019

DXB094

EMERGING ECONOMIES AND NON- COMMUNICABLE DISEASES: AN INTEGRATION OF MICRO AND MACRO LEVEL APPROACHES BETWEEN HEALTH AND ECONOMIC DEVELOPMENT

Wilson Gachiri, Wilson.gachiri@skylineuniversity.ac.ae
Skyline University College, Sharjah, United Arab Emirates

ABSTRACT

This paper attempts to elaborate the relationship between Health and Economic development in emerging economies. Transport is a key ingredient for economic development while health is an important building block for economic growth. At the center of the increase in NCD is obesity, poor diets, tobacco use and lack of physical activities. Lack or insufficient physical activity is a leading risk factor for global morbidity and mortality. A cross section discussion of transport and health in India, China and Kenya show an increase in motor cycle sales and use that has also led to increases in obesity related diseases with corresponding rise in related costs of the non-communicable diseases. India will provide a case study that examines the association between non communicable diseases with transport and health expenditures. India has the largest sales of motor cycles in the world overtaking China. Study methodology includes a series of regression analysis to determine association, between coronary heart diseases, obesity and motor cycles; where physical inactivity is a mediating variable. A second equation will be an assessment of the correlation and between coronary diseases and out of pocket payments. Data was sourced from the World Health Organization, World Bank and statistical abstracts reports for the period between 2001 and 2015. ANOVA results from a multiple linear regression analysis indicates significant impact of motorcycle sales and obesity with cardio vascular diseases with t value indicating significance at 1%. Coronary heart disease also had a high correlation (86%) with out-of- pocket payments thereby reducing household incomes and a resultant increase in poverty levels.

The study recommends that in addition to healthy diets, reduced alcohol and tobacco use; an integration of NMT with other modes of transport in the overall urban and rural planning. Motor cycles and other NMT should have a terminus to encourage walking in the first and last mile of regular commute. Physical activities in form of walking will hopefully promote healthy lifestyles and improved socio-economic well-being of the population.

Keywords: Motorcycles, physical inactivity, obesity, coronary heart diseases, out-of-pocket payments

Introduction

Emerging economies refers to nations that are progressing towards becoming more economically advanced for example China, India (middle income) and relatively low-income country like Kenya. Illness is the number one poverty generator in these economies. In 2016, an estimated 41 million deaths occurred due to non- communicable diseases (NCDs), accounting for 71% of the overall total of 57 million deaths (WHO, 2018). The four main NCDs and mental health conditions unaddressed could cost the world $47 trillion in output between 2011 and 2030 (Bloom et al., 2011).

© SGBED 2019

NCD's account for 63% of the annual global death toll and for untold morbidity and disability: NCD's have become the dominant public health challenge of the 21st century (World Health Organization [WHO], 2011b). The rapid rise in NCDs is predicted to impede poverty reduction initiatives in low-income countries, particularly by increasing household costs associated with health care. The exorbitant costs of NCDs, including often lengthy and expensive treatment and loss of breadwinners, force millions of people into poverty annually and stifle economic development in many emerging economies. In addition, treating NCDs and mental health conditions may require an ever-growing share of resources, increasing demand on the health system and thus reducing government's ability to target other development goals, such as poverty reduction or improvements in education (Ryan and Wilden, 2011).

Empirical research has established a strong relationship between economic growth and health (Bloom et al. 2010). Ill health affects economic growth in several ways, among them include increased expenditures on the part of the health system of individuals and households, increased rates of early retirement, and reduced productivity. According to the World Health report (2016) Non-communicable diseases have potentially serious socioeconomic consequences that result to increasing individual and household impoverishment, hindering social and economic development.

NCD's requires life-long usage of expensive drugs (Murray and Lopez, 1996) and skyrockets when patient seeks advanced treatment abroad. In terms of productivity NCDs pushes poor households deeper into poverty with the situation aggravated when the illness results in the death of a productive member of a family. Mahel etal (2005) in a study in India observed that households have to pay for care and treatment costs even if the patient dies while undergoing treatment. The lost income reduces a household's purchasing power for other goods and services catalyzing poverty (Abegunde et al, 2007). Ghaffar et al, (2004) shows those households in lower income levels have little or nothing to spend on healthcare and risk sliding deeper into poverty when exposed to NCD's.

Basset et al (2008) among other studies show that transport-related physical activity is a protective factor for chronic diseases, stress and obesity. India and China lead in the motorization momentum where 17.7 million two-wheelers were sold in India in 2017 and 16.8 million in China respectively according to Society of Indian Automobile Manufacturers (Siam) as well as data from China Association of Automobile Manufacturers reports (SIAM, 2018). Increase in use of motorcycles is associated with decreased physical inactivity and an increase in non-communicable diseases. In addition, most of the population suffering from the non- chronic diseases for example heart diseases are not insured. Most of India's estimated 1.2 billion people have to pay for medical treatment out of their own pockets (India Chamber of Commerce, 2009) resulting to diversion of money would otherwise have been spent on items such as food and clothing. It is argued that the out-of- pocket payments (OOP) interrupt households' material living standards and inflate poverty levels.

© SGBED 2019

Study Design and Methodology

The simple regression was applied using Y, dependent variable; intercept *a*, and the X1, and X2 independent variables respectively. In the first regression Coronary Heart diseases was the Y while Obesity levels and Non-motorized transport were the independent variables. ,

$Y = a+b_1x_1+ b_2x_2$

Where,

Y are the cardio vascular diseases to include coronary heart diseases

a is the y intercept and b is the slope or beta coefficient

X_1 are the number of motorcycle sales

X_2 are the obesity levels or BMI indices

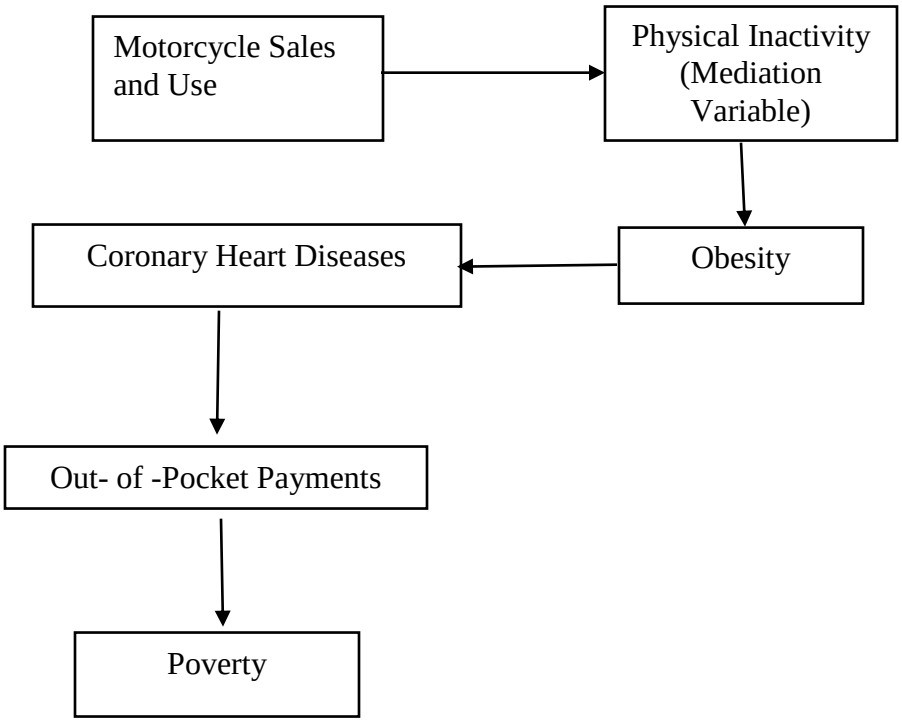
In the second regression analysis out of pocket payments was the Y depended variable while coronary heart diseases was the independent variable.

$Y = a+b_1x_1$

The coefficient of each variable, t-statistics and the R^2 would indicate over all result and the significance of each variable. The time-series data for the years 2001 to 2015 were used in the model. The data was obtained from Statistical Abstract of India.

Operational Model

Figure 1



© SGBED 2019

In the model Motorcycle sales and use lead to a decrease in physical activity that result in obesity and overweight. Obesity inevitably lead to coronary heart diseases and a resultant out- of-pocket payment. The out of pocket payments especially for the uninsured result to poverty.

Non-Motorized Systems of Transport (NMT)

Non-Motorized Transportation (NMT) includes all forms of travel that do not rely on an engine or motor for movement. This includes walking and bicycle, and using small-wheeled transport (skates, skateboards, push scooters and hand carts). The importance of non-motorized transport can be summarized as follows: they provide door-to-door transport; Non-motorized infrastructure usually has a very high spatial penetration; Non-motorized do not lead to waiting, times compared with waiting at public transport stops; Non-motorized have a favorable environmental performance; they are cheap transport modes; Non-motorized are essential elements in multimodal transport chains; Non-motorized are healthy activities.

In Kenya, the motorcycle taxis started with the bicycle transportation known as 'boda bodas' that crossed the borders of Uganda and Kenya. With time and need for faster transportation of goods, the bodabodas started to be slowly replaced by motorcycles that has since tripled in sales surpassing the import rate of vehicles. The number of imported motorcycle in Kenya between 2007 and 2014 has risen from 16,000 to 500,000 units according to TechSci Research report (2017) with India and China leading in the sales of the motor cycles to Kenya. D. Omondi in East African Standard (2018) further reports that there are least 600,000 motorcycles into the Kenyan market every year, creating 500,000 direct jobs and supporting a further four million Kenyans indirectly, generating $3.8 million in income daily.

Table 1

Two-wheeler sales 2011-2017

	India	**China**
2010/11	11,768,910	27,510,007
2011/12	13,409,150	26,920,004
2012/13	13,797,185	23,500,003
2013/14	14,806,778	23,040,008
2014/15	15,975,561	21,290,015
2015/16	16,455,851	18,820,010
2016/17	**17,589,511**	**16,800,008**
Total	**103,802,946**	**157,880,055**

Source: Statista

India sold 17.7 million two-wheelers in 2016, against China's sales of 16.8 million two-wheelers. Table 2 shows that in the period between 2010 and 2016 China has sold close to 158 million motorcycles domestically while India has had 104 million motorcycles sales (SIAM, 2018).

Transport, Physical Activity and Obesity

The relationship between transport and physical activity has been particularly well documented. Research has shown that transport infrastructure can have an effect on physical activity because

© SGBED 2019

transport systems can provide an incentive to use multimodal means of transport thus leading to an increase or decrease in the level of physical activity. Evidence also shows that car use and car dependence is a risk factor for obesity because excess driving leads to an imbalance between energy consumption and energy expenditure Pendoro R, Gen S. (2007). Due to worst law and order situation and day-to-day street crimes in major cities, people avoid walking and cycling in daily life activities. Less time is spent on the leisure-time exercise and the average recommended level of physical activity is not achieved by majority of the people.

Physical activity is recognized as a major risk factor for non-communicable disease (NCD) by the World Health Organization and is being recognized in other international health promotion work and by international agencies (WH0, 2004). Further, in 2009, inactivity was identified as the fourth leading cause of chronic diseases mortality globally and contributes to more than 3 million preventable deaths worldwide (WHO, 2009). Physical activity promotes physical health, improves wellbeing, and prevents many chronic diseases. Obesity is a major contributing factor to a number of chronic diseases, including diabetes, cardiovascular diseases and cancer.

Overweight and obesity are now on the rise in low- and middle-income countries, particularly in urban settings exacerbated by decreasing levels of physical activity and sedentary lifestyles. Obesity and malnutrition often co-exist in impoverished households, and there is accumulating evidence that early or chronic malnutrition predisposes people to developing obesity (Prentice AM, 2006). He.Y, Zhai. F etal (2009) observed that China, a country long not associated with high obesity, has recently seen a dramatic spike in obesity along with an associated increase in hypertension, cancer, and type 2 diabetes.

Case Study: India

India has overtaken China to become the number one two-wheeler market in the world, overtaking China in overall sales for 2016, according to the Society of Indian Automobile Manufacturers (SIAM, 2018). Middle class Indians live more sedentary lives than Americans and average only 4,000 steps a day. In past 10 years, the number of obese people has doubled in the country, according to the National Family Health Survey (2016). The Global Burden of Disease study estimate of age-standardized CVD death rate of 272 per 100 000 population in India is higher than the global average of 235 per 100 000 population according to the Institute of Health Metrics and Evaluation (2014).

Data Results and Analysis

Table 2

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.979[a]	.958	.955	.45929

a. Predictors: (Constant), TWOWHEEL

© SGBED 2019

Table 3

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	63.102	1	63.102	299.138	.000[a]
	Residual	2.742	13	.211		
	Total	65.844	14			

a. Predictors: (Constant), Two Wheel sales

b. Dependent Variable: Obesity

Table 4

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.984[a]	.968	.965	2120397.740

a. Predictors: (Constant), OBESITY

Table 5

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.764E15	1	1.764E15	392.355	.000[a]
	Residual	5.845E13	13	4.496E12		
	Total	1.823E15	14			

a. Predictors: (Constant), Obesity

b. Dependent Variable: Coronary Heart Disease)

Table 6

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.907[a]	.823	.809	11.79323

a. Predictors: (Constant), Coronary Heart Diseases

© SGBED 2019

The adjusted R^2 which indicates the overall goodness of fit of the equation. 0.955 indicates significant impact of this independent variable on the dependent variable, i.e., increase in number of motorcycle would enhance obesity with physical inactivity as mediating variable. Similarly, the results of obesity and coronary heart diseases the adjusted regression coefficient was 0.965 indicating a 96.5% association between obesity and heart diseases. Data analysis for association between coronary heart diseases and out of pocket payments show and adjusted regression coefficient of 0.809 indicating that 80.9% changes in out of pocket payments are explained by changes in coronary heart disease.

Conclusion

Study results indicate that increases in non-motorized systems of transport (motorcycle sales and use) are associated with corresponding increase in heart and coronary diseases resulting to higher mortality and morbidity cases. The burden of Non communicable diseases for example, heart attacks in India is increasing posing and challenge to the overall sustainable economic growth and development.

At the individual level the loss of productive life years due to NCDs for example in India estimated to be one of the highest in the world is resulting to considerable loss of income at household level, where out-of-pocket expenses in case of hospitalization for NCD treatment come from household savings and income and borrowing money from family. According to WHO, an important way to control NCDs is through reducing the associated behavioral risk factors like smoking, alcohol use, unhealthy diets, and physical inactivity WHO (2014).The lack of exercises leads to obesity and overweight, which inevitably results to heart disease and other non-communicable diseases

Even though non-motorized transport (NMT) plays a dominant role as an affordable role mode of transport as source of livelihood in poor countries and emerging economies, contributing to country GDP growth levels, the same countries are recording increases in non-communicable diseases (NCD). This study demonstrates a high correlation between NMT and NCD. It is observed that the increase in motorcycles sales over the years, is inhibiting physical activities – risk factor associated with Non communicable disease for example coronary heart diseases.

In addition to advocating healthy diets, reduction of tobacco and alcohol use; transport policies that streamline use of NMT for example having a central picking and dropping passengers in around the cities and rural areas should be designed and implemented. A centralized motor cycles and rickshaw terminus will not only decongest the Central Business Centers in many cities of the emerging economies, but will also encourage and sensitize people to walk for better health outcomes. The World Health Organization advocates for adults aged 18–64 should do at least 150 minutes' physical activity throughout the week and walking to the terminus will adequate physical activity in reducing the risk of NCDs.

India was used a case study to represent economic and health outcomes in other emerging economies, however the study results are not conclusive. A large primary data set including all the mediating variables, will provide a more detailed and comprehensive analysis in assessment of the relationship between health outcomes and economic development indicators for example transport systems.

© SGBED 2019

References

Adegunde, D, and Stanciole A. (2006). An estimation of economic impact of chronic non communicable diseases in selected countries. World health organization working paper;

Department of chronic diseases and health promotion [http://www.who.int/chp]

Berman P, Ahuja R, Bhandari L. (2010) The Impoverishing Effect of Healthcare Payments in India: New Methodology and Findings. Econ Polit Wkly;XLV: 65–71.

Bassett Jr. DR, Thompson DL, Pucher J, Buehler R, Crouter SE. (2008) Walking, cycling, and obesity rates in Europe, North America and Australia. J Phys Act Health; 5:795-814.

Bloom D.E & Elizabeth Cafiero & Eva Jané-Llopis & Shafika Abrahams-Gessel & Lakshmi Reddy Bloom & Sana Fathima & Andrea B. Feigl & Tom Gaziano & Ali Hamandi & Mona Mowafi & Danny O'Farrell & Emre, (2011) *The global economic burden of non-communicable diseases*. PGDA working papers 8712, Program on the Global Demography of Aging.

Bloom, D. E., Canning, D., & Sevilla, J. (2004). The effect of health on economic growth: a production function approach. *World Development*, 32(1), 1–13.

Blair SN, Brodney S.(1999) Effects of physical inactivity and obesity on morbidity and mortality: current evidence and research issues. Med Sci Sports Exerc 31:S646e62.

Davis A, Cavill N, Rutter H, Crombie H (2005). Making the case: improving health through transport. London: Health Development Agency;

Dominic Omondi in East African Standard (2018) Earnings from boda boda sector surpasses Safaricom's 2017 revenue by Sh7b www.eastandard.ke

Dora C. A different route to health: implications of transport policies. BMJ 1999; 318:1686-9.

Dora C The world health report (2003) – shaping the future. http://www.who.int/whr

Edwards RD (2008). Public transit, obesity, and medical costs: assessing the magnitudes. Prev Med ; 46:14-21.

Federation of Indian Chambers of Commerce and Industry (2009) www.who.int/bulletin/volumes/88/7/10-020710/en

Ghaffar,A, Reddy,S.and Singhi, M.(2004). Burden of non-communicable diseases in South

Asia. *British Medical Journal*, 328:807-10.

Gupta R, Guptha S, Joshi R, Xavier D. Translating evidence into policy for cardiovascular disease control in India. *Health Res Policy Syst.* 2011;9:8.

Indian Council of Medical Research (2018) http://www.icmr.nic.in/

J. Larry Durstine , Benjamin Gordon, Zhengzhen Wang , Xijuan Luo (2013) Review Chronic disease and the link to physical activity Journal of Sport and Health Science 2 3e11

Khan SS, Ning H, Wilkins JT, Allen N, Carnethon M, Berry JD, Sweis RN, Lloyd-Jones DM (2018). JAMA Cardiol.Apr 1;3(4):280-287. doi: 10.1001/jamacardio.2018.0022.

Klautzer L, Becker J, Mattke S. The curse of wealth - Middle Eastern countries need to address the rapidly rising burden of diabetes. Int J Health Policy Manag 2014; 2: 109-114 [PMID: 24757686]

Lopez AD(1993). Assessing the burden of mortality from cardiovascular disease. World Health Stat Q. ;46:91–96.

M. Senbil, j. Zhang, a. Fujiwara(2007) Motorization in asia – 14 countries and three metropolitan areas *IATSS research vol.31 no.1,*

McCarthy M. Transport and health. In: Marmot M, Wilkinson R, (2005). Social determinants of health. Oxford: Oxford University Press; p. 132-54.

Mahal, A., Karan, A., & Engelgau, M. (2009). The economic implications of non-communicable disease for India. In *The International Bank for Reconstruction and Development*. Washington, DC: World Bank

Mahal, A, Sakthivel, S. and Nagpal,S. (2005). National Health Accounts for India In *Health*

Systems in India: Delivery and Financing of Services, National Commission on Macroeconomics and Health, Ministry of Health and Family Welfare, Government of India, New Delhi, pp. 222-228.

Ministry of Health and Family Welfare, Government of India. National Health Accounts Estimates for India (2013–14) 2016.

Moodley, M, and Rambiritch, V. (2007). An assessment of the level of knowledge about

diabetes mellitus among diabetic patients in a primary health care setting. *South African*

Family Practice, 49(10):16-20.

Monda KL, Gordon-Larsen P, Stevens J, Popkin BM. China's transition (2007): the effect of rapid urbanization on adult occupational physical activity. Soc Sci Med; 64: 858-870 [PMID: 17125897 DOI: 10.1016/j.socscimed.2006.10.019]

Murray, C. J. L., et al. (2012). GBD 2010: design, definitions, and metrics. *The Lancet*, 380(9859), 2063–2066.

Murray, C. and Lopez, D. (1996). Global Health Statistics: Global Burden of Disease and Injury

© SGBED 2019

Series. Volumes I and II. Boston: Harvard School of Public Health.
Murray, L, Lopez,D, Christopher, J.., *et al* , (2005). Global Burden of Disease and Risk Factors.
The World Bank and Oxford University Press, New York
Murray CJL, Lopez AD (1994). Global Comparative Assessments in the Health Sector. Geneva, Switzerland: World Health Organization;
NCD Policy brief: India.(2011) The World Bank, South Asia Human Development, Health Nutrition and Population.
Physical Activity Guidelines Advisory Committee (2008). *Physical Activity Guidelines Advisory Committee Report*. Washington, DC: US Department of Health and Human Services; 2008. http://www.health.gov/paguidelines.
Prabhakaran D, Jeemon P, Roy A(2016), Cardiovascular Diseases in India: Current Epidemiology and Future Directions. Circulation. 2016 Apr 19; 133(16):1605-20. 10.1161/CIRCULATIONAHA.114.008729
Prentice AM (2006) The emerging epidemic of obesity in developing countries. [Review] [54 refs]. Journal of Epidemiology.;35(1):93-9.
Puoane, T, Bradley,H, and Hughes, G. (2005). Obesity among South African women. *Human*
Ecology Special, 13:91-5.
Reddy KS.(1993) Cardiovascular disease in India. World Health Stat Q. 46: 101–107.
Rietveld, P. (2001). Biking and Walking: The Position of Non-Motorized Transport Modes in Transport Systems, Tinbergen Institute Discussion Papers 01-111/3, Tinbergen Institute.
Rietveld, P. (2001). Biking and Walking: The Position of Non-Motorized Transport Modes in Transport Systems, Tinbergen Institute Discussion Papers 01-111/3, Tinbergen Institute.
Ryan, D., & Wilden, J. (2011). Modern medical education: meeting the demands of an aging population. In *Global Population Ageing: Peril or Promise?* Geneva: World Economic Forum.
Salomon, J. A., et al. (2012). Healthy life expectancy for 187 countries, 1990–2010(2010): a systematic analysis for the Global Burden Disease Study . *The Lancet*, 380(9859), 2144–2162.
Sallis JF, Frank LD, Saelens BE, Kraft MK (2004). Active transportation and physical activity: opportunities for collaboration on transportation and public health research. Transportation Research. Part A, Policy and Practice ; 38:249-68.
Saltin B, Blomqvist G, Mitchell JH, Johnson Jr RL, Wildenthal K, Chapman CB. Response to exercise after bed rest and after training. Circulation 1968;38(Suppl. 5):11e7.
Shields M, Carroll MD, Ogden CL.(2011) Adult obesity prevalence in Canada and the United States. NCHS Data Brief ;56:1e8.
Sigal RJ, Kenny GP, Wasserman DH, Castaneda-Sceppa C.(2004) Physical activity/exercise and type 2 diabetes. Diabetes Care;27:2518e39.
Small K. Urban transportation policy (2009) Making cities work: prospects and policies for urban America. Princeton: Princeton University Press; 2009. p. 63-93.
SN, Brodney(1999) S. Effects of physical inactivity and obesity on morbidity and mortality: current evidence and research issues. Med Sci Sports Exerc ;31:S646e62.
Sobngwi E, Mbanya JC, Unwin NC, Kengne AP, Fezeu L, Minkoulou EM, Aspray TJ, Alberti KG(2002). Physical activity and its relationship with obesity, hypertension and diabetes in urban and rural Cameroon. Int J Obes Relat Metab Disord ; 26: 1009-1016 [PMID: 12080456]
Society of Indian Automobile Manufacturers (2018) https://timesofindia.indiatimes.com/auto/bikes/india-is-now-worlds-biggest-2-wheeler-market/articleshow/58555735.cms
Sperling, D., Claussen, E. (2004) Motorizing the developing world. "Access" 24: pp.10-15. (2.
Stuckler D. (2008) Population causes and consequences of leading chronic diseases: a comparative analysis of prevailing explanations. Milbank Quarterly , 2008, 86:273–326.
Tawa N, Frantz J, and Waggie F (2011). Risk factors to chronic non communicable disease in
Mombasa, Kenya: Epidemiological study using WHO step wise approach. *African*
journal of health science, 19: 24 – 29
TechSci Research report (2017): Africa Two-Wheeler Market 2011-2021
Tracking Universal Health Coverage: 2018 Global Monitoring Report, Lancet Global Health.
Tremblay MS, Willms JD (2003). Is the Canadian childhood obesity epidemic related to physical inactivity? Int J Obes Relat Metab Disord;27:1100e5.
Trojian TH, Mody K, Chain P. (2007) Exercise and colon cancer: primary and secondary prevention. Curr Sports Med Rep;6:120e4.
Vamadevan AS, Shah BR, Califf RM, Prabhakaran D. Cardiovascular research in India: a perspective. *Am Heart J.* Mar 2011;161(3):431-438.

© SGBED 2019

Van Cleave J, Gortmaker SL, Perrin JM (2010). Dynamics of obesity and chronic health conditions among children and youth. JAMA ;303:623e30.

Van Doorslaer E, O'Donnell O, Rannan-Eliya RP, et al (2006). Effect of payments for health care on poverty estimates in 11 countries in Asia: an analysis of household survey data. *Lancet.* Oct 14 ;368(9544):1357-1364

Warburton DE, Nicol CW, Bredin SS (2006). Health benefits of physical activity: the evidence. CMAJ ;174:801e9.

Whelton PK, Brancati FL, Appel LJ, Klag MJ (1995). The challenge of hypertension and atherosclerotic cardiovascular disease in economically developing countries. High Blood Press.;4:36–45.

World Diabetes Federation Bulletin (2016) Gwendolyn Carleton "African policy makers endorse Call to Action on Diabetes and other NCDs"

World Health Organization (2004). Global strategy on diet, physical activity and health. Geneva, Switzerland: World Health Organization; http://www.who.int/ dietphysicalactivity/en/. Ac

World Health Organization(2005). *Preventing chronic diseases: a vital investment.* Geneva, Switzerland: World Health Organization; http://www.who.int/chp/chronic disease report/en/.

WHO (2010) World health report: health systems financing, the path to universal coverage. World Health Organization, Geneva

World Health Organization(2009). Global health risks: mortality and burden of disease attributable to selected major risks. Geneva, Switzerland: World Health Organization; http://www.who.int/healthinfo/global_burden_disease/en/.

World Economic Forum & World Health Organization. (2011). *From burden to "best buys": reducing the economic impact of non-communicable diseases in low- and middle-income countries*. Geneva: World Economic Forum

World Economic Forum(2011). The Global Economic Burden of Non- Communicable Diseases. Available at: http://www.weforum.org/reports/ global-economic-burden-non-communicable-diseases.

World Health Organization(2012). Media centre: cancer fact sheet. Available at: http://www.who.int/mediacentre/factsheets/fs297/en/; 2012.

World Health Organization(2012). Media Centre: cancer fact sheet. Available at: http://www.who.int/mediacentre/factsheets/fs297/en/; 2012.

World Health Organization (WHO). 2013. "Health economic assessment tool (HEAT) for cycling and walking." Transport-and-health/activities/promotion-of-safe-walking-and-cycling-in-urban-areas/quantifying-thepositive-health-effects-of-cycling-and-walking/health-economic-assessment-tool-heat-for-cycling-and-walking.

World Health Organization (2016) Chronic diseases. Report of WHO expert consultation. Available at: http://www.who.int/topics/chronic_diseases/ en/.

World Health Organization H. Global status report on non-communicable diseases 2014. World Health.;176. ISBN: 978 92 4 156485 4 [Available from http://www.who.int/nmh/publications/ncd-status-report-2014/en/] [Accessed on 4 Aug 2017].

Yach D, McKee M, Lopez A, Novotny T(2005). Improving diet and physical activity: 12 lessons from controlling tobacco smoking. *BMJ*. ;330:898–900.

Yao C, Wu Z, Wu J(1993). The changing pattern of cardiovascular diseases in China. World Health Stat Q. ;46:113–118.

© SGBED 2019

DXB069

TECHNOLOGICAL DISRUPTION- A PARADOX OR CONTINUUM TO HUMAN RESOURCE MANAGEMENT

K. Vinod Kumar, vinodmbasvu@gmail.com,
P. Raghunadha Reddy, sairaghubhanu@gmail.com
Department of Management Studies, S.V University Tirupati, India

ABSTRACT

The Fourth Industrial revolution has made a mark in the way technology is being experienced at work and in everyday life. The breakthroughs have occurred through artificial intelligence (AI), robotics (machine learning), nanotechnology, biotechnology, quantum computing, the block chain, the internet of things (IoT), 3D printing, etc. The first industrial revolution was the shift from human labor to mechanical power through the use of water and steam power. While the second industrial revolution propelled the growth of mass production with the use of electrical power, electronics, information technology, and automated manufacturing led to the third industrial revolution. This paper presents the perceptions of various HR and Non HR professionals on various HR technology related aspects. The focus of the research is primarily on; a) How digitalization and block chain effectively performing main functions of HR, b) How technology is serving as both enabler and disruptor in HR, and c) How organization work culture is influenced due to changes in technology and d) How technology is eventually affecting the manpower needs of the organization.

Keywords: HR Technologies, Disruptions, Fourth Industrial Revolution, Block Chain, Robotics, Artificial Intelligence

Introduction

One fascinating thing we recently came across is that there's a bar in Las Vegas that employs an employee whose CTC is more than $1 million. Now, before your mind goes on a thinking spree that we have another Einstein, we'd like to tell you that we are talking about a robot bartender who can serve up to 120 drinks an hour! It takes approximately 60 to 90 seconds to make a cocktail, uses exact measurements, and ensures a perfectly crafted sip every time. It is also known to have some killer dance moves (Fun intended!). Which means that the job of 2 human bartenders gone! Technology is catching up real fast! We are all familiar with the conundrum that tech poses, but practically speaking, we can never afford to forgo the values or emotions that humans bring to the table. Yes technology has conditioned us, but we strongly opine that in many other ways, we have conditioned technology to our benefit without giving it the autonomy to reign free. While technology is pliant, humans are priceless! Though it is definitely debatable, it becomes a war of words, thoughts, and opinions when it comes to discussing technology, what it is doing today, what it will do tomorrow, the impact of technology on our lives, on the workforce, whether technology will replace humans or not — it will always be a rat race. There's no doubt that the 4IR (4th Industrial Revolution) has transformed many concepts and perceptions that we took for granted. But we believe, the value that humans hold has only augmented, not lessened. We all know what tech can do for us, but what is essential at the moment for us is to understand our own stance when it comes to technology, humans, and the integration of the two.

If five HR people work 12 hours a day (including weekends) and spend five minutes on each application, how many days will it take to go through quarter of a million resumes? About a year, is

© SGBED 2019

the answer! That's the number of applicants Goldman Sachs got two years back. They had no choice but to rely on an Applicant Tracking System (ATS) algorithm that looks for key words and finds a match. Software systems, in some cases, can be so efficient at screening resumes and evaluating personality tests that 72 percent of resumes are weeded out before a human ever sees them. When it comes to candidates getting past the algorithms in companies, what do they do to beat hiring algorithms? They use multiple resumes with multiple keywords. Some innovative ones put keywords in white on the resume that are invisible to the human eye but are read by machines. Machines are great at following rules; humans are ingenious when it comes to breaking rules. While there is no dearth of cases from the exciting world of HR technology, we have picked the following only to illustrate how Digital HR is rewriting the conventional rules of HR service delivery.

Functional Areas in HR where Technology is playing dominant role

Talent Acquisition: This area is probably attracting the largest share of global tech spending on talent. AI subdomains are being used to enable end-to-end automation of the entire TA value chain where machine learning algorithms can run job and candidate matching processes, smart chatbots and/or video-based applications can do candidate assessments, and several other specialized apps can provide an unparalleled pre/onboarding experience to new joiners.

Learning Management: Driven by the need to reskill and continuously develop employees and the ongoing commoditization of content, the new-age learning tools built on AI and machine learning platforms provide curated content, video, and mobile learning solutions to create a "Netflix" like experience with personalized micro-learning courses that are easy to consume and on the go.

Self-service and Employee Experience tools: With the growing shift away from employee engagement to end-to-end employee experience, self-service systems are becoming cognitive, conversational and intelligent. We are quickly moving to a world where employees can have conversations with AI-based tools to process HR policy related and other such routine transactions. These tools with conversational and intelligent interfaces have the potential to handle large volume of transactions and represent the future of employee self-service. The above and several other developments undoubtedly point to a future of HR that is essentially tech-centric with solutions that aim to achieve much higher standards of agility, performance, and productivity for organizations while giving the desired transparency and experiences to the workforce. However, this growing technological overload is also not without its unintended consequences in terms of employees feeling overwhelmed and highly stressed as the pace picks up. Driven by the 'always on' nature of a digitally driven world, research shows that a large part of the workforce today faces high stress that negatively affects their engagement and overall productivity, health and emotional/ mental well-being. Data on the increasing working hours and a drop in vacation hours clearly supports this trend. As HR leaders with the responsibility of digital transformations of businesses, they need to ask themselves if it is time to put the 'human' back in HR.

Carrier Planning

In the 21st century, however the notion of career and career paths is undergoing a sea change primarily due to social, technological and economic factors. This is also evident in the recently published Deloitte Global Human capital Trends survey which clearly identifies "building 21st century career" as third most important trend with almost 50 percent of respondents describing it as very important, however only about 10 percent felt they were very ready to address this particular trend, demonstrating how urgent and important is this challenge.

© SGBED 2019

Organizational Culture

In this era of disruptions, a culture which has successfully embraced technology for its employees' betterment is more likely to keep its employees engaged and productive. Integrating technology with organizational culture can reap benefits in the following areas:

1. **Improving Collaborative Working**: In the coming years, a large part of the workforce will work virtually and will push organizations to adopt necessary technologies to streamline it. Trends like 'Telecommuting' is already a rage which is shown to reduce work-related stress, increase employees' morale and improve their attendance. Organizations are utilizing some technical tools to encourage workers to work virtually and more collaboratively, for an instance, tools related to file-sharing, mass storage, project management and shared whiteboards and forums are organizing tasks better and allowing employees to chat in between tasks.
2. **Open Communication:** An open and healthy communication within the organization makes any culture more transparent and inclusive. Important messages (e.g. merger-related announcements, layoffs, hikes, bonuses, restructuring etc.) when delivered succinctly and on time make employees more reassured and confident about the organization. With today's technologies, it's easy to use social media and collaboration tools to keep up-to-date on projects and other critical information instantaneously.
3. **Facilitating learning through Gamification:** A culture which encourages learning through a variety of modalities (e.g. classroom, on-the-job, mobile learning, e-learning etc) result in more engaged and motivated workforce. Integrating gamification with training has shown to improve employee participation rates in e-learning courses. Gamification also makes the entire experience more fun and compelling.
4. **Fostering peer to peer recognition:** Lack of recognition has been cited as one of the foremost reasons for employees' unhappiness at work while culture which acknowledges good work and rewards the same ensures more engaged workforce. Now there are smart tools available which encourage peer to peer recognition on a regular basis to boost employee morale and teamwork.

Performance Management

This is the most painful and difficult process to manage without a system in place. To think of sending physical paper forms, collecting back the filled up form from employees, to complete the review process and share the outcomes, is pretty much a cumbersome process indeed. It used to be a one big project which every HR person would be involved and would like to get out, as some or the other employees would always be unhappy inspite of efficient handling of the process. The reason being employees need facts and data to be shared as feedback; they like to know the basis of decision on various career options provided etc. It is difficult for HR or the reporting manager to support every discussion with data without a system. Today organisations are taking about doing away with the current process of performance management system and move towards providing compensation based on skill requirement, skill supply and demand, based on achievement of performance measure.

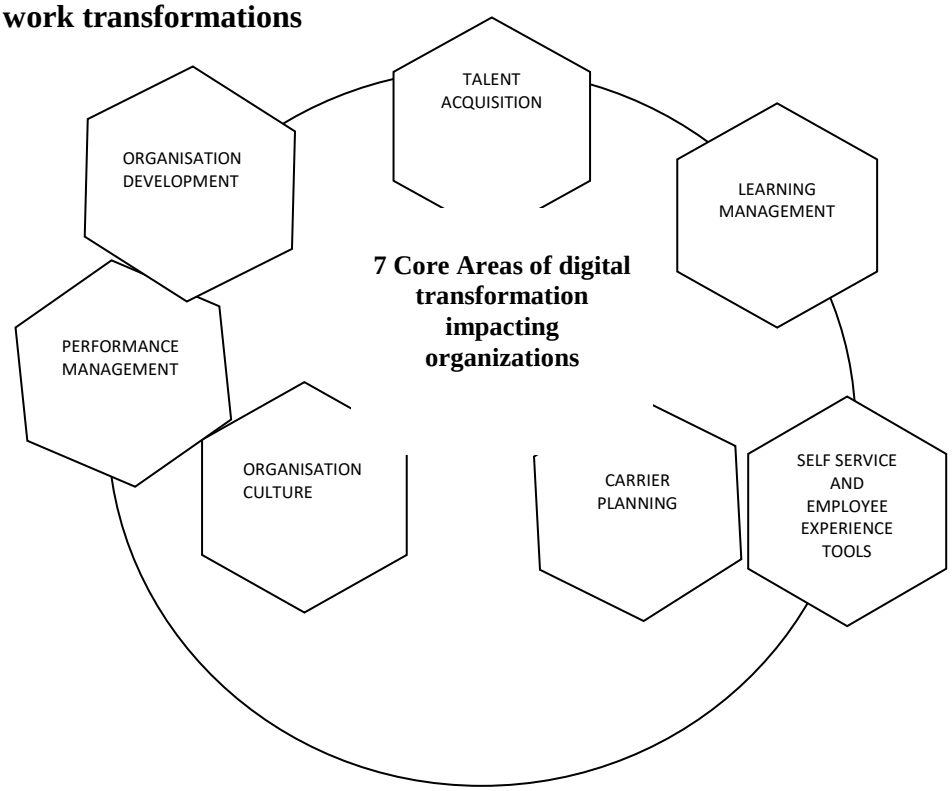
To achieve this, organisation need to have a system to crowd source feedback from various stakeholders like customers, finance department, team members etc. This takes away the burden from HR to get the feedback and normalise before sharing it with employees.

Organisational Development

© SGBED 2019

The technical and social systems which make up any organization are interrelated. The dictates of technology can make working relationships and work environments in any one organization significantly different from other organizations, and especially so when technological change occurs. Success of the organization thus depends upon the "goodness of fit" between the technical and social systems of the organization, and upon its ability to adapt when changes in technology is likely to cause a big impact on the organization.

Digital-led work transformations



Statement of Research problem

The most important of all the issues is how agile are the people in the organizations to get along with the changing technologies in the field of HR. Right from recruitment to separation of an employee the entire processes are technology driven and have changed drastically. People today are looking for a life full of different career options and hence engaging them with their current job assumes significance. In essence the engagement levels have changed a lot from annual to hourly feedback and secondly AI has taken a major share in today's workplace and is replacing humans in certain areas. However the major challenges faced by the organizations are; how are the manpower needs impacted due to changes in technology, how effectively is the block chain technology is facilitating the key functions of HR, will technology be enabler or disrupter in HR, and how will the work culture be impacted due to it.

Need and significance of the study:

The study aims at suggesting the ways organizations need to upgrade and be prepared for the technological changes that are going to impact their performance. The findings from this study may help the organizations to improve the competencies of the employees to cope up with these changes and designing the work culture due to changes in the nature of work.

© SGBED 2019

Objectives of the study

The study has been formulated based on the following objectives

1. To figure out the impact of digitalization on the manpower needs
2. To know how effectively the Block Chain technology is facilitating the key functions of HR
3. To ascertain the perceptions on technology as an enabler or a disruptor in HR.
4. To assess the impact of technological changes on organizational work culture

Hypothesis

The following hypotheses were framed based on the review of literature and the results of the pilot study that was conducted to have a clear comprehension on the ground reality.

H1- There is no significant relationship between digitalization of work place and changes in Manpower needs.
H2- There is no significant relationship between implementing of blocks chain technology and increase in the effectiveness of key HR functions
H3- There is no significant relationship between change in technology and its impact on work culture

Research Methodology:

Research Design: This research will follow Descriptive Study. These are formalized studies which are typically structured with clearly stated hypothesis or investigative questions.
Data sources: The research study has employed both primary and secondary data for the study. The data required for this study was collected with the help of a structured questionnaire, designed to elicit required information and data on the subject based on the objectives of the research study using convenient sampling method. The secondary data was collected from relevant sources.
Sample: 50 HR and 50 Non HR professionals.
Analysis: The collected data has been analyzed with chi square analysis. The rating scale is broadly divided into Agree, Neutral and Disagree.
Limitations: As with any research study, this study too suffers from a few limitations. A diversified group of respondents were picked for the study that includes both HR and Non HR professionals and there are issues about the authenticity of the responses. Non – Probability sampling method was adopted and also the various HR functions that are affected by digitalization are not fully covered.

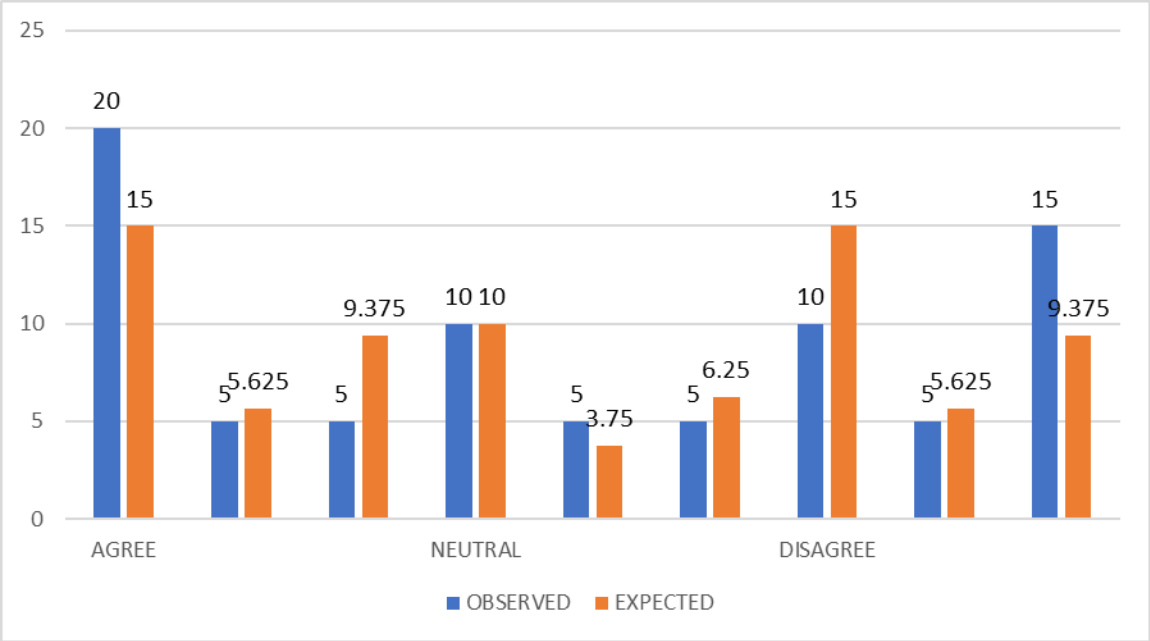
Analysis of results and hypothesis related discussion:

H1 :There is no significant relationship between digitalization of workplace and changes in manpower needs
Degrees of freedom :– (row-1) (column-1)
= (3-1)(3-1)
$=4^0$ of freedom
Chi-square at 95% level of significance and 4^0 of freedom = 9.488

© SGBED 2019

	AGREE	*NEUTRAL*	*DISAGREE*	*ROW TOTAL*
AGREE	20	5	5	30
NEUTRAL	10	5	5	20
DISAGREE	10	5	15	30
COLUMN TOTAL	40	15	25	80

PARTICULARS	OBSERVED	EXPECTED	(O-E)2/E
	20	15	5
AGREE	5	5.625	0.06
	5	9.375	2.041
	10	10	0
NEUTRAL	5	3.75	0.41
	5	6.25	0.25
	10	15	1.67
DISAGREE	5	5.625	0.069
	15	9.375	3.375
	TOTAL		12.875



© SGBED 2019

Interpretation: The calculated value(12.875) is greater than the table value (9.488) , so the null hypothesis is rejected. Hence it can be inferred that there is significant relationship between digitalization of workplace and changes in manpower needs

H-2: There is no significant relationship between implementing of blocks chain technology and increase in the effectiveness of key HR functions.

Degrees of freedom: (row-1) (column-1)

= (3-1)(3-1)

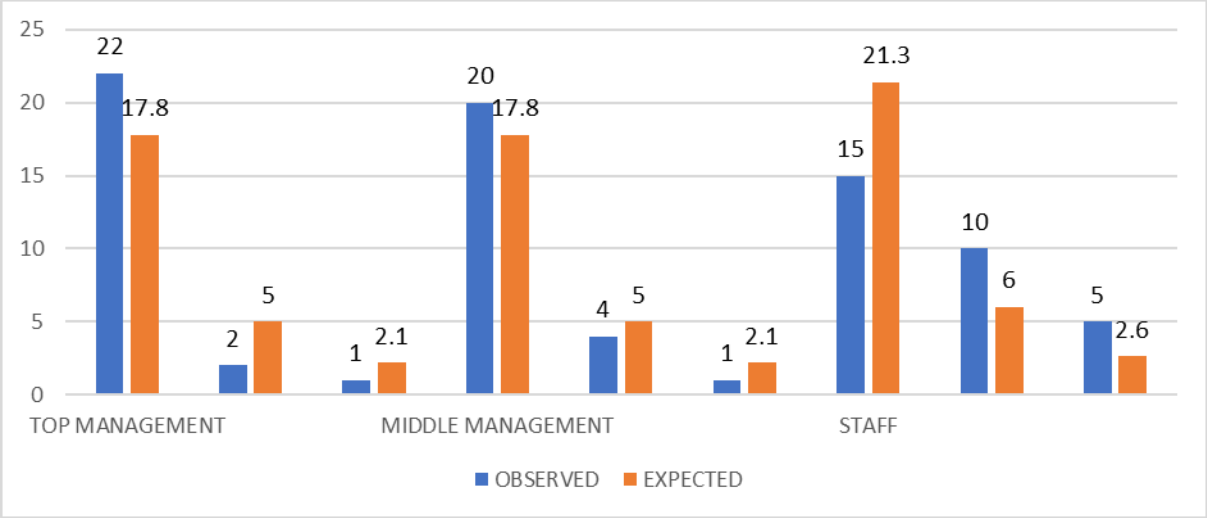
$=4^0$ of freedom

Chi-square at 95% level of significance and 4^0 of freedom = 9.488

PARTICULARS	*AGREE*	*NEUTRAL*	*DISAGREE*	*ROW TOTAL*
TOP MANAGEMENT	22	2	1	25
MIDDLE MANAGEMENT	20	4	1	25
STAFF	15	10	5	30
COLUMN TOTAL	57	16	7	80

	OBSERVED	EXPECTED	(O-E)2/E
TOP MANAGEMENT	22	17.8	0.99
	2	5	1.8
	1	2.187	0.63
MIDDLE MANAGEMENT	20	17.8	0.271
	4	5	0.2
	1	2.187	0.55
STAFF	15	21.375	1.85
	10	6	2.67
	5	2.625	2.14
TOTAL			10.86

© SGBED 2019



Interpretation:-The calculated value (10.86) is less than the table value (9.488), so the null hypothesis is rejected. Hence it can be inferred that there is significant relationship between implementing of blocks chain technology and increase in the effectiveness of key HR functions.

H3: There is no significant relationship between change in technology and its impact on work culture.

Degrees of freedom: (row-1) (column-1)

= (2-1)(3-1)

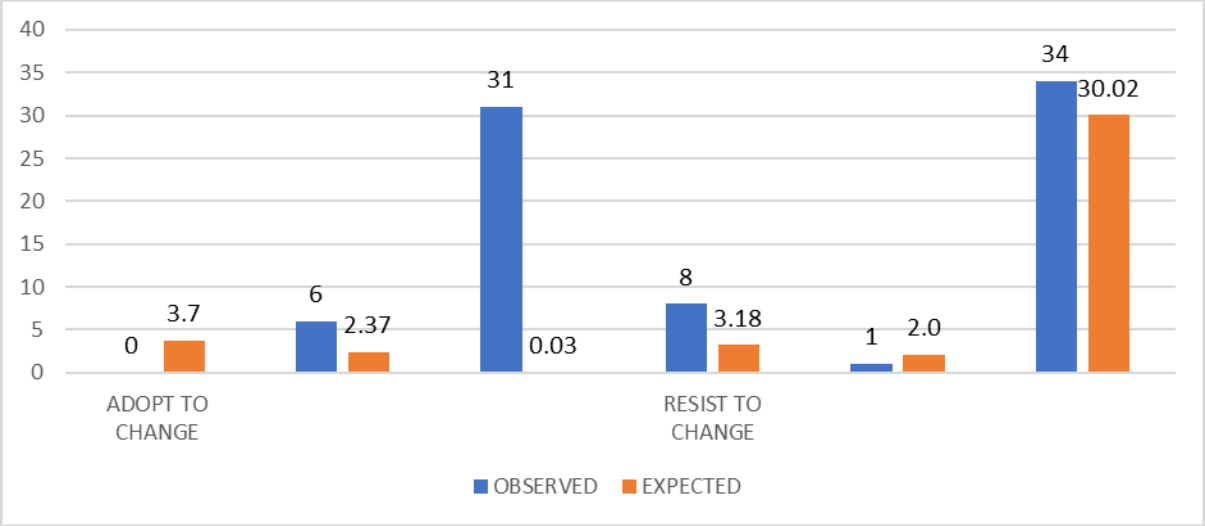
$=2^0$ of freedom

Chi-square at 95% level of significance and 2^0 of freedom = 5.99

	AGREE	***NEUTRAL***	***DISAGREE***	***ROW TOTAL***
ADOPT TO CHANGE	0	6	31	37
RESISIT TO CHANGE	8	1	34	43
COLUMN TOTAL	8	7	65	80

PARTICULARS	OBSERVED	EXPECTED	(O-E)2/E
ADOPT TO CHANGE	0	3.7	3.7
	6	3.23	2.37
	31	30.06	0.03
RESIST TO CHANGE	8	4.3	3.18
	1	3.76	2.025
	34	34.93	30.02
TOTAL			11.325

© SGBED 2019



Interpretation:- The calculated value(18.971) is greater than the table value (5.99) , so the null hypothesis is rejected. Hence it can be inferred that there is significant relationship between change in technology and its impact on work culture.

Summary of the Findings

The major and key findings are presented below:

1. There is a significant relationship between digitalization of workplace and changes in manpower needs.
2. There is a significant relationship between implementing of Block chain technology and increase in the effectiveness of key HR functions.
3. The findings also show that there is significant relationship between change in technology and its impact on work culture.
4. Interesting thing is that nearly 80 percent of respondents have said Digitalisation in HR is necessary to achieve high employee engagement.
5. 70 Percent of them have responded that due to AI there is no personal touch with the interviewee during the process.
6. Majority of them nearly responded that Block chain technology will change the facets of organisations if implemented effectively.

Findings of the study can serve as input to various companies in developing best practices across HR dimensions for improving employee and organization's performance.

Conclusion

Focusing on the implications of technological advancements that are happening across the organizations and specifically in HR the following suggestions are made.

- Due to increase of digitalization, the manpower budgets need to be planned meticulously by the organizations considering cost and benefit.
- As per the findings it is suggested that organizations should adopt for frequent feedback practices from employees rather than annual engagement surveys by deploying modern technologies that are available. This will enhance the morality of employee and increase the productivity through enhanced engagement.

© SGBED 2019

- Due to introduction of AI into recruitment, majority of the candidates are not interviewed personally, the profiles are shortlisted just based on the key words for a position. Hence organisations should cautiously choose which one to deploy based on the organizational requirement.
- Organizations need to work cautiously to analyze and implement the Block Chain Technology. Many of the respondents are well aware of this and are recommending positively to the organisations to implement in its various operations. Hence it's time for the organisations to look into this area for more effective and efficient way of operation.
- As per the responses, a clear perception was observed that the social media recruitment portals are going to become obsolete with the advancement of Block Chain technology.
- Automation is creating evidence based management in HR.The organizations should adapt to the new technologies at appropriate time to make the function effective.
- Going forward, organizations should keep in mind while designing the new organization structures to actively build organizational ecosystems and networks. HR leaders need to be built with the skill of Agility as it would play a central role in the organizations down the line.

References

http://marketing.bersin.com/rs/976-LMP-699/images/HRTechDisruptions2018-Report-100517.pdf
https://home.kpmg.com/xx/en/home/insights/2017/08/hr-transformation.html
https://www.peoplematters.in/category/hr-technology/hr-technology?utm_source=peoplematters&utm_medium=interstitial&utm_campaign=learnings-of-the-day
http://www.hrkatha.com/news/1784-how-technology-is-making-hr-a-more-strategic-function
Carolina Machado and J.PauloDavim (2013), Human Resource Management and Technological Challenges,
Tanya Bondarour and Miguel R.Olivas-Lujan, (2014) Human Resource Management, Social Innovation and Technology,
National Institute of Personnel Management, Personnel Today-Special Issue, Vol.XXXVIII.No.1
https://www2.deloitte.com/insights/us/en/focus/human-capital-trends.html
https://www.gallup.com/workplace/238079/state-global-workplace-2017.aspx#formheader

© SGBED 2019

DXB091

FACTORS AFFECTING WORK LIFE BALANCE AND JOB SATISFACTION – A COMPARATIVE STUDY OF FEMALE TEACHERS IN INDIA AND UAE

Maryam Haider, haiderm1690@gmail.com
Research Scholar, Department of Business Administration,
Aligarh Muslim University, Aligarh, India.

Kakul Agha, kakul_p@yahoo.com
Assistant Professor, Skyline University College, Sharjah, UAE.

ABSTRACT

Work life balance and job satisfaction are critical factors at workplace. This study reveals the factors affecting work life balance and job satisfaction among female teachers in India and UAE. The study has been carried out with a cross sectional design with participants from both countries. EFA and Test of Differences was carried out to record that significant differences exist on the basis of marital status and country in the results of India and UAE.

Keywords: Work- life Balance, Organisational factors, Individual factors, Job satisfaction, Female employees

Introduction

A histrionic change has followed in the labour market and demographic profiles of employees. Families today have shifted from the traditional male 'Breadwinner' role to dual-earner couples and single parent families. The traditional job patterns have changed into an economic environment of instability and job uncertainty. Workers' perspectives and expectations have also changed towards work. An increased awareness and need for a balance between work and life have affected organisations through incentivising the introduction of policies such as flexible working. As a result of these changes, both men and women have experienced an increase in demands from the familial, household and work domains (Burke & El-Kot, 2010; Grandey, Cordeino, & Crouter, 2005).

There are some studies exploring the nature of work-life balance in the Indian context (Aryee, Srinivas & Tan, 2005; Poster & Prasad, 2005; Namasivayam & Zao, 2007). However, studies dealing with work life balance in relation to job satisfaction of the female employees in the Indian and Middle East Context are rare. In this context this study aims to understand work life balance and its relationship with the job satisfaction of the female employees in the India and UAE.

Literature Review

There has been a substantial increase in dual-career couples, single-parents in households, and decrease in families with lone earners. This creates a healthy spread of overall responsibilities related to work, family, household tasks and raising children. Therefore there is a considerable shift in traditional gender roles which are no longer specific to distinguished males and females. This balancing act has prompted considerable research in this domain leading to involvement of work lives of different genders and related work role conflict (Kossek, Noe & DeMarr, 1999).

© SGBED 2019

Today's business market problems have been prejudiced by globalisation and characterised by harsh business competition, changes to the traditional gender roles and conventional thinking on work life balance. These changes of reconciliation between work and life commitment have come to the fore front of organizations. It has been asserted that training can improve Work family balance (Petridou & Glaveli, 2008).

Russel & McGinnity (2009) identify that working in a flexible work environment can enable people to balance work and personal responsibilities. Across the world several organizations have placed regulations that enable employees to avail benefits of flexible working conditions (Joyce, Critchley & Bambra, 2010). Not only the employees but most organizations also feel alike and support flexi-time as a concept.

The Families and Work Institute proposed a scale on family-friendly programs, policies and practices to understand the way in which organizations estimate and treat the subject of enabling employees in reducing the conflict between work and family (Galinsky et al., 1991). The reduction of conflict can happen due to employee friendly policies and support programs that are educational, informational and emotional in nature (Greenhaus & Parasuraman, 1994; Wethington & Kessler, 1986). The informational support has to be detailed and comprehensive. It would include referral programs and face to face communication with the employees in relation to the family friendly policies adopted by the organization as well as the operational programs in this connection. The whole idea is to communicate these practices to the employees so that they feel more comfortable in the working environment. The second aspect is the emotional support an organization can provide to the employees.

Emotional support might include acknowledgement and acceptance of employees' family-related needs. Thus, it is important to measure employee perceptions of organizational support. Perceived organisational family support is the first measure of organizational family support that is integrated in an empirically supported theoretical framework. There is no existing measure that taps the three dimensions of social support which can be conceptualised as an organization's supportiveness of an employee's family life. This research considered the organizational (informational and emotional) support as an important factor which affects work-life balance and job satisfaction of female employees. For individual factors, the scale by Greenhaus & Beutall (1985) was identified which shows three different types of conflicts primarily related to work and family, namely time based, strain based and behaviour based. These are self-explanatory and can be understood on the basis of their names.

Job Satisfaction

According to Spector (1997) job satisfaction is not a standalone concept or phenomenon. It is a multi-faceted variable that is primarily made of nine facets. The nine facets revolve around communication, contingent rewards, co-workers, fringe benefits, nature of work, operating procedures, pay, promotion and supervision. Further several definitions explain job satisfaction as a feeling or an internal state of mind feeling positive or negative about a person's job.

Spector (1997) also points out to the various reasons that lead to job satisfaction including the role of subordinates, co-workers and supervisor. As per the study of March and Simons (1958) which is

© SGBED 2019

explained through a classic model of job satisfaction, work and family life are balanced by compatibility. As both these roles are important the likeliness of incompatibility would be high leading to enhanced stress, tension and negativity. It posits that job satisfaction is influenced by other roles that we play in life including the family role. In India some findings indicate that work interference with family roles strongly correlated with job satisfaction (Aryee, Srinivas & Tan, 2005; Chiu, 1998; Yang, 2005; Aryee, 1992).

It is evident that conflict of any type is derogatory for people. Similarly Thomas ad Ganster (1995) found that work-life conflict leads to reduced levels of psychological well-being and poor satisfaction. Further work-interfering-with-family conflict has a larger impact on satisfaction in comparison to family-interfering-with-work conflict. This can also lead to higher levels of stress and even burnout during work hours (Kossek and Ozeki, 1998).

Research Objectives

The concept of work-life balance is not new, however not much studies have been done in comparing work-life balance in India and UAE with respect to the identified factors in context of females. Therefore, a need has been realized by the researcher to do a comparison in these two countries and identify which country has more work life issues and which has work life balance. High demanding jobs of teachers struggle to maintain cordial relation between work and life provided an impulse to carry out this particular study. Hence the objective of this study is to identify the factors affecting work-life balance and job satisfaction.

Research Methodology

The present research is conclusive, descriptive and based on single-cross sectional design. Quantitative data was generated to test the research hypothesis. In order to collect data on the factors of the work-life balance and job satisfaction are adapted from the study of (Greenhaus & Parsuraman, 1994; Aiswarya & Ramasundaram, 2012). The study was conducted on higher education teachers in India and UAE. A research instrument with 31 questions catering to work life balance and job satisfaction was designed for the purpose and was personally administered to the teachers. In all 215 completely filled questionnaires were received from India and UAE.

Analysis

Exploratory Factor Analysis (EFA) was carried out to test if each of the constructs was a one-factor model. When EFA was performed, it was found that some scales were not unidimensional. EFA on some Time scale yielded two factors. It is recommended that researchers should delete items with factor loadings less than 0.3 (Worthington & Whittaker, 2006). Indicator and scale reliability estimates were generated. Thereafter, research hypotheses were tested by deploying Tests of Differences such as Independent Sample T-test, and Correlation analysis, refer to Table 1 given below.

© SGBED 2019

Table 1: Exploratory Factor Analysis

OIS	Initial Eigen Values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.708	54.166	54.166	2.708	54.166	54.166
2	.750	14.991	69.157			
3	.722	14.434	83.591			
4	.417	8.333	91.924			
5	.404	8.076	100.000			
OE	**Initial Eigen Values**			**Extraction Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	2.240	55.996	55.996	2.240	55.996	55.996
2	.657	16.431	72.428			
3	.599	14.984	87.411			
4	.504	12.589	100.000			
IIS	**Initial Eigen Values**			**Extraction Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	2.144	53.607	53.607	2.144	53.607	53.607
2	.785	19.624	73.231			
	.615	15.385	88.616			
	.455	11.384	100.000			
IE	**Initial Eigen Values**			**Extraction Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	2.233	55.826	55.826	2.233	55.826	55.826
2	.816	20.403	76.229			
3	.519	12.970	89.199			
	.432	10.801	100.000			
IE	**Initial Eigen Values**			**Extraction Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	2.233	55.826	55.826	2.233	55.826	55.826
2	.816	20.403	76.229			
3	.519	12.970	89.199			
	.432	10.801	100.000			

© SGBED 2019

WLB	Initial Eigen Values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.543	38.587	38.587	1.543	38.587	38.587
2	1.390	34.760	73.347	1.390	34.760	73.347
3	.577	14.436	87.783			
	.489	12.217	100.000			
IJS	**Initial Eigen Values**			**Extraction Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	2.052	68.391	68.391	2.052	68.391	68.391
2	.652	21.742	90.133			
3	.296	9.867	100.000			
EJS	**Initial Eigen Values**			**Extraction Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	2.165	54.135	54.135	2.165	54.135	54.135
2	.734	18.349	72.484			
3	.650	16.250	88.734			
4	.451	11.266	100.000			

The KMO values of all the scales in the study were found to be acceptable. i.e., all values were more than 0.5. Further, Bartlett's Test of Sphericity was found to be significant. Therefore, data was suitable for factor analysis. The results of factor analysis indicate that all the factors are unidimensional in nature. Hair et al. (2006), suggested that the generally agreed upon lower limit for Cronbach alpha is 0.60. Reliability assessment of the study scales returned Cronbach alpha values that are more than the lower acceptable limit of 0.60. Cronbach alpha values suggest high reliability of each scale. (Please refer to Table 2). Independent Sample T-Tests was deployed to check for differences among demographics such as marital status, number of dependents and country on each construct of work-life balance and job satisfaction. It was found that significant differences exist on the basis of marital status and country.

Table 2: Reliability Test

Scale	Cronbach Alpha	No. Of Items
OIS	0.71	6
OE	0.72	6
IIS	0.79	4
IE	0.77	4
WLB	0.49	4
IJS	0.68	3
EJS	0.74	4

© SGBED 2019

The findings are consistent with the previous researches that cultural background, lifestyle, environment factors too play an important role in context of work-life balance and job satisfaction.

Conclusions and Managerial Implications

The result of the study reveals that for all the factors affecting work-life balance and job satisfaction is not strongly related. The findings show that there is significant difference in the factors affecting work life balance on the basis of marital status. This difference could be because of the Indian society where married females have larger responsibility of taking care of family along with managing professional life. Females are burdened with child care responsibility to household chores also bear a great pressure of maintaining a perfect balance between work and family which ultimately results in strain. Significant differences exist with respect to the countries where the employees are working. This could be due to differences in environment, working styles, government policies and rules and regulation related to the higher education in both the countries. Hence there exist the difference in the working hours, family friendly policies, flexi time etc. The key findings of the study indicate that work life balance has a positive relationship with job satisfaction among teachers. The results reveal that the respondents who have work life balance are satisfied with their jobs.

References

Aiswarya, B. & Ramasundaram, G. (2012) ,Study on Interference of Work- Life Conflict between Organisational Climate and Job Satisfaction of Women Employees in the Information Technology Sector, *Asia-Pacific Journal of Management Research and Innovation*, 8: 351.

Aryee, S. (1992). Antecedents and outcomes of work–family conflict among married professional women: Evidence from Singapore. *Human Relations*, 45(8), 813–837.

Aryee, S., Srinivas, E.S., Tan, H.H. (2005). Rhythms of life: Antecedents and outcomes of work family balance in employed parents. *Journal of Applied Psychology*, 90(1), 132–146.

Burke, R.J. and El-Kot, G. (2010). Correlates of work-family conflicts among managers in Egypt. *International Journal of Islamic and Middle Eastern Finance and Management,* 3(2). 113-131. https://doi.org/10.1108/17538391011054363

Chiu, R.K. (1998). Relationships among role-conflicts, role satisfactions, and life satisfaction: Evidence from Hong Kong. *Social Behaviour and Personality*, 26(4), 409–414.

Galinsky, E., Friedman, D.A. and Hernandez, C.A. (1991). *The Corporate Reference Guide to Work–Family Programs.* New York: Families and Work Institute.

Grandey, A.A., Cordeiro, B.L., and Crouter, A.C. (2005). A Longitudinal and Multi-Source Test of the Work–Family Conflict and Job Satisfaction Relationship, *Journal of Occupational and Organizational Psychology*, 78(3), 305–323.

Greenhaus, J.H. & Beutall, N.J. (1985). Sources of conflict between work and family roles. *Academy of Management Review, Review*, 10(1), 76–88.

Greenhaus, J.H. and Parasuraman,S. (1994). *Work–family conflict, social support, and well-be- ing.* In M.J. Davidson & R.J. Burke (Eds.), Women in management: Current research issues. London: Paul Chapman.

Hair, J., Black, W., Babin, B., Anderson, R., and Tatham, R. (2006). *Multivariate data analysis* (6th ed.). Uppersaddle River, N.J.: Pearson Prentice Hall.

Joyce, K., Pabayo, R., Critchley, J. A. and Bambra, C., (2010), *Flexible working conditions and their effects on employee health and wellbeing,* Cochrane. Database. Syst. Rev., 2, 1-89.

Kossek, E. E., & Ozeki, C. (1998). Work-family conflict, policies, and the job-life satisfaction relationship: A review and directions for organizational behavior-human resources research. *Journal of Applied Psychology*, 83, 139–149.

Kossek, Ellen & Noe, Raymond & J. DeMarr, Beverly. (1999), Work-Family Role Synthesis: Individual and Organizational Determinants, *International Journal of Conflict Management,* 10, 102-129, 10.1108/eb022820.

March, J. & Simon, H.A. (1958). *Organizations.* New York: Wiley.

© SGBED 2019

Namasivayam, K., and Zao, X. (2007), An investigation of the moderating effects of organisational commitment on the relationships between work family conflict and job satisfaction among hospitality employees in India, *Tourism Management*, 28, 1212-1223.

Petridou, E., and Glaveli, N. (2008). Rural women entrepreneurship within co-operatives: Training support. *Gender in Management: An International Journal*. 23(4). 262-277. 10.1108/17542410810878077.

Poster, W.R., and Prasad, S. (2005), Work-Family Relations in Transnational Perspective: A View from High-Tech Firms in India and the United States, *Social Problems*, 52(1), 122–146.

Ronald J. B. and El-Kot, G. (2010) Correlates of work-family conflicts among managers in Egypt. *International Journal of Islamic and Middle Eastern Finance and Management*. 3 (2). 113-131 https://doi.org/10.1108/17538391011054363

Russell, H., O'Connell, J., & McGinnity, F. (2009). The impact of flexible working arrange- ments on work-life conflict and work pressure in Ireland. *Gender, Work and Organization*, 16(1), 7397.

Spector, P.E. (1997). *The assessment of job satisfaction*. In J. Barling & K. Kelloway (Eds), Job satisfaction: Application, assessment, causes and consequences (pp. 5–12). SAGE Publications.

Thomas LT and Ganster DC (1995) Impact of family-supportive work variables on work-family conflict and strain: a control perspective. *Journal of Applied Psychology*, 80(1), 6–15

Wethington, E. and Kessler, R.C. (1986). Perceived support, received support, and adjustment to stressful life events. *Journal of Health and Social Behavior*, 27, 78–89.

Worthington, R. L., & Whittaker, T. A. (2006). Scale Development Research: A Content Analysis and Recommendations for Best Practices. *The Counseling Psychologist*, *34*(6), 806-838. https://doi.org/10.1177/0011000006288127

Yang, N. (2005). Individualism-collectivism and work-family interfaces: A Sino-U.S. comparison. In Poelmans Say (Ed.), *Work and family an international research perspective*, 287–318.

© SGBED 2019

DXB121

WORK LIFE BALANCE AMONG TEACHERS EMPLOYED IN HIGHER EDUCATION IN OMAN: EMERGING ISSUES & CHALLENGES

Kakul Agha, kakul_p@yahoo.com
Assistant Professor, Skyline University College, Sharjah, UAE.

Sami A. Khan, khan.drsami@gmail.com
Professor in HRM, Department of HRM, Faculty of Economics & Administration, King Abdulaziz University, Jeddah, Saudi Arabia,

ABSTRACT

Work life balance (WLB) is a much discussed research topic in the recent time, and most of the industries have started taking care of the WLB issues and encouraging work practices for creating a better balance at workplace. This study focuses on the work life balance issues of the university teachers in the Sultanate of Oman, and sheds light on the determinants of the work life balance of university teachers and the contextual factors. It has attempted to capture WLB among the university teachers across the Sultanate, and finds out the impact of the differences in gender, nationality--Omani or non-Omani, and the work context, whether it is a private or public sector institution. Using a 15-item scale, the study attempts to measure WLB among teacher of HEIs in Oman, and impact of other antecedental factors which are relevant for evaluating WLB in the given Omani context. The study is based on a single cross sectional design, and data was collected from 621 teachers employed across Omani higher educational institutions (HEIs) based in Muscat and other cities in Oman. The study revealed that significant differences lie among genders, nationalities and place of work, and work practices needs to be managed properly to create an efficacy of WLB program.

Keywords: Work-life Balance, Expatriate, Female employees, Sultanate of Oman, Higher Education Institutions (HEIs)

Introduction

Work-life balance (WLB) has emerged as an important ingredient of work life realities. People are forced to work more, and increasing stress at workplace is providing huge challenge to the employees, and employers as well. Finding a balance between different roles is a necessity of time as an individual's life is comprised of many roles at work as well as outside the sphere of work. Role conflict is widespread and occurs when two (or more) sets of pressures occur at the same time in a way that compliance with one set makes it more difficult to comply with the other set (Fisher et al., 2003; Kahn et al., 1964). Hobfol's (1988; 1989) conservation theory of resources provides another explanation that stress is a reaction to an environment in which one is threatened by a potential loss in resources, experiences an actual resource loss, or fails to gain expected resources. An integration of these theories suggests that balancing multiple roles leads to competition for the same resources and may lead to job dissatisfaction and other health complaints (Fisher et al., 2003), and prescribes a need to evaluate the work life balance issues in a much deeper way. A poor work life balance, and a work/family conflict is related to life dissatisfaction, job dissatisfaction, job distress, family distress, absenteeism, lack of organizational commitment, turnover, turnover

© SGBED 2019

intention, burnout, and many more such ills (Allen et al., 2000; Burke, 1988; Casper, Martin, Buffardi, and Erdwins, 2002; Fisher et al., 2003; Frone et al., 1992; Kossek and Ozeki, 1998).

Determinants of work-life balance

Work-life balance has attracted a number of researchers in recent time, and they have conducted their work on WLB enriching its postulates but defining work-life balance domain is still a challenge because it attracts differing equations of work and family issues balance (Lockwood, 2003). A host of researchers (Eikhof and Haunschild, 2006; Eikhof, Warhurst and Haunschild, 2007; Nippert-Eng, 1996; Salaman, 1974; Sennett, 2004; Warhurst, 1996; Warhurst *et al.*, 2008; Westwood, 1984) have revealed that only a few workers separate work from the life and consider it balanceable whereas most workers perceive it as intertwined, interrelated and hence largely amalgamated.

The more recent research by Ezzedeen and Swiercz (2002) of the George Washington University reveals a new concept of 'Cognitive Intrusion of Work'. They elaborate by using the term of 'physical time' and inform that physical time alone is not enough to do what needs to be done. Instead it is about the 'cognitive space' necessary to generate organise and respond to the requirements of thought or thinking demands of life in the modern society. Thus it is about balancing life and work related roles and responsibilities. Further Ezzedeen and Swiercz (2002) point out the cognitive intrusion of work is directly related to job satisfaction, in the way that it results in lower job satisfaction and hence consequently gives lesser happiness to workers. Further it is the cause of stress, burnout and higher job and life conflict.

Friedman and Greenhaus (2000) have done substantial work in this field and found out that 'work-to-family' and 'family-to-work' has compensatory effects. Another very interesting definition of balance has been given by Clark (2000, p.747) who defines balance as "satisfaction and good functioning at work and at home with a minimum role conflict". However, in practice, several researchers have coined definitions that focus on time and role enactment. Vast amount of research has been conducted in an attempt to study the determinants of work-life balance. Dex and Bond (2005) while revealing the results of their study inform us that weekly hours of work was one of the most important determinants of employee work-life balance amongst others namely, occupation, gender, age and caring responsibilities. To explain, working more than 48 hours per week had the single largest effect on work-life imbalance. Caring responsibilities and the age bracket of 36 to 45 were also significant determinants of work-life imbalance. Four important factors make up the domain of environmental resources namely, employer, family, community and profession. Crooker *et al.* (2002) has made efforts to sum up the external factors related to work and society as well as encompass personality related factors and values of people.

The explanatory models of causes of work-life balance as informed by Pichler (2008) suggests a variety of determinants like values; individual personality traits; work related aspects including hours, occupation and work conditions; house related aspects like young children, care, household tasks etc.; along with leisure time (Crooker *et al.*, 2002; Erikson *et al.*, 2003; Noor, 2003). He further adds that work-life balance is closely related to long working hours and working outside 'normal hours' that include evenings, nights and weekends.

© SGBED 2019

Research Methodology and the Context

Increasing prevalence of work-life balance practices across organization worldwide in the form of family-supportive or family-friendly policies is a reality, and the endorsement of the fact that WLB has achieved centre stage in the formulation of these policies but still its integration needs attention. In that background, our study evaluated the work life balance among the teachers employed in the higher educational institutions (HEIs) in Oman. The purpose of this study was to understand the determinants of WLB among teachers in Oman employed in higher institutions, keeping in mind the challenges and workplace realities of the Omani work environment. Higher education institutions play important role in shaping the skill and competency of the society as a whole, and for a country like Oman where there is a huge demand on developing competent workforce, the role of teachers become paramount. The present paper is addressing few important research questions such as:

a. What are the factors comprising the WLB among the teachers of HEIs?
b. Is it any difference in its prevalence among male and female teachers?
c. Are the factors and contextual realities of WLB are same for Omani and Non-Omani teachers?
d. Is there any difference in the context and workplace realities and WLB in the private and public sector higher education institutions?

The paper used a scale to measure WLB among teacher of HEIs in Oman, and other antecedental factors which are relevant for evaluating WLB in a given context. The study is based on a single cross sectional design. Quantitative data was collected from 621 teachers employed across Omani higher educational institutions (HEIs) based in Muscat and other cities in the Sultanate of Oman. A 15-item scale had been adapted from a 19-item scale developed originally by Fisher, *et al.* (2003) that was designed to capture employee perceptions on work-life balance. The 15-item scale measured Work Interference with Personal Life (WIPL), Personal Life Interference with Work (PLIW), and Work Personal Life Enhancement (WPLE) as the three constructs of work-life balance. An independent samples T-Test was deployed to establish difference between gender, nationality, and type of organization i.e., private and public institutions. Considering the robustness of the measures validated by Hayman (2005), the same were adapted for the present study too.

Construct 1: Work Interference with Personal Life (WIPL): This construct includes those work related factors that impact the personal life of individuals. This construct tries to measure the impact of work on the personal life of individuals.
Construct 2: Personal Life Interference with Work (PLIW): The second construct as the impact of or the interference of the personal life on work. This construct aims at measuring the reverse phenomenon i.e. the impact of personal life on the work of individuals.
Construct 3: Work Personal Life Enhancement (WPLE): The third construct explains how both work and personal life enhance and support each other.

© SGBED 2019

Statistical Results and Discussion

Profile of Respondents

Nationality: The respondents belonged to both Omani nationality (15.9%) and expatriates (84.1%) residing in the Sultanate of Oman. The expatriates however include nationalities like Asians, Africans, Americans, Australians, Britons, Europeans and other GCC country nationals.

Gender: Looking at the nature of the respondents there was a combination of males (54/3%) and females (45.7%).

Type of Institution: The respondents of this study are teachers at different types of institutions in the higher education sector. Approximately 47.7% teachers are teaching in the government institutions whereas 52.3% are teaching at private institutions.

Tests of Differences

Test of difference was conducted on the three demographics variable viz. *Gender* (Males and Females); *Nationality* (Omani and Expatriates) and *Type of Institution* where the teachers are employed (Government and Private Institutions).

A: Differences based on Gender

Gender: For the present study, out of 621 respondents, 337 were males and 284 were females. An independent samples T-Test was deployed to establish difference between gender on the three scales, viz. WIPL, PLIW and WPLE.

Table 1: Independent Samples Test - Gender

Construct/Nature of Variance		**T-test Results**		
		t	**df**	**Sig. (2-tailed)**
WIPL	**Equal variances assumed**	-2.321	619	0.021
PLIW	**Equal variances assumed**	-1.461	619	0.145
WPLE	**Equal variances assumed**	0.935	619	0.350

It was found that there is no significant difference in the mean scores of WIPL, PLIW and WPLE on the basis of gender of the teachers.

B: Differences based on Nationality

Nationality: For the present study, out of 621 respondents there were 99 Omanis and 522 An independent samples T-Test was deployed to establish difference between nationality on scales, viz. WIPL, PLIW and WPLE and JS.

© SGBED 2019

Table 2: Independent Samples Test – Nationality

Construct/Nature of Variance		T-test Results		
		t	df	Sig. (2-tailed)
WIPL	Equal variances assumed	-2.321	619	0.021
PLIW	Equal variances assumed	-1.461	619	0.145
WPLE	Equal variances assumed	0.935	619	0.350
JS	Equal variances assumed	1.775	619	0.076

From the data analysis it is clear there are significant difference in the mean scores of WIPL, PLIW and WPLE on the basis of nationality (Omani and Expatriate) of the teachers.

C: Differences based on Type of Institution

Type of Institution: For the present study, out of 621 respondents there were 296 were employed in Government whereas 325 were employed in the Private sector. An independent samples T-Test was deployed to establish difference between nationality on the WIPL, PLIW and WPLE scales.

Table 3: Independent Samples Test – Type of Institution

Construct/Nature of Variance		T-test Results		
		t	df	Sig. (2-tailed)
WIPL	Equal variances assumed	-6.659	619	0.000
PLIW	Equal variances assumed	-6.378	619	0.000
WPLE	Equal variances assumed	-1.581	619	0.114

Significant differences were observed on the dimension WIPL and PLIW whereas no significant differences were observed for WPLE between teachers employed in government institutions (Mean=2.56, SD=0.937) and in private institutions (Mean=3.07, SD=0.979) in higher education institutions.

© SGBED 2019

Findings

The paper attempted to highlight the factors which are important to provide WLB among teachers employed in the higher education sector in Oman. It captures the differences existing between different cohort and demography of the workforce. As the workforce employed in these institution is very diverse, therefore, the study provides important explanation to shed light on the complexities of the WLB and employment realities existing in the higher educational institutions in Oman, and how these challenges can be dealt with to expedite the process of providing quality education in these institution. In that background, hypotheses were laid down to establish an in-depth understanding of the differences in work life balances for male and female teachers, Omani and non-Omani nationalities (expatriates), and teachers employed in private and public universities in the Sultanate of Oman.

The findings of this study are very interesting and prescribe the need to look into these domains seriously to guard the interest of higher educational development in the Sultanate. The study indicates that there are significant differences among males and females for work interference with their personal life (WIPL) indicating that females are affected in their personal lives more in comparison to their male counterparts are work. On the contrary there is no significant difference among both genders for personal life interference with work (PLIW). It also indicates that work is flowing uninterrupted for both genders. The study also indicated that there is no significant difference among genders when it comes to work personal life enhancement (WPLE). Both males and females are getting enhancement from personal life in work life and vice versa. Lastly, the job satisfaction (JS) level for both males and females was found to be at the similar level in higher educational institutions in Oman, and no significant differences were found.

The second factor we studied was the manifestation of WLB vis-a-vis nationality. Omanization is an intense phenomenon in the Sultanate and localization of the workforce is being pushed hard. At times, the foreign guest workers don't find a level playing field, and the existing environment adds to the job instability and induces stress at workplace. In that background, it was found that there were significant differences in the way work interferes with the personal life (WIPL) and personal life interferes (PLIW) with the work among Omanis teachers and teacher of other nationalities employed in Oman. There were differences in which the enhancement of life and work (WPLE) happens among both types of teachers. Further the study also pointed out to the differences in job satisfaction (JS) among Omani and Non-Omani teachers in Higher Education Institutions in Oman.

Conclusion

In deciding the WLB, the nature of employment and workplace environment plays important role. We evaluated the public-private sector divide and its impact on the manifestation of WLB. The results indicated that there were sharp differences in WIPL and PLIW among teachers working in Government universities and private institutions. Further there was significant difference in the job satisfaction (JS) level among the teachers employed in private and government universities/institutions which describes the workplace realities of these sectors in Oman. In all, the manifestation of work life balance of males vs females, Omanis vs non-Omanis, and type of employer i.e., public-private divide provide a new re-look at the issues of work life challenges in Omani context. The findings provide good understanding of the relationship between work and life

© SGBED 2019

issues, and coping with the challenges from individual and organization perspectives. Getting a fine balance in WLB domain will surely help organization in achieving better balance between their employees and work and resulting improvement in their wellbeing, performance, commitment and engagement, and higher level of loyalty at Omani workplace.

References

Allen, T. D., Herst, D. E. L., Bruck, C. S., & Sutton, M. (2000). Consequences associated with work-to-family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology, 5*, 278-308.

Burke, R. J. (1988). Some antecedents and consequences of work-family conflict. *Journal of Social Behavior and Personality, 3*, 287-302.

Casper, W. J., Martin, J. A., Buffardi, L. C., & Erdwins, C. J. (2002). Work-family conflict, perceived organizational support, and organizational commitment among employed mothers. *Journal of Occupational Health Psychology, 7*, 99-108.

Clark, S. C. (2000). Work/family border theory: A new theory of work/family balance. *Human Relations*, 53(6):747-770.

Crooker, K.J., Smith, F.L. and Tabak, F. (2002). Creating work-life balance: A model of pluralism across life domains. *Human Resource Development Review*, 1(4):387-419.

Dex, S. and Bond, S. (2005). Measuring work-life balance and its covariates. Work *Employment Society*, 19(3):627-637.

Eikhof, D. R. and Haunschild, A. (2006). Lifestyle meets market: Bohemian entrepreneurs in creative industries. *Creativity and Innovation Management*, 15(3):234-241.

Eikhof, D. R., Warhurst, C. and Haunschild, A. (2007). Introduction: What work? What life? What balance?: Critical reflections on the work-life balance debate. *Employee Relations*, 29(4):325-333.

Erikson, R., Bruderl, J., Gallie, D., Russell, H. and Vallet, L.A. (2003). European Social Survey Round 2 module proposal. *Family, Work, and Welfare in Europe*. Retrieved November 20, 2007, from European Social Survey Web site: http://www.europeansocialsurvey.org/index.php?option=com_content&task=view&id=64&Itemid=99

Ezzedeen, S. R. and Swiercz, P. M. (2002). *Rethinking work-life balance: Development and validation of the cognitive intrusion of work scale (CIWS) - A dissertation research proposal*. Proceedings of the 2002 Eastern Academy of Management Meeting.

Fisher-McAuley, Gwenith, J. Stanton, J. Jolton, & James Gavin. (2003). Modelling the Relationship between Work-Life Balance and Organizational Outcomes. *Annual Conference of the Society for Industrial-Organizational Psychology*. 1-26.

Friedman, S.D. and Greenhaus, J.H. (2000). *Work and family – allies or enemies?* Oxford University Press, New York.

Frone, M. R., Russell, M. and Cooper, M. L. (1992). Antecedents and outcomes of work-family conflict: testing a model of the work-family interface. *Journal of Applied Psychology*, 77(1):65-78.

Hayman, J. (2005) Psychometric Assessment of an instrument designed to measure work Life Balance. *Research and Practice in Human Resource Management.* 13(1), 85-91.

Hobfoll, S. E. (1988). *The ecology of stress*. New York: Hemisphere.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist, 44*, 513-524.

Kahn, R. L., Wolfe, D. M., Quinn, R., Snoek, J. D., & Rosenthal, R.A. (1964). *Organizational Stress*. New York: Wiley.

Kossek, E. E. & Ozeki, C. (1998). Work-family conflict, policies, and the job-life satisfaction relationship: A review and directions for organizational behavior - human resources research. *Journal of Applied Psychology, 83*, 139-149.

Lockwood N.R. (2003). Work/life balance: Challenges and solutions. *Society for Human Resource Management: Research Quarterly HR Magazine*, 2:1-10. Retrieved March 5, 2009, from http://www.ispi.org/pdf/suggestedReading/11_Lockwood_WorkLifeBalance.pdf

Nippert-Eng, C. E. (1996). *Home and Work*. University of Chicago Press, Chicago, IL.

Noor, N.M. (2003). Work and family related variables, work family conflict and women's well-being: Some observations. *Community work and family*, 6(3):297-319.

Pichler, F. (2008). Determinants of work-life balance: Shortcomings in the contemporary measurement of WLB in large-scale surveys. *Social Indicators Research*, 92(3):449-469.

© SGBED 2019

Salaman, G. (1974). *Community and occupation: an exploration of work/leisure relationships.* Cambridge Papers on Sociology, Cambridge University Press.

Sennett, R. (2004). *Respect in a World of Inequality*. WW Norton and Co., New York.

Warhurst, C. (1996). High society in a workers' society: Work, Community and Kibbutz. *Sociology*, 30(1):1-19.

Warhurst, C., Eikhof, D.R. and Haunschild, A. (2008). *Work Less, Live More?* Palgrave Macmillan, London.

Westwood, S. (1984). *All Day, Every Day: factory and family in the making of women's lives*. University of Illinois Press, Urbana.

© SGBED 2019

ABSTRACTS

© SGBED 2019

DXB022

VALUE CO-CREATION IN VERTICALLY INTEGRATED INDUSTRY INCUBATORS

Bella Butler, bella.butler@cbs.curtin.edu.au
Faculty of Business and Law, Curtin University, Australia

Daniel Schepis, daniel.schepis@uwa.edu.au
Sharon Purchase, sharon.purchase@uwa.edu.au
University of Western Australia, UWA Business School, Australia

ABSTRACT

This research explores the role of a vertically integrated industry incubator in facilitating value co-creation among innovative start-ups and corporate members. The study is focused on a newly established innovation hub in the Australian energy and resources sector, a major contributor to the National economy. Theoretically, we follow the ecosystem-based view of innovation systems and capture multiple perspectives of incubator performance and value (co)-creation. We investigate how value is co-created by different business actors, what barriers limit value co-creation and seek to explain why it is not happening to the same extent in different business setting. Our findings identify how value is perceived by different hub members, corporate sponsors and hub organisers. We present considerations for the future development of more effective incubators.

Keywords: Australia, ecosystems, incubator, innovation, resources sector, value co-creation.

© SGBED 2019

DXB024

WELLBEING AND SELF-LEADERSHIP OF GROWTH ENTREPRENEURS AT FINLAND

Tiina BrandtTiina.Brandt@tamk.fi and Pia Hautamäki Pia.Hautamaki@tamk.fi
Tampere University of Applied Sciences,
Y-Kampus, Tampere, Finland

There is growing interest on the wellbeing of the people at working life, and the employers are the ones who usually take care of their employees' wellbeing. Problem is that entrepreneurs are the group that nobody takes care, and that is why some of them pay high prize of their working and living style with their health. This empirical study focuses on 29 Finnish growth-oriented entrepreneurs' views of their possible challenges with firms' growth in regard of their personal life, how to have enough energy to do everything that should be done, and how they choose what is important to do at the current moment. They were representing different fields but common to them was that their companies were experiencing very fast growth. They were asked do they have clear time for themselves, did they have had experienced burnout, and if yes, how did they recovered. What are their methods from recovering from workload, and what would be their advices for students who would want to be entrepreneurs? Results indicated that some of the entrepreneurs have been experienced burnout, and depending of personality some divided clear distinction between leisure and worktime and some did not find working at home as a problem. When giving advises to future entrepreneurs, interviewees stressed for example entrepreneurial attitude, discipline, resilience, time management, control of stress, prioritizing. It seems like that growth-oriented entrepreneurs it is especially important to take care of themselves. The growth will as quickly disappear as it has come if the entrepreneur will loss his/her energy.

Keywords: Wellbeing, Self-Leadership, Growth, Entrepreneurs.

© SGBED 2019

DXB025

MODERN SALES IN GROWTH-ORIENTED FINNISH COMPANIES

Pia Hautamäki, pia.hautamaki@tamk.fi
Tampere University of Applied Sciences,
Y-Kampus, Tampere, Finland

Recently several studies have shown that customers' buying behavior have changed. Additionally, there are studies, which show that companies benefit of using digital platforms and social media tools as a part of international sales activities. Often international enterprises use tools to automate their sales operations and accelerate growth but unfortunately, SME's seem to lack the understanding of modern international sales activities today. However, SME's and startups would benefit of proper sales management and modern sales skills. Additionally, digital ecosystems offer quicker opportunities to accelerate international growth. It appears that there lies a gap both in academy and in practice in modern international sales activities and growth acceleration. This empirical study focuses on 29 Finnish growth-oriented entrepreneurs' and to their thoughts on sales leadership and modern sales as a part of their growth activities. This qualitative study focuses to understand how these growth-oriented entrepreneurs consider accelerate growth internationally in this digital era. Additionally, this study tries to understanding the level of sales leadership skills in growth-oriented companies. Preliminary results indicate that there is a huge gap in entrepreneurs' knowledge according international sales activities and sales leadership in this digital era. Often used sales activities based on old-fashioned business models and the modern, digitally operated activities seemed to lack. For example, these growth companies did not use any kind of digital tools in their international sales and they did not have models on sales management. It seems like that even highly educated growth-oriented entrepreneurs lack of proper knowledge about modern sales activities and sales management. This might affect negatively to these SME's ability to accelerate international growth.

Keywords: Sales, Growth-Oriented, SMEs, Entrepreneurs.

© SGBED 2019

DXB026

KNOWLEDGE FIRMS, INTELLECTUAL CAPITAL AND THE INCENTIVE TO ADOPT POISON PILLS

Isaac Wanasikai, saac.wanasika@unco.edu
Monfort College of Business
University of Northern Colorado, USA

Previous studies have focused on managerial motives for adoption of corporate takeover defenses such as poison pills. Managerial entrenchment has often been submitted as the default explanation for takeover defenses. Tech firms in digital sectors often hedge their bets on intangible assets such as intellectual capital, for future performance. Due to asymmetric information and uncertainties, the market does not always reflect such value accurately. This paper highlights the significance of intellectual capital in tech firms and the need to protect such assets. We hypothesize that these firms have an added incentive to protect intellectual assets by deploying takeover defenses such as poison pills. We test our hypothesis using data from US corporations.

Keywords: Managerial Motives, Corporate Takeover, Entrenchment, Asymmetric Information, Intellectual Capital

© SGBED 2019

DXB027

RESCHEDULING THE PROJECTS USING CRASH TIME AND REAL TIME MONITORING

Vibha Saihjpal, saihjpal.vibha@gmail.com
S.B. Singh, sbsingh69@yahoo.com
Department of Mathematics, Punjabi University, Patiala, Panjab, India.

ABSTRACT

A schedule is slated before starting any project. Due to stochastic nature of variables, the chances of deviation of project from the schedule are positive. This deviation during the execution of projects often leads to the requirement of schedule update referred to as rescheduling. This paper proposes a technique for partial rescheduling of the schedule along with rescheduling of each activity where ever required. Single activities or subsets of the set of project activities would be rescheduled based on the delay the project is already experiencing. Each activity might be crashed or de-crashed or its starting time be altered and activity durations of the subsets of activities would be altered based on the based on the new scenario of the project in progress. The proposed methodology has been validated with the help of a case study. A project from industry was taken which was delayed by 115% but applying the proposed methodology, the delay got reduced to 67%.

Keywords: Project schedule, crashing, De- crashing, rescheduling, online monitoring.

© SGBED 2019

DXB035

FROM LABOR WORKERS TO SUCCESSFUL ENTREPRENEURS: THE CASE OF MIGRANTS FROM THE INDIAN SUB-CONTINENT IN THE UAE

Khalid Akhal, k.akhal@outlook.com
Research Scholar in International Business Management at the University of International Business and Economics (UIBE), Beijing – China

Gouher Ahmed, gouher.ahmed@skylineuniersity.ac.ae
Professor and Chair of Research Committee at the Skyline University College / University of Sharjah, Sharjah – United Arab Emirates

This study sets several new frontiers for the scientific inquiry in the area of entrepreneurship. First, it reclaims the theoretical conceptualization of entrepreneurship orientation (EO) back to the micro-enterprise level. Second, it investigates a new and barely researched form of entrepreneurship that is carried by businessmen who originally migrated to a more advanced economy to perform labor works. Third, it takes into account the cultural perspective in managing a business effectively within the boundaries of unfamiliar environments. Forth, it adds a digital dimension to the determents of entrepreneurial success. Precisely, this paper investigates the effects of innovativeness, proactiveness, and risk taking on business performance with the moderating roles of cultural intelligence and deployment of social network sites (SNS) i.e. Facebook, Twitter, LinkedIn… etc. for sharing business information and building a brand image. The study utilizes a relatively large sample of entrepreneurs (N > 300) who migrated from the three countries of the Indian sub-continent (India, Pakistan and Bangladesh) to the UAE to perform some form of labor work before they tried to fill existing gaps in the market and became entrepreneurs. Given the novelty of this study, its empirical findings are expected to have many important theoretical as well as practical/ implications. Please see below the research keywords, model, and list of hypotheses.

Keywords: Migrants; Entrepreneurship Orientation; Social Networks Sites; Cultural Intelligence; Business Performance.

© SGBED 2019

DXB036

RETAILER EXPECTATIONS AND CONSUMER RESPONSE TOWARDS THIRD GENERATION PRIVATE LABEL BRANDS: AN EVIDENCE OF LEADING INDIAN FOOD RETAIL CHAIN.

Ajay Singh, ajaysingh.bvu@gmail.com
Rakesh Kumar Singhal, rksingal58@gmail.com
ABES Engineering College, Ghaziabad, India.

Debdeep De, debdeepde@gmail.com
Managerial Principal Consultant Price Water House Cooper (PwC) India

ABSTRACT

The purpose of this paper is to investigate how the grocery stores are motivated to implement private labels (create profit margins and customer perceived brand value, compete with leading national brands, develop store image and enhance store quality) and realize the same through exploring consumer preferences, behaviour and attitude. The paper is based on Food and Grocery purchasers in 325 households who have visited Big Bazaar Store within the time period (April – June 2017) through structured questionnaire. The study will try to find out the association between perceived quality and the price customers are willing to pay for private label products. The study will also find association between perceived value of private label products in specific categories and stores' overall product variety image. The study will further identify the influence of store loyalty on the perceived value of grocery retailers private label products. The study will guide retailers towards fulfilling their ambitions regarding their private label merchandises who would provide manufacturers an insight into how consumer responds to this new phenomenon.

Keywords: Private Label Brands, Store Brands, Consumer goods, Price positioning, Brand loyalty.

© SGBED 2019

DXB038

TECHNOLOGICAL CHANGE AND ITS IMPACT ON THE LABOR MARKET IN EGYPT

Mona Farid Badran,
Faculty of Economics & Political Science, Cairo University, Egypt

ABSTRACT

The current study aims at analyzing the impact of technological change and innovations on the labor market in Egypt. Using the panel data of Egyptian Labor Market Panel Survey (ELMPS) 1998, 2006, and 2012, in addition to the initial year of ELMPS 1988, a quadratic form equation is estimated. Preliminary results reveal that the impact of technological change on employment is evident in years 2006 and 2012 in terms of positive job growth that is associated with increase in certain occupations such as science and engineering associate professionals, administrative and commercial managers. On the other hand, certain occupations declined dramatically such as agricultural, forestry, fishery laborers, business and administration associate professionals. Furthermore, panel data techniques were applied to conclude that Random Effects model is the right model and the explanatory variables such as wage, wage squared and gender are statistically significant. Results also reveal that females' share in employment across the rounds of the ELMPS has declined, due to technological change. Finally, the paper concludes with policy recommendations on how policy makers can adapt to the evolving impact of technological change on the Egyptian labor market.

Keywords: technological change, labor market, skills, digital economy, MENA, fixed effects, random effects.

© SGBED 2019

DXB041

THE ROLE OF SALES STEREOTYPES IN STUDENTS' PERCEPTION: AN EXPLORATORY ANALYSIS ON ITALIAN STUDENTS

Silvio Cardinali, s.cardinali@univpm.it
Marta Giovannetti, m.giovannetti@pm.univm.it
Barbara Kulaga, b.kulaga@pm.univm.it
Lorenzo Governatori, governatori.lorenzo@gmail.com
Università Politecnica delle Marche, Ancona, Italy

ABSTRACT

The present work intends to explore sales and salespeople stereotype among university students; previous literature has already pointed out students' lack of awareness, negative perception and stereotyping of sales and salespeople. Students in fact show to know little about sales and its evolution over the decades and the low propensity towards the possibility of working in sales has persisted for over 50 years. This exploratory analysis was conducted to analyze the perception of salespeople, in the context of university students, and understand the orientation of students to sales career. Data were collected and analyzed using qualitative research method. Results show that sales and salespeople stereotype is still present among students, and that selling as a process tends to be identified mainly as a single activity, as just direct interaction or negotiation. In addition, business (marketing) students tend to refer to the dichotomy between the transactional and the relational paradigm as a reference to define the stereotypical and the ideal selling approach. Findings suggest that a further exposition to sales issues could define and improve the students' knowledge and perception of sales and foster students' intention to pursue a career in sales.

Keywords: Salesperson, sales stereotypes, perception, university students, focus group

© SGBED 2019

DXB042

ENVIRONMENT AND SOCIAL SUSTAINABILITY-VEHICLE USERS PERSPECTIVE IN NATIONAL CAPITAL REGION DELHI

Vishal Gupta, vishalg4u@gmail.com,
IMS Ghaziabad, India

Naseem Abidi, drabidi@yahoo.com,
Skyline University College, Sharjah, UAE

ABSTRACT

India is rapidly becoming a destination which has highest polluted cities. The capital city New Delhi was once found to be the most polluted city in the world. One of the major causes of the air pollution is the vehicular emissions which is growing exponentially. This is affecting the quality of life and is leading to negative consequences on environment and society as a whole. This study aims to assess the gravity of vehicular pollution and capture user's perspective on environment and social sustainability in the national capital region Delhi. Primary data is collected from 521 vehicle users in national capital region Delhi on structured questionnaire based on dimensions of environment, social, governance, and vehicle manufacturers. The study also explores possible solution from vehicle users. Findings show that vehicle users find that the poor governance including lack of coordination and seriousness among regulatory bodies as the major reason followed by vehicle manufacturers, who have lobbied and not implemented international emission standards. Vehicle users suggested that the government must take swift and decisive action to curb the air pollution to achieve environment and social sustainability.

Keywords: Environment and Social Sustainability, Air pollution, Vehicular Emission, Vehicle Manufactureres.

© SGBED 2019

DXB043

INSTRUMENT FOR MEASURING EFFECTIVE TEACHING COMPETENCIES FOR TEACHERS IN INDIAN BUSINESS SCHOOLS

Kanupriya Misra Bakhru, misra.kanupriya@gmail.com
Department of Humanities and Social Sciences,
Jaypee Institute of Information Technology, Noida, India

Naseem Abidi, drabidi@yahoo.com
Skyline University College,
University City of Sharjah, Sharjah, UAE

ABSTRACT

In the current scenario role of teachers in management education has become more challenging, and there is a need for quality teaching, through innovation, research and adaptive teaching pedagogies for effective learning at international standards. The study identifies competencies required for effective teaching in business schools in the current dynamic and technology driven learning environment. However, there is no instrument available to measure effective teaching competencies for the teachers in Business Schools. This study in the initial phase identified 69 competencies for effective teaching through extensive literature review. The questionnaire was administered on 511 business school teachers of National Capital Region of India. Exploratory Factor Analysis (EFA) was conducted to examine the factor structure of the instrument. The result presents an instrument to measure effective management teaching competencies for teachers in Indian business school with satisfactory reliability and validity.

Keywords: Effective Management Teaching, Competencies, Instrument, Exploratory Factor Analysis

© SGBED 2019

DXB049

ANALYSIS OF KNOWLEDGE MANAGEMENT PRACTICES: A CASE STUDY OF PRIVATE SCIENTIFIC AND TECHNOLOGICAL ORGANIZATIONS IN ZHEJIANG, CHINA

Yi Liu, z0004547@zuel.edu.cn
Chenhui Zhao, chzhao2000@163.com
Chao Liu, qduliuchao@163.com
Zhongnan University of Economics and Law, China

ABSTRACT

In the era of knowledge economy, knowledge is changing the production mode and business philosophies of organizations globally. The wave of knowledge management (KM) has helped many companies to achieve success. However, some Chinese private enterprises fail to recognize the growing significance of KM practices. The obstacles and inefficiency of KM implementations within Chinese private enterprises still remain to be under researched. Through interviewing participants in three private scientific and technological companies in Zhejiang, this study highlights that KM practices are still at an early developing stage, and most organizations did not realize its values, and there is a lack of investment on KM related activities. In response to the findings, some effective and feasible suggestions focusing on the strategic, management as well as operational levels are proposed for companies to tackle KM related issues. This paper contributes to deepening the understanding of KM practices and providing future research directions.

Keywords: Chinese private enterprises; KM; strategic model; case study

© SGBED 2019

DXB050

EFFECTS OF KNOWLEDGE HIDING ON EMPLOYEE CREATIVITY?: THE ROLE OF KNOWLEDGE POWER AND TASK INDEPENDENCE

Yi Liu, z0004547@zuel.edu.cn
Chao Liu, qduliuchao@163.com
Haiyue Xiu, 1406060114@zuel.edu.cn
Zhongnan University of Economics and Law, China

ABSTRACT

Knowledge as an importance source of competitive advantage is more likely to influence employee creativity. Managers have tried to promote creative behaviors, but such pursuit may be influenced by members withholding or hiding valuable knowledge. Knowledge hiding is ubiquitous in organizational practices, and yet, there is still limited empirical research examining this topic. Most of the existing knowledge focus on the negative impact of knowledge hiding on teams, individual knowledge-hiders as well as the knowledge seekers, which ignores the importance of knowledge power and task independence. Through a comprehensive review of the relevant literature, a research framework was developed. From knowledge power perspective, this article discussed the influence mechanism of knowledge hiding on employee creativity, while introduced the concept of task interdependence to test the possible effects of knowledge hiding on employee creativity under different task characteristics. Several hypotheses were proposed, which provide a new perspective for future research in related area.

Keywords: Knowledge hiding; knowledge power; task interdependence; employee creativity

© SGBED 2019

DXB051

INVESTIGATING MALACCA RIVER DESTINATION IMAGE USING A TRI-COMPONENT MODEL

Jason M. S. Lam, mslam@mmu.edu.my
Multimedia University (Malacca campus), Malaysia.

Ling Suan Choo, clsuan@uum.edu.my
Universiti Utara Malaysia, Malaysia.

Yit Leng Oh, yloh@mmu.edu.my
Multimedia University (Malacca campus), Malaysia.

Saw Chin Khor, sckhor@utar.edu.my
Universiti Tunku Abdul Rahman (UTAR), Malaysia.

ABSTRACT

Previous research of the image attributes of river tourism destinations has only focused on the general image or cognitive attributes; it has not addressed the subjective components of image formation. We argued that cognitive image may not induce a positive affective attribute, and hence explored the possible significant relationships by using the tri-component model of destination image in the context of river tourism destination. The findings revealed that the tri-component model is a 'fit' to the study and, thus, contributes to the river tourism destination literature.

Keywords: River tourism destination, destination image, Malacca River, cognitive-affective-conative model

© SGBED 2019

DXB055

THE GDPR: A REAL REVOLUTION IN THE PROTECTION OF PERSONAL DATA IN THE DIGITAL ERA

Dusan SOLTES, dusan.soltes@fm.uniba.sk,
Faculty of Management, Comenius University, Bratislava, 820 05, Slovakia

ABSTRACT

The main objective of this abstract is to present the new EU legislation on the protection of personal data and at the same time also to present some first experiences as gathered during the first period of its implementation into the practice on 25th May 2018. In this respect the paper is basically and mainly focusing on and dealing with the new EU regulation popularly already known especially in the EU and all its member states as the GDPR or the General Data Protection Regulation. The GDPR by itself represents one of the most revolutionary legislative changes in the overall history of the EU system of legislation or as it is generally known as "acquis communautaire" as it truly and fully changes the entire system of the protection of personal data from the point of view of the strength of the particular EU legislation. Before the GDPR the protection of personal data in the EU has been provided by the particular directive that in general enables quite often a kind of different interpretation of the content of that legislation as being applied in various different EU member states. In difference to that, the regulation is the strongest legislative act within the EU so called secondary legislation. In difference to its predecessor i.e. directive, it can be only translated into the national legislation and thus its interpretation has to be absolutely unique and the same in all EU member states. In addition, we have to add that the jurisdiction of this GDPR first of all and primarily has been related to the protection of data being collected, stored, processed, communicated and utilized on the territory of the EU. But due to the existence of the current globalized world and related globalized economic, social, cultural and all other various relations all of them are not possible without the globalized transfers and movements of personal data. In view of this the impact of the GDPR has been becoming to be a truly and fully a global one. This global aspect of the GDPR concerns of all cases when the subjects registered in the EU are doing their business and/or any other kind of their activities and operations outside of the territory of the EU. But the same it is of course existing also vice-versa concerning all various foreign subjects that although registered outside of the territory of the EU are doing any kind of their business and/or any other kinds of activities or operations on the territory of the EU. Thus, in both these cases all of them are handling also various kinds of personal data of their employees, partners, customers, suppliers, contractors, investors, etc. Hence, in this respect due to the enormous extend of the various business and non-business activities and operations related to the EU either directly or indirectly, the protection of data and especially in this case protection of personal data according to this new EU GDPR and its impact has been becoming truly and fully a global one. In view of this, it is now the best time just shortly after being enacted and its entry into operation to pay due attention to this new system of protection of data and in particular to the protection of personal data. This is also the main aim and purpose of this our paper where we have been presenting also our first experiences but also problems and weaknesses of this new EU legislation on the protection of personal data. In this respect the paper is going to present our first research results as they have been available from our ongoing EU funded research project EU/INFORM.

Keywords: Protection of data, personal data, GDPR – General Data Protection Regulation, acquis communautaire, EU regulation

© SGBED 2019

DXB063

FACTORS DETERMINING ECONOMIC MOAT OF COMPANIES WITH SPECIAL REFERENCE TO FAST MOVING CONSUMER GOODS' COMPANIES OF INDIA

Manoj Kumar, manojgrey@gmail.com
Skyline University College, Sharjah, UAE

ABSTRACT

Investors across the world consider investing in the companies with economic moat. The economic moat of a company acts like an insurance against wide changes in consumers habits and preferences. It has been defined as a business's ability to sustain its competitive advantage in its industry. The word moat in past was related to structures designed to protect castles. In business literature various deterministic have been discussed for creating moat like switching costs, network effect, regulations patents etc. The factors related to moat creation cannot be exactly same across the industries and economies, because the importance of factors and industry dynamics vary widely. Hence separate studies are required for different situations. This research is an attempt to understand the relative roles of prominent factors for economic moat creation for fast moving consumer goods' companies in India. Fast moving consumer goods' companies have always been one the most discussed companies and brands in marketing, and investors have also preferred them as their core holdings in investment. And, there is a shortage of study related to economic moat in Indian FMCG sector. This research is based on comprehensive study of companies which have considered as having wide moats by various scholars, investment advisory bodies and other organizations. The various factors related to companies like branding, distribution, investor relations activities etc. have also been studied to understand the roles of these factors. The study is aimed at enriching the literature related to economic moat and to help investors in identifying the companies with wide economic moats.

Keywords: Economic Moat, FMCG, India, Investment

© SGBED 2019

DXB064

SUSTAINABLE SUPPLY CHAIN MANAGEMENT – DEVELOPMENT OF A MODEL THROUGH INFORMATION TECHNOLOGY

Ramakrishna Yanamandra, ramakrishna@skylineuniversity.ac.ae
Skyline University College, Sharjah, UAE

ABSTRACT

Supply Chain Management (SCM) has evolved into a full-fledged management function from a mere purchase function during the last two decades. While organizations have already realized the positive outcomes of implementation of traditional SCM, the focus has now shifted towards managing supply chains in a sustainable manner. Sustainable SCM (SSCM) is defined as the management of material and information flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, i.e. economic, environmental and social, and stakeholder requirements into account. It is found that achievement of sustainability in supply chain provides greater benefits related to improved customer satisfaction, efficient supply risk management, increased quality and flexibility levels and reduced supply chain cost. But, the efforts by the firms towards achieving sustainability in supply chains are at minimum level due to several barriers. Use of information technology is found to play a major role in overcoming these barriers and in shifting the existing supply chains towards sustainable supply chains. While the existing literature review reveals that majority of the research is focused only on few dimensions of sustainable supply chains, the economic, environmental and social performance measures of it are not dealt in an integrated manner and usage of information technology was not emphasized. There is a dearth of studies in this area related to the development of a framework for sustainable supply chain using information technology. This research paper identifies the dimensions of sustainable supply chains, frameworks and models related to supply chain through a comprehensive literature review and attempts to develop a model by considering information technology as an enabler. The model developed would reduce the dependency of organizations on traditional supply chain and provides a better alternative model for achieving sustainability in supply chain using information technology.

Keywords: Sustainable Supply Chain, Information Technology, Information Sharing, Framework, Supply Chain Model, Information Sharing

© SGBED 2019

DXB065

A FRAMEWORK TO ACHIEVE SUPPLY CHAIN RESILIENCE THROUGH INFORMATION TECHNOLOGY

Ramakrishna Yanamandra, ramakrishna@skylineuniversity.ac.ae
Skyline University College, Sharjah, UAE

ABSTRACT

Supply chain management in today's globalized and complex business environment is prone to certain disruptions due to various uncontrollable factors inspite of implementation of many proactive measures. Therefore, firms need to develop long term strategies to identify, assess, analyze and manage these unanticipated disruptions to minimize their impact. Supply Chain Resilience (SCR) refers to the firm's adaptive capability to prepare for these unanticipated events as well as react and recover from disruptions to resume normal operations or even be in a stronger position after a disturbance has occurred. SCR as a strategy has gained importance in the recent past as the number of natural and man-made disasters have increased and posed a threat to supply chain operations at a global level. Capabilities like flexibility, redundancy and visibility have to be a part of supply chain strategies to achieve resilience by quickly reacting to disruptions and maintaining continuity of operations. Digital operations and Advanced Information Technology Systems are found to be very useful in achieving these capabilities to reduce the impact of disruption in supply chains. Though there are many studies available related to SCR based on non-IT models, there are very few contributions on the role of IT in SCR. The present study identifies the dimensions of SCR, factors contributing to SCR, strategies to mitigate it through a comprehensive study of literature and aims to develop an integrated framework with a focus on IT enabled approaches. Implementation of this framework would enable the firms to minimize the supply chain risks and achieve supply chain resilience.

Keywords: Supply Chain Resilience, Information Technology, Supply Chain Framework

© SGBED 2019

DXB066

AN EMPIRICAL INVESTIGATION OF THE IMPACT OF ISO 9001 CERTIFICATION

C.P. Kartha, cpk@umflint.edu
University of Michigan-Flint,
Kearsley Street, Flint, USA MI 48502

ABSTRACT

ISO 9001 Quality Standard is a series of internationally accepted guidelines as to how companies should set up their quality management systems. Certification to this quality standard is accepted worldwide and helps companies to operate successfully in a global economy. Certification to this quality standard is accepted worldwide and helps companies to operate successfully in a global economy. There has been considerable debate in the literature as to whether or not the certification has a positive impact on the organizational effectiveness. The objective of this study is to empirically estimate the impact of certification on the performance of factors that measure organizational effectiveness such as profitability, productivity and customer satisfaction. Survey data was used for this study. Samples of 500 companies each from US, and the BRIC nations Brazil, Russia, India and China were selected for this study. Hypotheses on the impact of certification on individual factors were tested and the results presented in the paper. In general, the results support the hypothesis that certification has a positive impact on factors that influence organizational effectiveness. However, specific comparisons between US and the BRIC nations show that the impact of certification is not consistent when individual factors are considered. Results show that certification had a significant impact in reducing Scrap/Rework. For all countries this factor was significant. The factor Customer Complaints was significant for India but not for any of the other countries. Also Customer Satisfaction was significant for all countries except for India and China. At the same time certification really had an impact in improving market share for these two countries. The results showed in general that the certification had a significant positive impact on profitability supporting potential financial rewards of ISO 9001 certification. A few studies in the past have shown mixed results on the benefits of certification. The current study perhaps belongs to this group. There was considerable heterogeneity in the data due to variability in the demographic characteristics between countries and this could partly be the reason for the mixed results.

Keywords: Quality Standard, ISO 9001 Certification, Performance, Profitability, Productivity.

© SGBED 2019

DXB068

KNOWLEDGE MANAGEMENT FOR FINANCIAL RESILIENCE POST DISASTERS: AN EMPIRICAL ANALYSIS

Abhishek Behl, abhishekbehl27@gmail.com
Pankaj Dutta, pdutta@iitb.ac.in
Shailesh J Mehta School of Management; IIT Bombay.

Ajith Kumar VV, ajithkumarvv@gmail.com
Skyline University College, Sharjah UAE - United Arab Emirates

ABSTRACT

The rate of growth of data and in turn knowledge about subjects has increased manifolds. The evolving knowledge has also brought its own set of issues, one of which is its management. Knowledge Management (KM) becomes more important in areas dealing with uncertainty and disaster is one such area. Manging financial resources post disaster is a complex phenomenon and managing knowledge in it helps in simplifying the process. Financial resilience has always been a weak point in disaster relief operations due to challenges in evaluating and assessment of the degree of financial losses. Effective management of knowledge in handling financial losses due to disasters remains a perennial debate and the present study aims to address the concerns related to it. The study aims to identify factors influencing KM process in disaster preparedness, theorizes their interaction effect based on resource based view and assess the impact of KM on financial resilience effectiveness. It is hypothesized that physical resources invested to promote KM are hypothesized to interact with human and organizational resources and influences the degree of financial resilience. It is in the light of the same that capturing, sharing, applying and creating knowledge plays an important role and more than that, it is important that put filters to get the useful information and then use them to make the KM tools smarter. The study has collected data from banks and financial agencies which use KM tools to disburse funds to achieve financial resilience post floods in Assam, India. Data was collected from 110 respondents who were employees of banking/financial services or sector offering financial support to achieve financial resilience post disaster. Study applies structured equation modelling for testing the hypothesis. Results show that financial managers/stakeholders experience, social capital and interaction between the key stakeholders play an effective role in managing knowledge while the organizational culture and government support played a supressing effect. Among the results, the magnitude and variety of experience of financial resource managers play the most significant role in the study. The results also support that hypothesis that strong knowledge management and constant sharing of knowledge resources between the stakeholders improve organizational effectiveness. The interaction effects of type of organization offering financial support was also taken into consideration in the study. The results offer interesting insights in understanding the process of financial resilience post disasters.

Keywords: Knowledge Management; Disaster relief operations; India; banking; financial resilience; floods

© SGBED 2019

DXB074

THE ROLE OF E-LEARNING IN TOUR OPERATORS' MARKETING STRATEGIES

Valerio Temperini, v.temperini@staff.univpm.it
Gian Luca Gregori, g.gregori@staff.univpm.it
Lucia Pizzichini, l.pizzichini@staff.univpm.it
Polytechnic University of Marche – Department of Management
Piazzale Martelli, 8 – 60121 Ancona, Italy

ABSTRACT

Tourism is among the sectors most involved in the digital revolution. Disintermediation and the accentuated competition of online operators seriously threat the traditional distribution channel. In this context of easier access to information, it appears increasingly important to strengthen the assistance and advisory capacities of travel agents as required by the particularities of the tourism product. Despite the fact that a growing number of tour operators offer e-learning training programs with the clear aim of strengthening the relationship that binds them to travel agents, there are no important works that analyze the phenomenon. Travel agents can be considered an 'indirect and external' sales force of the tour operator, who requires training to be loyal and make sales more effective. The perspective of the analysis appears to be of some interest, however, little is still known about the current status of e-learning courses offered by tour operators to travel agents. This exploratory study aims to fill this gap and in particular, to address the questions, which marketing purposes Tour Operators can achieve by implementing e-learning platforms to provide training to travel agents? And, how can the offer of online training services impact the relationship between Tour Operators and travel agents? In order to respond to the aforementioned research questions, the GoAcademy case study is examined. That is an e-learning platform implemented by the "Go Asia" tour operator, leader in Italy in the sale of travel to Asian destinations. The analysis of the case study allows to highlight that through the online training offer positive effects on trust levels and on the loyalty of travel agents with respect to suppliers can be achieved. In this sense, e-learning is configured as a valid tool for relational marketing with reference to market influencers.

Keywords: Tour Operator, travel agent, e-learning, marketing, relationship

© SGBED 2019

DXB076

MANAGING OUR CLASSROOMS IN A DIGITAL AGE: OPPORTUNITIES AND CHALLENGES IN LEARNING THROUGH ENGAGEMENT

Vish Iyer, vish.iyer@unco.edu
Muhanad Manshad, muhanad.manshad@unco.edu
Brandon Soltwisch, brandon.soltwisch@unco.edu
Daniel Brannon, Daniel.brannon@unco.edu
Monfort College of Business, University of Northern Colorado, USA

ABSTRACT

This manuscript outlines the challenges teachers/facilitators may encounter in our classrooms, given the information glut that exists, contesting the levels of attention necessary from our students in the classrooms to achieve the designated goals and objectives. In order that we may achieve maximum levels of connection, critical thinking, context and creativity in our classrooms through student engagement, a model for "Learning Through Engagement Model" is proposed.

Keywords: Learning, student engagement, classroom culture, student attention

© SGBED 2019

DXB078

FEAR OF MISSING OUT AND INTERNET ADDICTION AND THEIRCOMBINEDINFLUENCE ON ONLINE PATHOLOGICAL SHOPPING BEHAVIOUR: MARKETING PERSPECTIVE

A. S. Suresh, suresh.a@christuniversity.in,
Anindya Biswas, anindya1990biswas@gmail.com,
Department of Marketing, Institute of Management, Christ University, Karnataka, India

ABSTRACT

Impetus for this study emanates from the fact that not much empirical evidence in support of Fear of Missing out (FOMO) and its influenceon Internet Addiction exists, which consequently can serve as a gateway forproblematic shoppingbehaviour. While pathological shopping has a medical connotation, this study is an endeavour toexamine FOMO and internet addiction from marketing perspective so as to enable better customer understanding for generating more profits. Conducted over a seven month period with data collected from 287 respondents across India, the study significantly revealed that FOMO is indeed an active influencer of Internet Addiction in the millennial generation, which excessivelycan lead to development of pathological imbalances such as problematic shopping in a cyclic pattern. In the era of online and e-commerce, insights garnered through this study into the psyche of increasing online consumers will enable marketers to align their consumer engagement programs & improve brand equity.

Keywords: Fomo, Internet Addiction, Compulsive Buying Behaviour, Pathological shopping, online shopping, e-commerce.

© SGBED 2019

DXB082

DEVELOPING FRAMEWORK FOR SUSTAINABLE PROCUREMENT OF BASMATI RICE IN INDIA

Rajni Kant Sharma, gotork@gmail.com
Adjunct Faculty, Maastricht School of Management,
Maastricht, Netherlands.

Naseem Abidi, drabidi@yahoo.com
Professor, Skyline University College,
University City of Sharjah, UAE

ABSTRACT

Sustainability at rural grass root is an increasing challenge in India with increasing incidences of farmers' demonstrations in context of their depleting livelihoods on one side and parallel debates on agricultural production and trade efficiency as well as food safety on the other side. This depicts the weaknesses of the age-old conventional system of agri-commodity production and trade and spells compelling need to revamp towards other possible alternatives that can increase the contribution towards sustainability. To nurture the aspects of rural livelihoods and well-being, trade justice, social equity and reducing environment damage, various alternatives trade mechanisms have taken shape that proclaim to link farmers to ethical consumers and connect to sustainable supply chain that makes procurement at farm level more effective and make positive contributions towards economic, environment, social and governance dimensions of sustainability. However, there have been dearth of studies in context of possible alternatives in Indian context. This research paper, identifies dimensions of sustainability at farmers level through systematic literature review, and review existing procurement frameworks through integrative literature review. It also does the basmati rice procurement and commodity chain process mapping of existing Conventional system as well as procurement through Fair-Trade system. Authors also collect insights from farmers as well as traders involved in both the procurement systems to develop a framework for sustainable procurement of basmati rice in India to reduce economic vulnerability of farmers, increase environment and social harmony through effective governance.

Keywords: Sustainability, Sustainable Procurement, Conventional Procurement System, Fair-Trade System.

© SGBED 2019

DXB086

INVESTIGATING THE LINKAGE BETWEEN AGE AND SMART PHONE USAGE PATTERNS: EVIDENCES FROM EMERGING ECONOMIES

A M Sakkthivel, sakthivel@skylineuniversity.ac.ae, drsakkthi@gmail.com
School of Business, Skyline University College, Sharjah, UAE

V Moovendhan, moovendhanv@gmail.com
Department of Technology Management
VIT University, Vellore, India

Githa Heggde, githa.heggde@ifim.edu.in
IFIM Business School, Bangalore, India

ABSTRACT

This paper focuses on creating new categories of smart phone usage patterns such as Professional, Social and Personal centric usage and tests the same among selected age groups i.e. young, middle, old etc. with related to identifying the intentions of usage patterns among the respondents representing the selected age groups. 150 smart phones users from Bangalore, India participated the survey representing different age groups and the following are the results (i) respondents representing all the selected age groups shown positive influence to use smart phones for personal usage (ii) respondents representing young age group shown positive intentions to use smart phones for professional usage and (iii) middle age group and old age group users displayed positive intentions to use smart phones for social and personal usage respectively. The implications of the outcomes are discussed.

Keywords: Smart phones, usage pattern, personal, social, professional, young, middle, old, age groups, Growing smart phone market, structural equation modeling

© SGBED 2019

DXB090

AN ANALYTICAL STUDY ON THE HUMAN AND RELATIONAL CAPITAL AS OUTCOMES OF KNOWLEDGE MANAGEMENT ACTIVITIES IN MAIN LIBRARY IN SULTAN QABOOS UNIVERSITY

Hanin Alqam, pg16f1613@mec.edu.om
Shyamala Srinivas, adisid@gmail.com
Middle East College, Oman

ABSTRACT

Knowledge Management (known as KM) is a relatively new discipline and developed mainly in the last two decades. Knowledge management is simply defined as the process that concerns knowledge creation, acquisition, sharing and utilizing. Intellectual capital is the core of knowledge management system. It comprises of human capital, structural capital and relational capital. Additionally, knowledge management has three main components, which are people, process and technology. All kinds of organizations and enterprises (governmental and private) must own a knowledge as one of its basic components, assets and resources. Academic libraries show a need to own a strong knowledge management system. This study aims mainly at identifying benefits and issues related to knowledge management in main library in Sultan Qaboos University focusing more on the development of human and relational capital. The significance of this study comes from the importance of applying knowledge management activities in academic libraries to improve services and retain members. This could be linked to the vital role academic libraries are playing in enhancing the qualifications and skills of university students which could be then reflected in building a well-educated generation that can cope with global and international advancement and changes. Data collection tool for the study is questionnaire. The study population and sample is staffs working in main library in Sultan Qaboos University. A descriptive approach is employed due to its ability to address the study problem. Results of the study indicated that top management in main library takes care of improving knowledge management system in general and in terms of human and relational capital in particular.

Keywords: Knowledge management, human capital, relational capital, academic libraries, social networks

© SGBED 2019

DXB100

POLITICAL MARKETING AND SOCIAL MEDIA INFLUENCE ON YOUNG VOTERS IN GHANA

Justice Boateng Dankwah, justice.dankwah@uenr.edu.gh
Department of Entrepreneurship and Business Sciences,
University of Energy and Natural Resources,
P.O. Box 214, Sunyani-Ghana

John Paul Kosiba, john.kosiba@upsamail.edu.gh
University of Professional Studies,
P. O. Box LG 149, Accra-Ghana,

Robert E. Hinson, hinsonrobert@gmail.com
University of Ghana Business School and
University of Free State Business School, Bloemfontein,
South Africa, P. O. Box LG 78, Accra-Ghana

Ogechi Adeola, oadeola@lbs.edu.ng
Lagos Business School, Pan-Atlantic University,
Km 22 Lekki-Epe Expressway, Ajah - Lagos

ABSTRACT

As the political and media landscape becomes more complex, political parties and candidates worldwide are continually exploring new ways and ideas to effectively communicate their messages to their target audience. Throughout the political history of Ghana, the mass media has played an integral role in political marketing successes. However, with the advent of the digital economy, social media platforms have unfolded new possibilities for politicians to engage with citizens. The study examined the extent to which political message dissemination on social media by politicians in Ghana influence young voters' political knowledge, efficacy, and participation. A quantitative approach was adopted for the study with purposive sampling utilised to select a sample size of 320 young voters (18-29 years). Data gathered through questionnaire administration was analysed using structural equation modelling. Findings revealed positive and significant relationships between political message dissemination on social media and political participation, political knowledge, and political efficacy of young voters. A positive and significant relationship was also found between political efficacy and political participation; however, an inverse and insignificant relationship was found between political knowledge and political participation. Overall, the findings revealed that political participation, especially among young voters, could be enhanced through the use of social media.

Keywords: Ghana; Social Media; Political Message; Political Knowledge; Political Efficacy; Political Participation.

© SGBED 2019

DXB101

INVESTIGATING THE DIALOGIC COMMUNICATIONS POTENTIAL OF BOTSWANA TRADE AND INVESTMENT CENTRE WEBSITE

Robert E. ***Hinson,*** *hinsonrobert@gmail.com*
University of Ghana Business School and
University of Free State Business School, Bloemfontein,
South Africa, P. O. Box LG 78, Accra-Ghana;

Anne ***Renner,*** *anne.renner11@gmail.com*
University of Ghana Business School, P. O. Box LG 78, Accra-Ghana,

John Paul ***Kosiba,*** *john.kosiba@upsamail.edu.gh*
University of Professional Studies, P. O. Box LG 149, Accra-Ghana,

Ogechi ***Adeola,*** *oadeola@lbs.edu.ng*
Lagos Business School, Pan-Atlantic University
Km 22 Lekki-Epe Expressway, Ajah - Lagos

Nnamdi O. ***Madichie,*** *nnamdi.madichie@lsbm.ac.uk*
London School of Business and Management
University of East London, London, United Kingdom,

Michael ***Nkrumah,*** *Michael_nkrumah@yahoo.com*
Ghana Institute of Management and Public Administration,
Business School, P.O. Box AH 50, Accra

ABSTRACT

This study investigated the dialogic potential of a public sector organisation's website and its impact on trade and investment decisions. Drawing upon Kent and Taylor's (1998) dialogic communications framework and the Media Richness Theory (MRT), the study examined the brand communications potential of the Botswana Investment and Trade Centre (BITC) website. A total of 398 respondents participated in an online survey, and the Partial Least Squares approach was utilised to analyse the data. The results indicate that the dialogic principles of the destination's trade and investment website have a positive impact on destination awareness, image formation, and trade and investment opportunities. Specifically, destination awareness partially mediates the relationship between the dialogic principles and destination image, and destination image fully mediates the relationship between the dialogic principles of the website and trade and investment intentions. The study contributes to the literature by uncovering the rich media potential of a nation's trade and investment website to create awareness, influence destination image, and trade and investment intentions, based on the dialogic potential of the website. The theoretical implication of the study suggests that social media and traditional sites can be used by the government of a nation to aid dialogic communication with stakeholders.

Keywords: Nation branding; dialogic principles; Botswana; media richness theory; trade and investment

© SGBED 2019

DXB103

THE CHALLENGE OF CONSUMER INFORMATION MANAGEMENT IN THE ERA OF ROBOTS AND ARTIFICIAL INTELLIGENCE: OPPORTUNITIES AND CRITICAL ISSUES

Nadia Olivero, Nadia.olivero@unimib.it
University of Milano Bicocca, Italy

ABSTRACT

This paper main aim is to uncover the potential implications of the advent of robots and artificial intelligence from a marketing management point of view. The review of the most significant innovations from both consumers and managerial perspectives advances the current debate for the setting of a new research agenda. It is argued that if a wide range of new technologies, including retail technologies such as mobile and sensing devises, have so far innovated customer services and data analytics, robots and artificial intelligence have the potential for a more radical transformation involving a real shift in information control and choice. Based on previous literature, the paper reviews the main innovations currently employed for consumer decision-making facilitation, engagement, merchandising, data collection and analytics. Next to service and managerial opportunities, social and psychological factors appear to affect technology adoption and usage. The paper discusses findings on 'trust ',' risk perception ',' presence ',' autonomy, control and 'self-awareness', finally argues for the upcoming role of robots in both consumers, and companies 'decision-making processes alike. Robots that relate to humans in different contexts to provide assistance in simple tasks can collect large amount of information and adapt to the interaction in a very similar way to that of interpersonal exchanges. However, as people learn to interact with robots as if they would interact with a person, companies will face the need to manage new type of data the interpretation of which will require social and psychological competencies. The paper concludes by reflecting on the potential effects associated with the advent of robots enriched by artificial intelligence to the extent that they might develop self-awareness and self-expression objectives. It is predicted that robots will play a significant market role by making decisions on behalf of consumers and companies to then develop into a novel type of marketing target. A future research agenda should focus on such emerging market to clarify how data collected through robots should be optimally managed and used. Finally, managerial implications are drawn for the design of models of knowledge and information management as well as for marketing strategies oriented to the future market segment of consumer robots. For this theoretical contribution, the review of previous literature and the evaluation of the latest technological applications guide the identification of the most critical issues from a management viewpoint.

Keywords: Consumer information management, robots, artificial intelligence, critical issues

© SGBED 2019

DXB106

INVESTIGATION OF GREEN MARKETING PRACTICES OF UAE HYPERMARKETS

Shanmugan Joghee, jshanmugan@skylineuniversity.ac.ae
Skyline University College, Sharjah, UAE

ABSTRACT

The purpose of this investigation is to explain an empirical relationship among the green principles and firm's competitive advantage. Study is intended towards establishing an association among the constructs of green marketing constructs and firm competitive position. Green loyalty has been investigated as a mediating factor among this direct association of green principles. The data has been taken from the prominent hypermarkets customers in Dubai. This empirical research is quantitative and a cross sectional study. The data has been collected by adopting a convenience sampling method and targeted respondents of study were 343. Structured questionnaire is adopted for measuring research items of model constructs. Items of questionnaires are relying on 5 point Likert scale. Data has been collected from the general collected data has been analyzed by using SPSS and PROCESS for measuring the direct impact of green trust and green satisfaction on firm's competitive advantage and mediating effect of green loyalty has also been measured. The finding indicates the strong significant relationships among the proposed hypothesis of current research study.

The findings highlight the mediating stance of green loyalty among professionals that ultimate links towards their competitive advantage. The proposed hypothesis testing shows moderately significant association among the variables. Green trust and green satisfaction individually and collectively positively impact on firm's level of competitiveness. Moreover, this study elucidates the mediating impact of the green loyalty in attainment of competitiveness of hypermarkets over regular store. This study should adopt the green practices and appreciate organic products selling, recycling of waste material and packaging to upscale the motivation and loyalty of employees to repeat purchasing from their store or hypermarket. This study is novel in terms of investigating the relationship among green principles empirically and concluding the practical implications and suggestions for hypermarkets and local grocery stores and guides them to retain their customers by implication of green practices and promoting organic products. It will direct the marketing professionals, decision makers as well as corporate strategist to initiate this green marketing practices to promote the green marketing 7Ps among professionals to reach competitive advantage.

Keywords: Green satisfaction, Green Loyalty, Green Trust, Greening, Green Marketing, Organic Products, Organic Marketing, Competitive advantage

© SGBED 2019

DXB108

LUXURY SERVICE EXPERIENCE: ITS DOMAIN AND IMPACT ON EMOTIONAL RESPONSES ON BRAND EQUITY

Sherriff T.K. LUK, sherriff.luk@connect.polyu.hk
Emlyon Business School,
The Hong Kong Polytecnic University, Hong Kong.

ABSTRACT

Irrespective of increasing interest in research on luxury brands and luxury consumption, there have been limited studies on luxury service experience. The present study employed mixed methods to collect qualitative and quantitative data to investigate the domain of luxury service experience in the context of beauty service from a customer perspective. The beauty service industry is made up of four product markets: cosmetics retailing, traditional beauty service, cosmetic surgery service, and medical beauty service. We undertook three studies to explore the meanings and domain of luxury service experience and its impact on service evaluation and emotional responses. Study One involved a qualitative study which generated over 20 interview reports. We selected over 20 interviews with the owners and senior management staff of beauty service shops for their expertise on the concept of luxury and luxury beauty service experience. Content analysis techniques was employed to identify the key ideas of luxury and the attributes/components of luxury service experience with reference to three types of beauty service: cosmetics retailing, traditional beauty service and cosmetic surgery service.

Then, two quantitative studies which employed questionnaire interviews to collect data from the respondents were undertaken. We based on the findings from Study One to develop the questionnaire for survey interviews that were implemented in two phases. In Study Two, the main body of the questionnaire included questions designed to measure customers' conceptualization and expectations on luxury beauty service. Approximately 200 respondents were successfully interviewed and we performed Exploratory Factor Analysis to identify the dimensions of luxury service experience of beauty services and develop a measurement scale for luxury beauty service. In Study Three, we rephrased the expectation questions to service evaluation questions, the benefits customers obtained through the consumption of luxury service experience and the emotional responses provoked. In addition, how the use of social media may contribute to luxury service experience will also be examined. We will base on the data to perform a Confirmatory Factor Analysis to validate the measurement scale for luxury service experience developed in Study Two and test the hypothetical relationships amongst luxury service experience, customer satisfaction, loyalty, and emotional benefits.

Keywords: Luxury brands, Luxury consumption, Luxury service experience

© SGBED 2019

DXB109

CONSUMER PROFILING AND DIFFUSION OF MOBILE BANKING IN AN EMERGING MARKET

Mallika Srivastava, mallika.srivastava@sibm.edu.in
Semila Fernandes, semila.fernandes@sibm.edu.in
Symbiosis Institute of Business Management, Bengaluru,
Symbiosis International (Deemed University) Pune, Bengaluru-560 100

Ajith Kumar VV, ajithkumarvv@gmail.com
Skyline University College, Sharjah - United Arab Emirates

ABSTRACT

Through the current study, the authors propose to understand the determinants leading to consumer adoption of mobile banking in private and public banks in developing economy. To support this research, Everett Rogers theory of 'diffusion of innovation' was adopted as theoretical framework. The theory discusses the 'five-factors of innovation' which are the perceived attributes of the product or service viz. Relative advantage, Compatibility, Complexity, Trialability and Observability. In order to analyze the efficacy of Rogers's diffusion of Innovation theory towards adoption of mobile banking exploratory study was administered through a structured questionnaire. Furthermore, descriptive statistics and ANOVA was executed to assess the data and analyze the impact of demographic characteristics on consumer adoption of mobile banking with reference to all the five factors of innovation. On comparing the consumer adoptability towards mobile banking in private and public banks it was quite evident that the demographic variables viz. age, gender and years of using smartphones showed significant differences towards adoption of mobile banking in private and public banks. Accordingly, this study builds a comprehensive theoretical model explaining mobile banking adoption.

Keywords: Mobile Banking, Consumer Profiling, Rogers Diffusion of Innovation, Relative Advantage, Observability, Compatibility, Complexity and Trialability

© SGBED 2019

DXB113

SHOPPERS VALUE, CUSTOMER SATISFACTION AND DEMOGRAPHIC VARIABLES: EVIDENCE FROM INDIAN ONLINE RETAIL

Biranchi Narayan Swar, swar_biranchi@rediffmail.com
Rajesh Panda, director@sibm.edu.in
Symbiosis Institute of Business Management
Symbiosis International (Deemed University)
Bangalore, India

ABSTRACT

Purpose: The paper aims to find out the relationship among shopper value, customer satisfaction and demographic variables in the Indian online retail industry. Methodology: The paper has made an attempt to modify the existing shopper value and customer satisfaction scale. For this purpose, the data were collected from 340 respondents. We have used Karl Pearson correlation and ANOVA to analyze the data. Findings: The findings showed that both hedonic and utilitarian value significantly influence customer satisfaction. The study also revealed that the young shoppers were driven more by hedonic values compared to the older shoppers, the low income shoppers were more influenced by hedonic value compared to the higher income shoppers and the women shoppers were driven by hedonic value while the men shoppers are driven by utilitarian value. Applications: The study definitely helps the online retail practitioners to understand the role of hedonic and utilitarian values in customer satisfaction and its relationship with demographic variables.

Keywords: Hedonic values, Utilitarian values, Customer satisfaction and Online retail.

© SGBED 2019

DXB114

AN EFFECTIVE WAY OF MANAGING EMPLOYEES IN DIGITAL ERA THROUGH VIPASSANA MEDITATION

Pradhan Seema, smprdhn@gmail.com
Consultant Psychologist and Psychotherapist, Fortis Hospitals, Bangalore, India

V.V. Ajithkumar, ajithkumatvv@gmail.com
University City of Sharjah, Sharjah, United Arab Emirates

ABSTRACT

Very rapid and transforming changes are happening in all fields, thanks to the digital revolution in technology. This has created worldwide challenges as well as opportunities. However, in addition to technical knowledge and efficiency, psychological qualities like well-being, interpersonal skills, self-confidence, remain critically important. In this empirical study, Vipassana meditation is used as an intervention to measure its effect on employees' behavior, personality and psychological well-being. For this purpose, 240 meditator and non-meditator employees were administered an instrument comprising of a Psychological Well-being scale and a specially designed Behavior Measure Scale to measure the effect of mindfulness intervention on personality and behavior. The data was analyzed using SPSS Ver. 20.0. The results indicated higher values for meditator employees on nine measures of behavior, personality and well-being. These higher scores indicated that they enjoyed higher self-confidence, interpersonal skills, equanimity, empathy, engagement and growth leading to better work ethic and teamwork.

Keywords: Behavior, Employees, Personality, Psychological Well-being, Vipassana meditation

© SGBED 2019

DXB116

VIX FUTURES: VALUE-AT-RISK AND RETURN DISTRIBUTION

Ali Husain Ahmed, alimath85@hotmail.com
Qian Han, hanqian@gmail.com
The Wang Yanan Institute for Studies in Economics (WISE), Xiamen University, Xiamen, China.

ABSTRACT

In this paper we analyze the performance of GARCH and APARCH volatility models in modelling VIX futures daily Value at-Risk (VaR). We use four distributional assumptions and six different VIX futures maturities. Each VaR model is backtested from May2011through March 2017(8840 observations) using Kupiec test and Christoffersen test. Lopez Quadratic loss function is estimated to rank the models. The main findings can be summarized as follows: first, the VIX futures returns exhibit negative return, positive skewness, excess kurtosis and the volatility increases as the maturity decreases. Second, at α =1%, the GARCH and APARCH specification combined with skewed-t distribution provide the pest performance for Kupiec coverage test. Third, Lopez Quadratic loss function shows that in general APARCH- Student's t model is the best model for long position and GARCH-Skewed-t model for the short position. Finally, Markov Switching Model indicates that majority of the VaR violations of the short position happened during high volatility period.

Keywords: VIX futures, Value at Risk, GARCH Model, Risk Management, Markov Switching Model.

© SGBED 2019

DXB118

EFFECT OF DISRUPTIVE TECHNOLOGIES ON RETAIL BANKING ACTIVITIES

Abdul Rahman Khokhar, Rahman.Khokhar@smu.ca
Assistant Professor, Saint Mary's University, Canada.

The proposed research study will explore the impact of the technology on the retail banking activities in the U.S. in two steps. The first phase will explore the impact of the recent "digital disruption" on retail banking activities and investigate for any time-series and crosssectional variations. The second phase will concentrate on investigating the effects the digital disruption on incumbent banks performance. This phase will also estimate the moderating effects of macroeconomic factors (such as, business cycle and yield curve) and microeconomic factors (such as stability of bank revenues and increased competition from non-traditional direct/online banks) on the relationship between the retail banking activities and bank performance.

Keywords: Retail banking, Digital disruption, Banks performance, Macroeconomic factors, Microeconomic factors

© SGBED 2019

DXB120

MAPPING ANTECEDENTS OF INNOVATIVE WORK BEHAVIOR: A CONCEPTUAL REVIEW

Michael K. Muchir, michael.muchiri@rmit.edu.au
Adela J. McMurray, adela.mcmurray@rmit.edu.au
RMIT University, Melbourne, Australia

Mathews Nkhoma, mathews.nkhoma@rmit.edu.vn
Hiep C. Pham, hiep.pham@rmit.edu.vn
RMIT Vietnam University, Ho Chi Minh, Vietnam

ABSTRACT

Employee innovative behavior contributes to organizational success, and to overall business viability in the current competitive business environment. Based on a systematic review of published studies representing the literature addressing transformational leadership, leader-member exchange, employee perceptions of fairness and innovative work behaviour, we propose a framework depicting relationships among leadership, employee perceptions of fairness and innovative work behavior. Consequently, the framework advances theories on effective leader behavior, employees' perceptions of fairness and innovative work behaviour and helps unpack some underlying mechanisms through which leadership directly and indirectly influences employee innovative work behavior. The proposed conceptual framework also stimulates a behavior-oriented approach to innovative work behavior research and has the potential to generate actionable knowledge to manage innovative work behavior. Top management could utilize the framework when executing organizational design interventions that engender and shape innovative work behavior.

Keywords: Innovative work behavior, leader-member exchange, transformational leadership, and employee perceptions of fairness

© SGBED 2019

DXB132

THE IMPACT OF ECONOMIC FREEDOM LEADS ON ECONOMIC GROWTH: EMPIRICAL EVIDENCE FROM MENA COUNTRIES

Anwar Al-Gasaymeh, gasaymeh2014@gmail.com
Department of Banking and Finance,
Applied Science University-Amman-Jordan

Haitham M. Alzoubi, Haitham_zubi@yahoo.com
Skyline University College, UAE,

Gouher Ahmed, Gouher@usa.net
Skyline University College, UAE,

ABSTRACT

This study examines the economic freedom and economic growth nexus in a panel of 13 MENA countries. We investigate the relationship between growth and different components of economic freedom, measured in five major areas of the Economic Freedom of the Heritage Foundation. The aim of the study is to assess which aspects of economic freedom and to what extent – contribute to economic growth in the MENA. Our empirical analyses suggest that the results are sensitive to the method of estimation. Using the Generalized Method of Moments estimator which allows addressing endogeneity, we found a positive relationship between economic growth and five of economic freedom: security of property rights, freedom from corruption, government spending, business freedom and monetary policy.

Keywords: Economic growth; economic freedom; MENA; GMM.

© SGBED 2019

DXB133

INVESTIGATING THE RELATIONSHIP BETWEEN SUSTAINABLE SUPPLY CHAIN STRATEGIES AND SUPPLY CHAIN COLLABORATION AND ITS IMPACT ON THE COMPETITIVE PRIORITIES: AN EMPIRICAL STUDY ON JORDANIAN PHARMACEUTICAL COMPANIES

Haitham M. Alzoubi, Haitham_zubi@yahoo.com
Skyline University College, UAE,

Gouher Ahmed, Gouher@usa.net
Skyline University College, UAE,

Anwar Al-Gasaymeh, Gasaymeh@yahoo.com
Applied Science Private University, Amman-Jordan,

ABSTRACT

Companies seek to adopt competitive strategies that achieve sustainability standards, not only in achieving economic success but in serving society and preserving the environment at the same time. Pharmaceutical companies and its supply chains are facing increasing pressure to preserve the environment because of the problems caused by medical waste, and it is necessary to show their role through its strategies in preserving the environment and serving society as well. The study aimed to investigated the relationship between sustainable supply chain strategies and supply chain collaboration and its impact on competitive priorities. The study investigated if Jordanian Pharmaceutical companies incorporate the sustainability strategy into supply chain strategy, and if that may impact its competitive priorities. The study population consist of (193) Jordanian Pharmaceutical companies in which located in Amman. A structured questionnaire designed and distributed to top managers in the surveyed companies. A Structural Equation Modeling technique used to analysis data and provide the results. Analysis proved the relationship between sustainable supply chain strategies and supply chain collaboration, where companies interested in attain some achievements in the area of social and environmental have related to have some collaborative strategies with their partners in the supply chain. Moreover, this affected by and impacted the companies' competitive priorities. We suggested that organizations may adopt the TBL framework to evaluate their performance in a broader perspective, and to be embedded with the supply chain strategy, which should extend the collaboration with suppliers and customers through information sharing along the supply chain partners. Then to priorities its competitive advantage to be aligned with its sustainability strategies by trading-off some cost advantages in the short term with the sustainable quality-based advantages.

Keywords: Sustainable Supply Chain Strategies, Supply Chain Collaboration, Competitive Priorities, Pharmaceutical companies

© SGBED 2019

DXB134

BIOMETRIC IDENTITY CARD AS A TOOL FOR E GOVERNANCE IN SULTANATE OF OMAN

Kavita Chavali, kchavali@du.edu.om
Shouvik Sanyal, shouvik@du.edu.om
College of Commerce and Business Administration
Dhofar University, Sultanate of Oman

ABSTRACT

A Biometric Identity Card is the foundation of any country's E Governance policy. Biometric technology uses personal identification like fingerprints, iris scans and DNA identification to identify the user and stores the information in an integrated database. Biometric identity cards are used to facilitate and monitor efficient delivery of services such as education, healthcare, immigration and employment by the government. So has been adopted with varying degrees of success by countries across the world. This study makes an attempt to analyse the role of biometric identity cards as an effective tool for E Governance as perceived by the citizens of Sultanate of Oman. The study uses descriptive and quantitative research design with random sampling method. Structured questionnaire has been used to collect data from a sample of 200 respondents on four indicators and 35 items. Factor analysis is used to analyse the data. The study has found that citizens are overall satisfied with the role played by biometric identity cards in ensuring good governance. Nevertheless, there are some grey areas in the implementation and integration of the services where improvements are needed.

Keywords: E Governance, Biometric, Identity cards, Sultanate of Oman

© SGBED 2019

DXB135

PERCEPTION OF EDUCATED CITIZENS ON AADHAR CARD AS A TOOL FOR EFFECTIVE AND EFFICIENT E GOVERNANCE IN INDIA

Sudha Mavuri, drsudhamp@gmail.com
Department of Entrepreneurship
GITAM Institute of Management
GITAM (Deemed to be University), India

Kavita Chavali, kchavali@du.edu.om
Shireen Rosario, srosario@du.edu.om
College of Commerce and Business Administration
Dhofar University, Sultanate of Oman

ABSTRACT

Aadhar card is the world's largest biometric identification project launched in 2009 to provide a 12 digit unique identification number to every resident of India under the guidance of Planning Commission. Creation of a unique digital identity viz. Aadhar in the second highest populated country like India, as an effective and efficient tool for E Governance is both boon and bane. It can serve its purpose only through proper implementation of efficient and effective Information and Communication technologies (ICTs). In the study an attempt is made to understand the perception of residents on Aadhar card as a tool for E Governance. For this purpose purposive sampling is used and 150 samples are drawn from educated residents within India. Multiple regression analysis is applied to test the hypothesis and factor analysis to know the impact of Reliability, Timeliness, Facilitation and Concerns on efficiency and effectiveness of Aadhar as an E Governance tool. Based on the multiple regression analysis, Reliability and Timeliness are found to be statistically significant. Out of the concerns expressed by the respondents regarding Aadhar card as an E Governance tool is data privacy and breach which has the highest loadings. But concerns as a factor of measuring efficiency is not statistically significant and has no impact on the effectiveness and efficiency of Aadhar as a tool for E Governance.

Keywords: Aadhar card, UIDAI, Effectiveness, Efficiency, Data Privacy, E Governance, India,

© SGBED 2019

DXB137

EXAMINATION OF INDEX MODEL AND PREDICTION OF BETA –A CASE STUDY EXAMINATION IN IT SECTOR

Manuel Fernandez, mfernandez@skylineuniversity.ac.ae
Skyline University College, Sharjah, UAE

B Rajesh Kumar, rajesh@imt.ac.ae,
Institute of Management Technology, Dubai, UAE

ABSTRACT

This study examines the determinants of stock returns of IT companies based on index model. The study examines the index model using the case analysis of stock returns of three IT Companies- Apple, Google and Microsoft. The analysis was done using the latest five-year monthly data. The study reveals that market index returns is a powerful determinant of stock returns. In terms of sensitivity as measured by beta values, Apple was most sensitive to fluctuations in market returns followed by Google and Microsoft stock returns. The study also examines the predictive ability of current beta using five-year data series of 15 IT companies. The results were statistically insignificant.

Keywords: Beta, Index Model, Stock returns, IT companies

© SGBED 2019

DXB139

GLOCALIZATION AND TOURISM – A SMART TOURISM ERA

Mohit Vij, dr.mohit.vij@gmail.com
Rasha El Khatib, rasha.elkhatib@hotmail.com
Skyline University College, Sharjah, UAE

ABSTRACT

The phenomenon of tourism is prominent for its socio-cultural impacts on both - the host and the guest community. Henceforth, blown out of proportion, tourism leads to overpowering the authentic culture at the destination and replacing it with tourists' oriented commercial environment. Consequently, the tourists visiting a destination to enjoy its unique authentic culture, end up experiencing a diluted version of that. Frequently, it's a catch twenty-two situation for the destination to tradeoff between globalization and localization. Nonetheless, excessive globalization diminishes the authenticity, whereas extreme localization repels tourists! Glocalization, however is an emerging concept offering a solution to such issues through a mélange between globalization and localization striking a balance, a common ground between tourists' comfort and destination newness. Inspired by the previous few studies on this theme, the current study explores the concept of glocalization in tourism and the role of "smart tourism" in this context. The study outlines various dimensions in which the smart technologies could be deployed for maintaining a balance between globalization and localization of tourism practices, leading to sustainable tourism development. Placing Dubai under the prism, the study examines the need of glocalization, followed by implementation challenges and finally the presentation of appropriate solutions. The results are useful for the destination management organizations, practitioners, and scholars to generate ideas for future growth of sustainable tourism.

Keywords: Destination, Tourism, Globalization, Localization, Glocalization, Smart tourism, Smart

© SGBED 2019

DXB141

WOMEN'S BIRTHPLACE CHOICE: THE STATE OF ART

Marta Giovannetti, m.giovannetti@pm.univm.it
Department of Management, Università Politecnica delle Marche, Ancona, IT.

Silvio Cardinali, s.cardinali@univpm.it
Department of Management, Università Politecnica delle Marche, Ancona, IT.

Valentina Foglia, fogliavalentina@libero.it
Università Politecnica delle Marche, Ancona, IT.

ABSTRACT

The present work intends to explore choice dynamics and outcomes related to birth and its health treatment. Although these types of issues are usually studied by medical literature, this works try to include a consumer behavior perspective over the topic. Particularly, this work's aim is to explore pregnant women (and new mothers') healthcare choice behavior. This work focuses on the process of mothers' birthplace choice, taking into account the possible influencing factors. Although most of the healthcare information search and location choice is faced by medical literature, this works wants to address the same issue, which are in fact classic consumer behavior issues, providing new insight and multidisciplinary interest over this topic. In order to address this aim, the literature review was undergone following two different streams: firstly, mother care and childcare international literature was revised, to provide a general state of art, but also to foresee the emerging issues and the possible information sources which pregnant woman access to deal with those, secondly the literature studying the individual choice of the health treatment place/location within the consumer behavior literature. The value of this research is not only in providing a different perspective over mother care, including a consumer behavior side, studying the determinants of women's decision process and their specific weight, implying also interaction with the social context (both digital and geographic), but also in enabling all stakeholders to be more aware of this. In particular, this allow implications in terms of institutions, policy makers, healthcare providers, healthcare financers, professionals and maternity care users involvement, who then would be able to consult a complete picture of the sentiment towards this theme, from the perspective of the key subjects, the number one stakeholder: pregnant women and new mothers.

Keywords: Mother care, delivery place, birthplace, healthcare choice, consumer behavior

© SGBED 2019

DXB142

PERCEIVED BANKING SERVICE QUALITY IN AL-BURAIMI REGION; A STUDY OF CUSTOMERS

Haidar Abbas, haidar@buc.edu.om
Abdullah Said Khamis Al-Badi
Department of Business Administration & Accounting,
Al-Buraimi University College, Sultanate of Oman

ABSTRACT

Ever intensified competition and constantly vibrating technology exerts a lot of pressure on the customer services quality. Digitalization has empowered the consumers and having a range of options, their requirements have increased multi-fold. Consequently, achieving and ensuring the customers' delight is the only remaining alternative particularly for the service sector organizations. As a result, the service organizations have to prioritize among the important quality dimensions namely emphasis, empathy, reliability, responsiveness, and tangible property and lay emphasis on these dimensions in sync with the specific market desires.

This working study aims to a) measure the perceived service quality of banking sector in Al Buraimi Region and b) establish customers' priorities among the various service quality dimensions. This study is conducted in two phases. For the first phase, the researchers adopted the service quality standard instrument of Parasuraman et. al. (1988) and collected the data from 202 respondents following the convenience sampling. The data was analyzed on SPSS 22.0 using the tools like reliability analysis, descriptive statistics, two-independent sample t-test and one-way ANOVA. For the second phase, the researchers is taking a comparatively small sample of customers and using Analytical Hierarchy Approach (AHP) in order to learn their preferences and priorities among the various service quality dimensions. The results of the first phase of this study indicate the overall customer's satisfaction as so -so (obviously away from the point of delight). Based on the customer's desired priorities which will be obtained and calculated shortly, one may further deduce better conclusions about the perceived service quality of banking in this region. The results of this study are expected to provide insights to the local bankers besides enriching the body of literature.

Keywords: Service sector, Banking Service quality, Banking Sector, Banking in Oman, Service Quality in Banking

© SGBED 2019

DXB143

LINKAGE BETWEEN TECHNOLOGY AND HUMAN CAPITAL DEVELOPMENT STRATEGIES: EXPLORATORY EVIDENCE FROM FOUR LEADING FIRMS IN INDIA

Shekhar Chaudhuri, chaudhurishekhar@gmail.com
Director & Chair Professor in Strategic Management
Calcutta Business School, India

Sanjib Biswas, sanjibbiswas1981@gmail.com
Assistant Professor, Calcutta Business School, India

ABSTRACT

The Sociotechnical Systems Approach to organizational development posits that there is a close interaction between task, organizational structure, technology and people. Therefore, according to this theory, an organization adopting Advanced Technologies (AT) would have to consider its implication for tasks, organizational structure and people. In the Indian context, historically, firms have not given much significance to advanced technological development characterized by emphasis on R&D. According to the World Bank, in 2015, average R&D expenditure across all industries in India as a percentage of GDP was only 0.63. Therefore, our surmise was that Indian firms would probably not give much importance to technology and as a result its linkage to the people dimension would not be of much consequence. We, therefore, decided to explore this hypothesis by examining published data on four leading firms belonging to four different industries in the manufacturing sector. In this exploratory study, we have considered four manufacturing organizations; Tata Steel (TS), Bharat Forge (BF), Mahindra and Mahindra (MM) and Asian Paints (AP) as the sample units. Each of these firms is a leading company in its industry. Each company also has a significant global footprint. Contrary to our initial hypothesis, the present study reveals that the firms have invested significantly in adopting advanced technologies in order to compete in the global market. The four firms also have taken notable initiatives in developing their human capital. Given their overall success in the competitive marketplace, we can infer that their emphasis on adoption of advanced technologies and human capital development has enabled them to improve their overall performance. Hence, we posit that even in a country like India where, in general, technology does not figure as a significant strategic dimension in firm level strategy, top management of leading firms give significant importance to adoption of advanced technologies and human capital development.

Keywords: Sociotechnical Systems Approach, Adoption of advanced technology, Human Capital Development, Manufacturing, Exploratory Study

© SGBED 2019

DXB144

THE DURATION OF COPYRIGHT, NEW REVENUE-GENERATING MODELS FOR THE MUSIC INDUSTRY, AND ACCESS TO DIGITAL CONTENT ON THE INTERNET

Rytinki, Markus, Markus.Rytinki@oulu.fi
University of Oulu, P.O. Box 8000, FI-90014 University of Oulu, Finland

ABSTRACT

This study addresses the justifications of the duration of copyright, the revenue-generating models in the music business, and the availability of digital music in Finland. The first goal was to understand how different stakeholders in the music industry relate to copyright and how they justify what they consider the optimal duration. The second goal was to map out the revenuegenerating models in the music industry at a time when the consumption of music has changed from analogue to digital formats, from physical products to streaming services. The third goal was to find out the different ways in which digital music is available on the internet in Finland. The research material consists of survey research, half-structured theme interviews and documentary material. The applied research methods are theory- and material-based content analysis. The theoretical approaches utilized are the theory of justice by John Rawls, the theory of hegemony by Antonio Gramsci, the classical communication model by Roman Jakobson, and power theory by Lawrence Lessig. It uses as its interpretational theory the model of justification of copyright by Laura Leppämäki. The results state the following: The most common justification provided for the optimal duration of copyright is utilitarianism – advantage to society as a whole. The same justification is given by stakeholders who want to keep the duration as it stands, and also by those who wish to shorten it. Another common justification is to see copyright as a natural item of ownership, claimed by work, and especially as a subject of inheritance, preferably for two subsequent generations. The problems concerning the revenue-generating models in the digital world tend to focus on distribution of income on three different levels: record contracts; the distribution models of the streaming companies; and contracts between content sharing companies, record companies and rights organizations. The authors and artists have the weakest bargaining position in the negotiations. The results on availability of digital music show that digital music can be discovered via public services (music libraries), commercial services (streaming companies), and ad hoc societal services (peer-to-peer networks). The role of music libraries as a content provider has decreased since the majority of music consumption has altered to digital services.

Keywords: Collective management, copyrights, digital music, peer-to-peer networks, piracy, theory of justice.

© SGBED 2019

DXB146

IMPACT OF MOBILE AUGMENTED REALITY (MAR) ON RETAILING IN UAE: AN EXPLORATORY STUDY

Abdul Salam Mohammed
Skyline University College, Sharjah, UAE

Saigeeta Kukunura
City University College Ajman (CUCA), UAE

ABSTRACT

Mobile Augmented Reality is one of the fastest evolving technologies. This technology is going to impact a lot of areas, and Retailing is one of them. UAE is one of the countries with highest retail density and an established shopping destination for tourists. The use of IT tools in UAE retailing is growing exponentially. The internet retailing growth rate in 2016 has been in double digits. Use of augmented reality and specifically MAR is likely to grow at very rapid rate in near future. The use of MAR in UAE retailing will have its own challenges and uniqueness. Ian Khan a TEDx speaker and technology futurist. Said interesting that Amazon can come in as a retailer and disrupt the whole market," This research is an attempt to understand the impacts of MAR on UAE retailing practices. The research will identify the enabling factors for the rapid adoption of this technology in retailing, specific challenges in UAE market related to adoption of this technology, and the disruptions caused by adoption of MAR in UAE retailing. Exploratory research is conducted based on surveys carried out by students and families. Around 200 people are surveyed from different demographics within UAE. The study found that retailing businesses are impacted by the traditions, culture and believability in Information technology specifically related to Mobile augmented reality in retailing still this trend needs to be established.

Keywords: MAR Mobile Augmented Reality, TED, Demographics, Disruption.

© SGBED 2019

DXB147

ENTREPRENEURSHIP ECOSYSTEM: INNOVATIVE THINKING IN UAE

Kakul Agha, kakul_p@yahoo.com
Assistant Professor, Skyline University College, Sharjah, UAE.

ABSTRACT

Entrepreneurial activities are the driving forces for economic development of several countries throughout the world. Much research and investment is being done in creating and building sustainable, competent and efficient entrepreneurial ecosystems by the developed and developing countries. The purpose of this paper is to highlight nature of an entrepreneurial ecosystem that is desired by countries throughout the world. Further, this paper will report on the current status of entrepreneurship ecosystem in UAE. The paper will comprise three parts for discussion. First is about introduction and purpose of the research and the second part will report on the entrepreneurial ecosystem of UAE. The last part will present the conclusions of this research.

Keywords: Entrepreneurship; Entrepreneurial ecosystem; Innovation; UAE.

© SGBED 2019

SKYLINE
UNIVERSITY
COLLEGE

SGBED

Tourism

Emirates