



INTERNATIONAL MANAGEMENT
CONFERENCE 2019

Strategic Management in Industry 4.0

Proceeding & Book of Papers

ISBN: 978-93-5406-466-1

Convener: **Ms. Paramita Sarkar**
Asst. Professor, Dept. of Management

J.D. BIRLA INSTITUTE

Department of Management
Affiliated with Jadavpur University

Satellite Campus

1 Moira Street, Kolkata-700 017 • Ph.: 033-22811438
E-mail: principal@jdbimanagement.in • Website: www.jdbimanagement.in

**INTERNATIONAL MANAGEMENT
CONFERENCE 2019**

Strategic Management in Industry 4.0

27th September, 2019

**J. D. BIRLA INSTITUTE
Department of Management
(Affiliated with Jadavpur University)**

1 Moira Street, Kolkata - 700 017
Ph.: (033) 2281 1438 ■ Fax: (033) 2281 7479
E-mail: principal@jdbimanagement.in
Website: www.jdbimanagement.in

Edited by
Prof. Deepali Singhee

Copyright @ 2019 JDBI
All rights reserved

Address

J. D. Birla Institute
(Department of Management)

1 Moira Street, Kolkata - 700 017
Ph.: (033) 2281 1438 ■ Fax: (033) 2281 7479
E-mail: principal@jdbimanagement.in
Website: www.jdbimanagement.in

All rights reserved by the editor. No part of this book may be reproduced in any form, by photostat, microfilm, xerography, or any other means, or incorporated into any information retrieval system, electronics or mechanical, without the written permission of the editor. All inquiries should be emailed to principal@jdbikolkata.in

The views expressed in different chapters of this edited book are entirely those of the respective authors. The printer/publisher, and distributors of this book are not in any way responsible for the views expressed by the authors. All disputes are subject to arbitration; legal action, if any, are subject to the jurisdiction of Court, Kolkata, WB, India.

First Published : March, 2020

Price : NIL

Cover Designed by : Sanjib Adak
Graphic Designer, JDBI

Printed by CDC Printers (P) Ltd., Tangra Industrial Estate-II, 45, Radhanath Chowdhury Road, Kolkata-700015 (WB), India

Published by:
J.D. Birla Institute, Kolkata (West Bengal), India

Paper Code	Author/s & Title of Papers	Page No.
SESSION -1: FINANCE		
BBA/FIN/1	Bhargav Majumdar <i>Restructuring and Strengthening PSU Banks</i>	1-15
BBA/FIN/2	Shreyans Sekhsaria & Arindam Banerjee <i>Determinants of Profitability in Indian Banking Scenario: An Empirical Study</i>	16-24
SESSION -2: HR		
BBA/HR/1	Swati Banerjee & Dipa Mitra <i>An Analytical Appraisal of Emotional Intelligence in Academic Administration</i>	25-34
BBA/HR/2	Madhabi Guha <i>Role of Leadership in Developing Safety Culture of an Organization</i>	35-43
BBA/HR/3	Surabita Roy <i>Industry 4.0 and Change Management: A Study of Benefits and Suggestions for Challenges</i>	44-47
SESSION -3: MARKETING		
BBA/MARK/1	Debarati Roy Chowdhury (Banerjee) & Sudipta Majumdar <i>A Study on the Purchase Pattern of Consumers of Kolkata with respect to Social Learning Theory</i>	48-56
BBA/MARK/2	Abhijit Pandit & Jayjit Chakraborty <i>Marketing Standardization Strategies and Adaptation of International Marketing Mix and Performance: Evidences from the Past</i>	57-71
BBA/MARK/3	Kushal Dey & Pinaki Ranjan Bhattacharyya <i>Service Quality Gap Analysis for Online and Offline Household Service Provider Business using SERVQUAL Approach</i>	72-88
BBA/MARK/4	Sohini Majumdar <i>Factors Influencing Impulse Purchase while Shopping Online</i>	89-92
BBA/MARK/5	Ayushi Bhuwalka, Aayushi Mittal and Oindrila Chakraborty <i>An Investigation of Indian Restaurant Industry</i>	93-101
BBA/MARK/6	Nikita Sadavartia <i>A Study of Digital Food Delivery Apps and Consumers' Perception towards them</i>	102-109
BBA/MARK/7	Suchita Mukherjee <i>Empowering Education to Produce Innovation - by instilling 4Cs</i>	110-118
BBA/MARK/8	Shubham Saraogi, Tushar Pareek, Bhumika Bothra & Sejal Kajaria <i>A Study on Consumer Perception- Bigbasket Versus Grofers</i>	119-128
Session 4: GENERAL MANAGEMENT		
BBA/GEN/1	Sanjib Biswas <i>Implications of Industry 4.0 vis-à-vis Lean Six-Sigma: A Multi-Criteria Group Decision Approach</i>	129-140





Paper Code	Author/s & Title of Abstracts	Page No.
------------	-------------------------------	----------

SESSION - 1: FINANCE

BBA/FIN/AB1	Bhargav Majumdar Restructuring and Strengthening PSU Banks	141
BA/FIN/AB2	Shreyans Sekhsaria & Arindam Banerjee Determinants of Profitability in Indian Banking Scenario: An Empirical Study	142
BBA/FIN/AB3	Santanu Mallick A Study of Crude Oil Price Fluctuation & Its Impact on Indian Economy	143
BBA/FIN/AB4	Anusri Mallik & CMA Sudarshan Maity Bank – Led Financial Inclusion and Socio-Economic Development – A Case Study in Diamond Harbor Block of South 24 Parganas District in West Bengal	144
BBA/FIN/AB5	Barnasree Chatterjee & Nivedita Mandal A Study on Financial Performance of Jute Textile Companies in India	145
BBA/FIN/AB6	Shivangi Sarda & Madan Mohan Dutta Dynamic Pricing in Airline Companies	146
BBA/FIN/AB7	Bristi Bose & Sumanta Dutta FinTech: Unleash a New Era of Competition	147
BBA/FIN/AB8	Sujoy Kumar Dhar Evaluation of Corporate Governance Practices in Indian Banking Sector and its Different Dimensions	148

SESSION - 2: HR

BBA/HR/AB9	Swati Banerjee & Dipa Mitra An Analytical Appraisal of Emotional Intelligence in Academic Administration	149
BBA/HR/AB10	Madhabi Guha Role of Leadership in Developing Safety Culture of an Organization	150
BBA/HR/AB11	Surabita Roy Industry 4.0 and Change Management: A Study of Benefits and Suggestions for Challenges	151

SESSION -3: MARKETING

BBA/MARK/AB12	Debarati Roy Chowdhury (Banerjee) & Sudipta Majumdar A Study on the Purchase Pattern of Consumers of Kolkata with respect to Social Learning Theory	152
BBA/MARK/AB13	Abhijit Pandit & Jayjit Chakraborty Marketing Standardization Strategies and Adaptation of International Marketing Mix and Performance: Evidences from the Past	153
BBA/MARK/AB14	Kushal Dey & Pinaki Ranjan Bhattacharyya Service Quality Gap Analysis for Online and Offline Household Service Provider Business using SERVQUAL Approach	154
BBA/MARK/AB15	Sohini Majumdar Factors Influencing Impulse Purchase while Shopping Online	155

Paper Code	Author/s & Title of Abstracts	Page No.
BBA/MARK/AB16	Ayushi Bhuwalka, Aayushi Mittal and Oindrila Chakraborty An Investigation of Indian Restaurant Industry	156
BBA/MARK/AB17	Nikita Sadavartia A Study of Digital Food Delivery Apps and Consumers' Perception towards them	157
BBA/MARK/AB18	Suchita Mukherjee Empowering Education to Produce Innovation – by instilling 4Cs	158
BBA/MARK/AB19	Bhawna Pagaria, & Oindrila Chakraborty A Fastidious and Contemporary Investigation of Indian Media and Entertainment Industry	159
BBA/MARK/AB20	Pratyush Bazaz & Manjishtha Sur Roy Chowdhury A Study on the Consumer Preferences on Retail Stores Vs. Kirana Stores	160
BBA/MARK/AB21	Samiran Chowdhury & Moumita Poddar The Impact of Mobile Technology on Rural India : An Exploratory Study on The Socio-Economic Scenario of Rural Society	161
BBA/MARK/AB22	Megha Poddar Identity development for a Brand: TATA TISCON Case Study at WONDERMAN THOMPSON	162
BBA/MARK/AB23	Shantanu. P. Chakraborty & Sachin Gupta A Study on Customer Satisfaction in E-Retailing with Special Reference to Consumer Electronics and Appliances: An Analytical Research on Indian Perspective	163
Session 4: GENERAL MANAGEMENT		
BBA/GEN/AB24	Sanjib Biswas Implications of Industry 4.0 vis-à-vis Lean Six-Sigma: A Multi-Criteria Group Decision Approach	164
BBA/GEN/AB25	Matriyee Das Factors influencing Sustainable Performance and Business Growth in Indian SMEs	165
BBA/GEN/AB26	Gargi Guha Niyogi & Divyesh Shah Electronic Waste Management: A Growing Concern in Environment Sustainability and Opportunities in Recycling Business	166
BBA/GEN/AB27	Kriti Priya Gupta & Rishi Manrai The Role of Access Convenience of Common Service Centres (CSCs) In the Continued use of E-Government	167
BBA/GEN/AB28	Ahona Mitra, Sanskar Jaiswal & Adnan Ahmed Mullick ITC- Case Study	168

BBA/FIN/1

Restructuring and Strengthening PSU Banks**Bhargav Majumdar**

Assistant Professor, Department of Management, J. D. Birla Institute, Kolkata

Introduction

The Indian banking system comprises a total of 87 Scheduled Commercial Banks (SCBs). Of these, 21 are public sector banks (PSU banks), 21 are private sector banks, and 45 are foreign banks. This paper will focus on the SCBs particularly PSU banks.

RBI along with the Government of India has been making serious efforts to promote financial inclusion in the country, largely through the banking system. According to Dr. C. Rangarajan, former RBI Governor, financial inclusion is the process of ensuring access to affordable credit particularly by the weaker sections, mainly through access to bank accounts and bank credit.¹

Some of the major efforts made in the past five decades include the nationalization of banks, building up of branch network of SCBs, and zero balance accounts. Based on the 2011 census, only 58.7% of Indian households were availing banking services.²

Table 1: Indian Banking Sector at a Glance

	Amount outstanding in Rs. Trillion	31.03.2018
1 Balance Sheet Operations		
1.1 Total Liabilities/assets		152.53
1.2 Deposits		117.94
1.3 Borrowings		16.82
1.4 Loans and advances		87.46
1.5 Investments		41.26
2 Profitability		
2.1 Net profit		-0.32
2.2 Return on Asset (%)		-0.15
2.3 Return on Equity (%)		-2.81
2.4 Net Interest Margin (%)		3.68
3 Capital Adequacy		
3.1 Capital to risk weighted assets ratio (CRAR %)		13.8
3.2 CRAR (tier I %)		11.7
3.3 Tier I capital (as % of total capital)		84.3
4 Asset Quality		
4.1 Gross NPAs		10.36
4.2 Net NPAs		5.21
4.3 GNPA as a % of gross advances (Gross NPA ratio)		11.2
4.4 NNPA as a % of net advances (Net NPA ratio)		6.0

Source: RBI (www.rbi.org.in)**PSU Vs Private Bank Comparison-Indian Banking Scenario³**

The outlook for the Indian banking sector especially PSU banks remains challenging given their weak asset quality and its impact on the internal capital generation, besides increasing capital requirements under Basel-III regulations. However, private banks are better placed on the above parameters because of their better control on asset quality.⁴

Comparison of PSU and Private Sector Bank based on financial parameters

Assets (liabilities) of all SCBs stood at Rs.152.53 trillion (over US\$2 trillion) in FY18, with the PSU banks accounting for 66% in FY18. However, PSU banks account for around 86% of overall NPAs, compared to 12% in the case of private sector banks.

Table 2: Bank Group Wise Asset-Liabilities of SCBs

Rs. trillion	2018	%	2017	%	2016	%	2015	%
PSU	100.35	66%	97.48	69%	91.68	70%	86.79	72%
Private	43.51	29%	36.02	25%	31.47	24%	26.03	22%
Foreign	8.68	6%	8.10	6%	8.14	6%	7.55	6%
All SCB	152.53	100%	141.59	100%	131.29	100%	120.37	100%

source: RBI (www.rbi.org.in)

Net profits of the PSU banking sector, which used to account for more than half the banking sector's profits till 2013, declined significantly over the years and started recording losses since 2015-16, largely on account of provisioning for bad loans.

Table 3: Bank Group Wise Profit (Loss) of SCBs

Rs. trillion	2018	2017	2016	2015
PSU Banks	-0.85	-0.11	-0.18	0.38
Private Sector Banks	0.42	0.42	0.41	0.39
Foreign Banks	0.11	0.13	0.11	0.13
All SCB	-0.32	0.44	0.34	0.89

source: RBI (www.rbi.org.in)

As of March 2018, the NPA in the banking sector stood at Rs.10.36 trillion.⁵

Capital Adequacy Ratio: CAR of all SCBs improved to 13.8% in FY18, from 13.3% in FY16, largely on account of capital infusion by the government to the PSU banks.

Table 4: Capital Adequacy Ratios (CRAR) of SCBs Bank Group wise

%	PSU	Private	Foreign	All SCB
FY18	11.7	16.4	19.1	13.8
FY17	12.1	15.5	18.7	13.7
FY16	11.8	15.7	17.1	13.3

Source: RBI Report on Trend and Progress of Banking in India 2017-18 (www.rbi.org.in)

Non-Performing Asset Ratio: Gross NPA as a percentage of Gross Advances of PSU banks stood at a high 14.6% in FY18, compared to 4.6% for the private banks. Hence the Gross NPA ratio of the overall banking sector (SCBs) deteriorated significantly in to 11.2% in FY18, compared to 9.3% in FY17.

Some of the key ratios relating to a bank's balance sheet statement include the Cash Deposit ratio, Credit Deposit ratio, Current and Savings Account (CASA) deposits, Return on assets, Return on equity, Capital Adequacy ratio, Non-performing Asset ratio.⁶

Cash Deposit ratio is the ratio of how much a bank lends out of the deposits it mobilises. Cash Deposit ratio (CDR) can also be defined as Total of Cash in hand plus balances with RBI (CRR of 4%), as percentage of deposits.⁷

Table 5: Bank Group-Wise Gross & Net NPA of SCBs (2017-18)

Rs trillion	Gross NPA	As % Total	As % of Gross Adv	As % of Total Assets
PSU	8.96	86%	14.6	8.9
Private	1.27	12%	4.6	2.9
Foreign	0.14	1%	3.8	1.6
All SCB	10.36	100%	11.2	6.8

Source: RBI Report on Trend and Progress of Banking in India 2017-18 (www.rbi.org.in)

The CDR of PSU banks are better (lower) than their private counterparts.⁸

Credit Deposit ratio indicates the proportion of loan-assets created by banks from the deposits received. The higher the ratio, the higher the loan-assets created from deposits.

Current and Savings Account (CASA) - CASA deposits (i.e. Demand Deposits and Savings Bank Deposits) are critical to any bank's health since they are the cheapest source of funds for banks. Banks which have higher CASA ratios are deemed stronger as the depositors consider them to be reliable and safe.

$$\text{CASA ratio (\%)} = (\text{Demand Deposits} + \text{Savings Bank Deposits}) / \text{Total Deposits}$$

During the past two years, CASA of all categories of SCBs improved, largely driven by the government's November 2016 demonetisation programme. Traditionally PSU banks were strong on CASA on account of their strong network and government-backed trust factor. However, most PSU banks have witnessed a decline in their CASA ratio over the years, driven by the customer's preference for better service offered by the more sophisticated private sector banks.⁹

Table 6: CASA (demand & savings bank deposits to total deposits)

%	PSU	Private	Foreign	All SCBs
2017-18	38.73	43.50	40.58	40.00
2016-17	37.38	43.06	37.63	38.70
2015-16	32.68	39.31	34.87	34.19

Source: RBI (www.rbi.org.in)

Return on assets (ROA) is an indicator of how profitable a bank is relative to its total assets (net income/total asset). ROA of PSU banks were very poor (negative) when compared to their private counterparts in 2017-18.

Return on equity (ROE) is a key profitability ratio that investors use to measure of the bank's net income that is returned as shareholder's equity (Net Income/Shareholder's Equity). Private sector banks have a high ROE, while PSU banks have a negative ROE.

From Table 7 below we see that on most parameters private sector banks are better than PSU banks. However, cost of funds for private sector banks remain higher, despite their

lower cost of deposits resulting from better credit ratings. Bank group-wise ratios are shown as Annex 3.

Table 7: Select Ratios Bank Group-Wise (in %)

As on March 31, 2018	PSU	Private	Foreign	All SCBs
Cash - Deposit Ratio	5.43	7.97	8.09	6.19
Credit - Deposit Ratio	68.96	88.36	70.93	74.16
Ratio of deposits to total liabilities	82.33	70.1	57.04	77.32
Ratio of priority sector advances to total advances	32.64	26.4	27.61	30.55
Ratio of interest income to total assets	6.68	7.73	5.97	6.95
Net interest income to TA (Net Interest Margin)	2.08	3.32	3.44	2.50
Return on assets	-0.84	1.14	1.34	-0.15
Return on equity	-14.62	10.12	7.16	-2.81
Cost of deposits	5.12	4.94	3.84	5.02
Cost of borrowings	4.72	6.23	3.02	5.30
Cost of funds	5.08	5.16	3.70	5.05
CASA	38.7	43.5	40.6	40.0
GNPA ratio	14.6	4.6	3.8	11.2
CRAR	11.7	16.4	19.1	13.8

Source: RBI Bank Group-Wise Select Ratios of SCB (www.rbi.org.in)

Comparison of PSU and Private Sector Bank based on qualitative parameters

Stiff competition exists between the PSU and private sector banks due to their different characteristics. Since PSU banks were established earlier, their customer base is greater than that of the private banks. However, from the borrower or consumer's point of view, there are certain advantages and disadvantages of doing business with a PSU bank, vis-a-vis a private sector bank.

The primary advantage of PSU banks is that they are perceived to be safer as the government would tend to bail out these banks in case of financial stress. PSU banks tend to have less hidden charges, and lower minimum saving account deposit levels compared to private sector banks.

The main disadvantage of PSU banks is their dated technology, where they lag behind the private sector banks. Moreover, government intervention result in higher NPAs in PSU banks as loans are often extended because of political pressures and on merit. Besides, no-frills accounts and opening of branches in irrational remote areas for financial inclusion has affected PSU banks adversely. Most PSU banks share similar business models, organisational structure and human resource policies, forcing competition within these banks rather than with the private sector banks as a whole.⁹

Objective of the Study

This project will attempt to impart a clear idea about the operations of the banking sector in India, a comparison of the PSU banks with their private counterparts, and how merger are likely to help eliminate the dysfunctional PSU banks in India. The primary objective of the study is to give an insight into:

- Basic banking operations
- The understanding of the domestic banking sector
- The issues and challenges faced by the banking sector and their likely causes
- Whether merger proves to be viable for banks to overcome the threats faced by them
- To critically analyze the likely impact and viability of mergers on PSU banks in particular
- To suggest and recommend the optimum/most suitable/ most viable merger options of the PSU banks

Review of Literature

Tamragundi & Devarajappa S in their article "Impact of mergers on Indian Banking Sector: A comparative study of Public and Private Sector merged Banks", (Volume 13, Jan 2016), did a study on the impact of mergers on performance of commercial banks in India. The government has taken several initiatives to strengthen the financial system of the country. One such initiative is mergers of banks with a view to restructure the banking system. Many small and weak banks have been merged. Merger is a useful strategy, through this banks can expand their operations, serve larger customer base, increases profitability, liquidity and efficiency but the overall growth and financial illness of the bank can't be solved from mergers.¹⁰

Jayadev & Sensarma in their article "Mergers in Indian Banking: An Analysis" provides information about the ongoing merger trends in Indian banking from view point of two important stakeholders of a banking firm – stock holders and managers. The trend of consolidation in Indian banking industry has so far been limited to restructuring of weak banks and harmonization of banks & financial institutions. Voluntary mergers are very few. Forced mergers may protect the interests of depositors but shareholders of both bidder and target banks are not seeing the benefits of merger. The study shows that both, the bidder and the target bank's market value of equity has been reduced on the immediate announcement of mergers.¹¹

Pallavi & Sachidhananda in their journal 'Unlocking the lock – a mirror image effect of SBI merger in Indian banking system', Volume 1 Issue 1, 2016, gave a view of the impact of merger on the employees and shareholders of the SBI associate banks. Competition is increasing among the serviced based organisations and Indian banks are not competent globally because of a large number of small banks. Due to this reason, most of the foreign banks have gained success in India. The Indian Public Sector Banks are unable to compete with the private and foreign banks. Private players are dominating the market, leaving very less space for PSB.¹²

Kumar (India), Kumar (India) & Deisting (France) in their article 'Wealth effects of bank mergers in India: A study of impact on share prices, volatility & liquidity', Volume 8 Issue 1, 2013, presented a study on the market reaction of merger announcements and its impact

on shareholder's wealth, focusing on three stock characteristics namely, stock returns, volatility and liquidity of the bidder banks. Market reaction to merger announcement in developing countries may be quite different from that of developed countries, due to the existence of different regulatory framework. Mergers in developing countries, like India have not necessarily been market driven, but have taken place at the initiative of regulator too. In such a situation, where mergers are taking place in the Banking sector with a variety of considerations, including policy initiatives, it is interesting to understand how markets in developing countries react to merger announcement and in turn impact shareholders' value. Merger announcement may have medium to long-term implications for the volatility in the stock prices.¹³

Gandhi, Deputy Governor at the MINT South Banking Enclave, and Assistance provided by Shri Santosh Pan, in their article 'Consolidation among Public Sector Banks' (April 22, 2016), talked about consolidation of public sector banks. Last few years have seen entry of new banks into the system which target to serve the niche segments of the society. However, banking system continues to be dominated by public sector banks, which still have more than 70% market share of the banking system assets. Most PSBs follow almost similar business model and many of them are also competing with each other in most market segments. It has been argued that India has too many PSBs with similar characteristics and a consolidation among PSBs can result in reaping rich benefits of economies of scale. India is the seventh largest economy in the world in terms of nominal GDP, however there is no Indian bank in the list of 70 large banks in terms of asset size. Hence, the need for consolidation is felt.¹⁴

Bhatia, Chouhan & Joshi in their journal "Comparative Study of Performance of Public and Private Sector Bank", Volume 2, Issue 1 (April 2015), compared public sector and private sector on the criteria of public perception, basic amenities, customer centric services and there bench strength. Public sector banks are fully controlled by government and private sector banks have private ownership. The banks have certain common objectives: Promoting saving habits, Fostering the economic growth of the country by providing funds to business sector, development of basic industries, consumer product industries, large and small business enterprises and service sectors, earning sufficient profit. The study concluded that public sector is more reliable but not so good in quality and innovativeness, whereas a private sector bank is not so reliable but they are better in services quality and innovation.¹⁵

"ICRA" in its research paper 'Indian Banking Sector', (July, 2016), analyses the performance of 26 public sector banks (PSBs) and 15 private banks for the period ended March 31, 2016 and presents the near to medium term overview for the Indian banking sector. The 41 banks collectively account for around 90% of the total credit portfolio and deposits of all scheduled commercial banks in India as of end-March 2016. The financial performance of banks during H2, FY2016 was significantly influenced by the recognition of large non-performing assets (NPA) following an asset-quality review by the Reserve Bank of India (RBI). ICRA estimated that additional weak assets of around 6-7% (including standard restructured advances of 3.3%) could keep NPA generation at high levels in FY2017 as well. The paper also showed that 14 out of 26 PSBs reported losses in FY2016. While their profitability profile is not expected to be as weak in FY2017 as it was in FY2016, a significant improvement is unlikely with most of them likely to report subdued profitability over the next 1-2 years.¹⁶

Kumari in the paper 'Mergers and Acquisitions in Indian Banking Sector: A Strategic Approach' states that mergers and acquisitions encourage banks to gain global reach and better synergy and allow banks to acquire the stressed assets of weaker banks. The small and medium size banks are working under threat from the economic environment which is full of problems for them, viz, inadequacy of resources, outdated technology, on-systemized management pattern, faltering marketing efforts, weak financial structure, technique obsolescence and lack of product innovations. Their reorganization through merger could offer re-establishment of those in viable banks of optimum size with global presence.¹⁷

Chandra Bihari in his paper 'Basel-III in Indian Banks and Capital Concerns' notes that India's banking sector is now a days in a need to raise money in capital markets or some capital inflows through government due to the asset quality concerns and capital problems faced by them. Basel III capital ratios in April 2013 and 2014 showed that there will be a need of funds from either government or capital markets that will be required by banks to meet their liquidity requirements. Again, due to the increasing non-performing loans(NPLs) , Indian banks are in a need of a large amount of capital for maintaining the growth rate of economy and also for generating profits that are now a days insufficient for internal capital generation to fund loan growth.¹⁸

Principal economic adviser in the finance ministry Sanyal recently stated that the government is looking to reduce the number of public sector banks to 10-15 through a series of mergers and acquisitions, more than the 4-5 envisaged earlier. The higher number of banks post merger would be done to avoid the risk of a bank become too large, as the failure of a very large bank would result in a break-down of the whole banking system.¹⁹

Methodology

This section displays the research process adopted by the research in approaching its aims and objectives.

Research Design

For the researcher, research design is a very useful step in the entire research process. I would be choosing the research design as an entire framework by which the research would be conducted and the tools and techniques would be employed. The research design used in my project is Descriptive Research Design.

Data Collection

Two forms of data collection and information gathering techniques prevail in the research environment. Both the collection techniques are listed below:

1. Primary Data Collection :
2. Secondary Data Collection

In this project Secondary Data Collection has been used to collect the data. Information has been gathered by studying journals and articles, and has been presented in this project by means of tables, graphs and charts.

Financial information over a period of time would be studied which would involve collection of financials for certain years both pre and post merger. Financial data would be collected through secondary medium like bank annual reports, institutional reports (RBI, IMF, Dun and Bradstreet), analyst reports from research companies, reports of credit

rating agencies, newspaper articles, search engines and websites including www.livemint.com, www.moneycontrol.com, and www.nseindia.com.

Tools used for Analysis

The researcher has resorted to the following tools and techniques for the purpose of his research and proving the objective of the research study:

1. Financial Ratios and Percentages
2. Trends
3. Charts and Graphs

Problem Statement-Past Mergers in Indian Banking

Some of the advantages of a merger are listed below.

1. Economies of scale and scope, greater competitive advantage
2. Improved market reach, product and geographic diversification
3. Rationalised cost structure, higher revenue and profits

Table 8: History of Bank Mergers in India

Year	Past Mergers since 2000
2000	Times bank with HDFC bank
2001	ICICI with ICICI Bank
2002	Banaras State Bank with Bank of Baroda ING bought stake in Vysya Bank and ING Vysya Bank formed
2003	Nedungadi Bank with Punjab National Bank
2004	Global Trust Bank with Oriental Bank of Commerce Bank of Madura with ICICI Bank
2005	Bank of Punjab with Centurion Bank to form Centurion Bank of Punjab IDBI Bank with IDBI
2007	Lord Krishna Bank with Centurion Bank of Punjab
2008	Centurion Bank of Punjab with HDFC Bank
2010	Bank of Rajasthan with ICICI Bank
2014	ING Vysya Bank with Kotak Mahindra Bank

Source: Financial Express

Merger of State Bank of India (SBI)

Initially SBI had seven associate banks. The first merger took place in 2008, while the last merger took place in 2017. The table below which compares SBI before (FY17) and after the merger (FY18), indicates that the merger is likely to be a burden on SBI, in at least the medium term.²⁰

Table 9: Effects of merger on SBI

Rs. Trillion	FY18	FY17
Deposits	27.06	20.45
Advances	19.35	15.71
Net Profit/(Loss)	-0.06	0.10
Gross NPA	2.23	1.78
Capital Adequacy Ratio (%)	12.6	13.1
GNPA ratio (%)	10.9	9.1
NNPA ratio (%)	5.7	5.2

Source: SBI Annual Report 2017-18

However, in the longer term the merger is expected to help SBI rationalize costs and benefit from having a larger treasury book, which is expected to boost margins. It will result in improved risk management and synergised treasury operations, and better management of high value credit exposures through focused monitoring instead of separate monitoring by six different banks.

Scope of merger among PSU banks

If two PSU banks are merged, there is a situation where both the banks have a presence in a given area. Synergy will demand that one of the branches be shut down. But given that the banks are government owned, this may be a difficult task. Mergers can be successful in similar institutions with a similar culture, but cannot be extensively adopted because it leads to job cuts, branch closures and in some cases, a lowering of the quality and quantity of services. Significance of PSU bank consolidation:

- i. Reduce their dependence on government for capital.
- ii. Open up more capital generation avenues, both internally and from market, for the merged entity.
- iii. Operational risks could increase post-merger as size of operations grows and distance between management and operational personnel is greater as the administrative systems become more complex.
- iv. It will help to deal better with their credit portfolio, including stressed assets.
- v. Consolidation will also prevent multiplicity of resources being spent in the same area and strengthens banks to deal with shocks

There are various theories circulating as to how the government plans to execute the PSU bank mergers. In August 2019, Finance Minister Nirmala Sitharaman announced the merger of six PSU banks with four stronger PSU banks (referred to as anchor banks)

Data Analysis and Interpretation

Given the existing circumstances, ideas and proposals, the following courses of actions have been suggested by various experts and panels (need not be mutually exclusive):

- i. Merger of weak small banks with strong large banks
- ii. Merger of a bank in one region with a smaller bank from the same region
- iii. Merger of banks in one region with banks of another region

The 2017-18 financial data of PSU banks, given below (alphabetically), have been utilised to predict the merger exercises. SBI is not being considered here as it has already been merged with its subsidies.

Table 10: 2017-18 Key Financials of PSU Banks

Rs trillion	Total Asset	Net Profit	ROA	ROE	NII to TA	CAR	GNPA	CASA	CD
Allahabad Bank	2.53	-0.05	-1.85%	-45.52%	1.87%	8.69	15.96%	46%	71.2%
Andhra Bank	2.42	-0.03	-1.41%	-31.54%	2.62%	11.00	17.09%	31%	71.6%
Bank of Baroda	7.20	-0.02	-0.34%	-5.60%	2.16%	12.13	12.26%	36%	72.3%
Bank of India	6.10	-0.06	-0.99%	-17.01%	1.72%	12.94	16.58%	34%	65.5%
Bank of Maharashtra	1.56	-0.01	-0.73%	-11.52%	2.17%	11.00	19.48%	48%	61.7%
Canara Bank	6.17	-0.04	-0.68%	-11.86%	1.97%	13.22	11.84%	32%	72.7%
Central Bank of India	3.26	-0.05	-1.56%	-28.38%	2.00%	9.04	21.48%	42%	53.1%
Corporation Ban	2.22	-0.04	-1.83%	-37.38%	2.18%	9.23	17.35%	30%	65.4%
Dena Bank	1.21	-0.02	-1.59%	-20.90%	2.05%	11.09	22.04%	40%	61.8%
IDBI Bank Ltd	3.50	-0.08	-2.35%	-38.84%	1.61%	10.41	27.95%	37%	69.3%
Indian Bank	2.53	0.01	0.50%	6.82%	2.48%	12.55	7.37%	37%	75.2%
Indian Overseas Bank	2.48	-0.06	-2.54%	-47.45%	2.20%	9.25	25.29%	37%	61.1%
Oriental Bank of Com.	2.33	-0.06	-2.52%	-49.82%	1.93%	10.50	17.63%	32%	65.8%
Punjab and Sind Bank	1.14	-0.01	-0.65%	-12.03%	1.96%	11.25	11.19%	24%	65.4%
Punjab National Bank	7.66	-0.12	-1.60%	-29.90%	1.95%	9.20	18.38%	41%	67.5%
Syndicate Bank	3.24	-0.03	-1.00%	-21.61%	2.02%	12.24	11.53%	29%	77.2%
UCO Bank	2.16	-0.04	-2.05%	-29.66%	1.45%	10.94	24.64%	35%	59.1%
Union Bank of India	4.87	-0.05	-1.08%	-20.91%	1.91%	11.50	15.73%	34%	70.7%
United Bank of India	1.45	-0.01	-1.00%	-16.79%	1.03%	12.62	24.10%	48%	48.3%
Vijaya Bank	1.78	0.01	0.41%	6.84%	2.42%	13.90	6.34%	25%	73.9%
Total	65.80	-0.79	-1.20%	-21.31%	1.98%	8.7-13.9	16.42%	36%	67.7%
State Bank of India	34.55	-0.07	-0.19%	-2.99%	2.17%	12.60	10.91%	44%	71.5%
Total including SBI	100.35	-0.85	-0.85%	-14.50%	2.04%	8.7-13.9	14.58%	39%	69.0%

Source: RBI (www.rbi.org.in)

The next exercise would involve a few merger scenarios listed below:

Options	Action Plan
Option A	Merge all east-based banks with west-based banks, north-based banks with south-based banks. A total of two large banks will be formed, excluding SBI
Option B	Merger of six banks with four stronger banks (referred to as anchor banks)

In September 2018, the government announced the merger of Bank of Baroda, Vijaya Bank and Dena Bank to create the second-largest PSU bank (after SBI).²¹

In August 2019, Finance Minister Nirmala Sitharaman announced the merger of six PSU banks with four stronger PSU banks (referred to as anchor banks).²²

- i. Oriental Bank of Commerce and United Bank of India to merge with Punjab National Bank
- ii. Syndicate Bank to merge with Canara Bank
- iii. Andhra Bank and Corporation Bank to be merge with Union Bank of India
- iv. Allahabad Bank to merge with Indian Bank

Post merger, the number of PSU banks is expected to reduce to twelve (these mergers follow the latest merger of Dena bank and the Vijaya Bank with the Bank of Baroda, which came into effect on April 1 2019.):

- | | |
|-------------------------|----------------------------|
| 1. State Bank of India | 7. Indian Bank |
| 2. Punjab National Bank | 8. Central Bank of India |
| 3. Bank of Baroda | 9. Indian Overseas Bank |
| 4. Canara Bank | 10. United Commercial Bank |
| 5. Union Bank of India | 11. Bank of Maharashtra |
| 6. Bank of India | 12. Punjab and Sind Bank |

Option A: Merge east-based banks with west-based banks, and north-based banks with south-based banks. A total of two large banks will be formed, excluding SBI.

Table 11: Summary of Option A

Rs trillion	Total	Net	ROA	ROE	NII	CAR	GNPA	CASA	CD
	Asset	Profit			to TA				
East-West Bank	33.84	-0.41	-1.20%	-20.74%	1.85%	8.7-12.9	18.02%	38%	66%
North-South Bank	31.96	-0.38	-1.19%	-21.96%	2.11%	9.2-13.9	14.81%	34%	70%
TOTAL	65.80	-0.79	-1.20%	-21.31%	1.98%	8.7-13.9	16.42%	36%	68%
SBI	34.55	-0.07	-0.19%	-2.99%	2.17%	12.6	10.91%	44%	71%

Table 12: Summary of Option B

Rs trillion	Total	Net	ROA	ROE	NII	CAR	GNPA	CASA	CD
	Assets	Profit			to TA				
Merged PNB	11.44	-0.20	-1.71%	-31.87%	1.83%	9.2-12.6	18.79%	40%	65%
Merged BoB	10.18	-0.04	-0.36%	-5.46%	2.19%	11.1-13.9	12.30%	34%	70%
Merged Union Bank	9.51	-0.13	-1.34%	-27.19%	2.15%	9.2-11.5	16.44%	32%	70%
Merged Canara Bank	9.41	-0.07	-0.79%	-14.74%	1.99%	12.2-13.2	11.73%	31%	74%
Merged Indian Bank	5.05	-0.03	-0.68%	-11.89%	2.18%	8.7-12.6	11.71%	42%	73%
Bank of India	6.10	-0.06	-0.99%	-17.01%	1.72%	12.94	16.58%	34%	66%
Central Bank of India	3.26	-0.05	-1.56%	-28.38%	2.00%	9.04	21.48%	42%	53%
Indian Overseas Bank	2.48	-0.06	-2.54%	-47.45%	2.20%	9.25	25.29%	37%	61%
UCO Bank	2.16	-0.04	-2.05%	-29.66%	1.45%	10.94	24.64%	35%	59%
Bank Of Maharashtra	1.56	-0.01	-0.73%	-11.52%	2.17%	11.00	19.48%	48%	62%
Punjab and Sind Bank	1.14	-0.01	-0.65%	-12.03%	1.96%	11.25	11.19%	24%	65%
IDBI Bank Ltd	3.50	-0.08	-2.35%	-38.84%	1.61%	10.41	27.95%	37%	69%
TOTAL	65.80	-0.79	-1.20%	-31.99%	1.34%	8.7-13.9	15.81%	35%	69%
SBI	34.55	-0.07	-0.19%	-2.99%	2.17%	12.6	10.91%	44%	71%

Analysis of Option A:

The two banks formed will be similar in terms of size and profitability. However, the East-West bank is likely to be weaker in terms of CAR and GNPA ratios compared to the North-South bank.

Pros:

- i. Each bank will be almost the size of SBI, and will get synergy from economies of scale
- ii. Each of the two banks will be geographically diversified

Cons:

- i. Regional compatibility in terms of culture and attitude may arise
- ii. Difficult to merge and manage initially due to the high number of banks being merged
- iii. The larger banks would not like to lose their identity

Option B: Strategic merger as revealed by the government (12 banks)

Analysis of Option B:

The government has decided to merge these banks after thorough consideration.

Pros:

- i. There would be twelve banks, which will get synergy from economies of scale
- ii. Geographically diversified

Cons:

- i. Regional compatibility in terms of culture and attitude may arise
- ii. Difficult to merge and manage initially
- iii. No large banks

Conclusion

Though in the short to medium term mergers may not be able to solve the issues being faced by the PSU banks, including the high NPA levels, continuous losses largely on account of provisions on bad loans, capital adequacy pressures, inaccurate appraisal of clients, and the high corruption levels, from a longer perspective the bigger merged banks are likely to be resilient to adverse pressures on profitability, business, regulations, and management, more so in the changing business environment.

Recommendation

This paper tests the following merger strategies:

A. Merger of all east based banks with west based PSU banks, and all north based banks with south based banks. This would result in two mega banks which are almost similar to each other in terms of asset size, and profitability levels. In terms of CAR and NPA though, the east-west bank would be relatively weaker given the weaker east based banks. However, the largest west based banks would be able to absorb the east based banks better. In this merger strategy there would emerge three mega banks including SBI, all having almost similar asset bases.

B. Merger of six banks with four stronger banks (referred to as anchor banks), as disclosed by the Finance Minister in the recent past.

This paper recommends Option A above. It is to be noted that in each of these options, SBI will continue to operate as a stand-alone bank since it is already a mega bank with the recent merger of its subsidiaries with itself. It will also remain the largest of all the merged banks initially.

In the long run, the fortunes of the domestic banking sector are likely to improve if at least some PSU banks are merged. This action is not only expected to address the problem of NPAs, but is also expected to trim down redundant branches and ATM outlets, and result in other synergies. While voluntary retirement schemes could be introduced in these branches, the real estate recovered from the closure of these redundant branches could also be monetized. Moreover, the government could part divest its ownership in these restructured banks, and use the funds to deal with NPA issues and CAR requirements. The

regional level banking requirements of the public can be adequately met by the existing regional banks and micro-financial institutions.

However, in case the government does not go ahead with the merger of the PSU banks, the decision is quite likely to sound the death knell of the overall domestic banking sector.

References

1. Advantages and Disadvantages of Public Sector Banks, January 29, 2017, <http://www.letslearnfinance.com>
2. Adhil Shetty, who-gives-the-best-deal-psu-or-private-banks, September 14, 2015, www.karvy.com/
3. A.N.Tamragundi & Devarajappa S - "Impact of mergers on Indian Banking Sector: A comparative study of Public and Private Sector merged Banks" (Volume 13, Jan 2016)
4. BoB, Vijaya Bank approve merger proposal to create second largest PSU lender, The Economic Times, September 29, 2018, <https://economictimes.indiatimes.com/industry/banking/finance/banking>
5. D.R. Pallavi & S. Sai Sachidhananda – ‘Unlocking the lock – a mirror image effect of SBI merger in Indian banking system’ Volume 1, Issue 1 (2016)
6. Financial Inclusion in India - An Assessment, rbidocs.rbi.org.in/rdocs/Speeches
7. Global Journal of Finance and Management Volume 6, ‘Mergers and Acquisitions in Indian Banking Sector: A Strategic Approach’, 2014
8. “ICRA” - ‘Indian Banking Sector’ (July, 2016)
9. India Today, August 30, 2019
10. India’s Top Banks 2017, Dun & Bradstreet Information Services India Pvt Ltd, www.dnb.co.in
11. Key-banking-ratios-II-PSUs-vs-private, Mar 18, 2010, www.equitymaster.com
12. Khushboo Bhatia, Naveena Chouhan & Neha Joshi - “Comparative Study of Performance of Public and Private Sector Bank” [Volume 2, Issue 1 (April 2015)]
13. Livemint,<http://www.livemint.com/Industry/Cc6aXRkZcXoh4HawpcR2aM/RBIs-Viral-Acharya-says-only-strong-PSU-banks-should-be-mer.html>, September 9, 2017
14. M Jayadev & Rudra Sensarma - “Mergers in Indian Banking: An Analysis”
15. Muneesh Kumar (India), Shalini Kumar (India) & Florent Deisting (France) -“Wealth effects of bank mergers in India: A study of impact on share prices, volatility & liquidity” [Volume 8, Issue 1 (2013)]
16. Outlook for public sector banks challenging, January 17, 2017, www.icra.in
17. Pacific Business Review International Volume 7, Issue 8 ‘Basel-III in Indian Banks and Capital Concerns’, February 2015
18. R. Gandhi, Deputy Governor at the MINT South Banking Enclave, and Assistance provided by Shri Santosh Pan, - “Consolidation among Public Sector Banks” (April 22, 2016)
19. RBI www.rbi.org
20. Report on trend and progress of banking in India 2017-18 (www.rbi.org.in)
21. The CASA pillars of public sector banks are shrinking, The Economic Times, June 29, 2016 Vol. 52, Issue No. 29, 22 Jul, 2017, www.epw.in/journal/2017/29/commentary/public-sector-bank-mergers.html

Annexure 1

Bank Group-wise Earnings & Expenses of SCBs

Rs. Trillion	(I) Interest Earned	(II) Interest Expended	(III) Net Interest Income (I-II)	(IV) Other Income	(V) Operating Expenses	(VI) Operating Profit (III+IV-V)	(VII) Prov & Cont	(VIII) Net Profit (Loss) (VI-VII)
PSU	6.60	4.55	2.05	1.15	1.64	1.56	2.41	-0.85
PRIVATE	3.11	1.77	1.34	0.68	0.89	1.13	0.71	0.42
FOREIGN	0.51	0.21	0.29	0.13	0.18	0.24	0.13	0.11
SCB (2017-18)	10.22	6.54	3.68	1.96	2.72	2.92	3.25	-0.32
PSU	6.80	4.80	2.01	1.14	1.55	1.59	1.70	-0.11
PRIVATE	2.79	1.65	1.14	0.63	0.76	1.02	0.60	0.42
FOREIGN	0.51	0.24	0.28	0.16	0.17	0.27	0.14	0.13
SCB (2016-17)	10.12	6.69	3.43	1.93	2.49	2.88	2.44	0.44
PSU	6.91	4.92	1.99	0.82	1.46	1.35	1.53	-0.18
PRIVATE	2.48	1.50	0.98	0.50	0.64	0.84	0.43	0.41
FOREIGN	0.52	0.24	0.28	0.13	0.16	0.25	0.14	0.11
SCB (2015-16)	9.91	6.66	3.25	1.44	2.25	2.44	2.09	0.34

(Source: Statistical Tables Relating to Banks in India, www.rbi.org.in)

Annexure 2

Distribution of SCBs by Capital Adequacy Ratio (number of banks)

Year	CRAR	PSU	Private	Foreign	All SCB	SCB CAR
2017-18	Below 9 %	1	0	0	1	13.8%
	Between 9-10 %	4	2	0	6	
	Above 10 %	16	19	45	80	
2016-17	Below 9 %	0	0	0	0	13.7%
	Between 9-10 %	0	0	0	0	
	Above 10 %	21	21	45	87	
2015-16	Below 9 %	0	1	0	1	13.3%
	Between 9-10 %	2	0	0	2	
	Above 10 %	25	20	45	90	

(Source: Statistical Tables Relating to Banks in India, www.rbi.org.in)

Annexure 3

Bank Group-Wise Select Ratios of SCBs

%	PSU	PVT	FOREIGN	SCB
2017-18				
Cash - Deposit Ratio	5.43	7.97	8.09	6.19
Credit - Deposit Ratio	68.96	88.36	70.93	74.16
Ratio of deposits to total liabilities	82.33	70.10	57.04	77.32
Ratio of interest income to total assets	6.68	7.73	5.97	6.95
Net interest income to total assets (NIM)	2.08	3.32	3.44	2.50
Return on assets	-0.84	1.14	1.34	-0.15
Return on equity	-14.62	10.12	7.16	-2.81
Cost of deposits	5.12	4.94	3.84	5.02
Cost of borrowings	4.72	6.23	3.02	5.30
Cost of funds	5.08	5.16	3.70	5.05
2016-17				
Cash - Deposit Ratio	5.99	6.18	8.04	6.12
Credit - Deposit Ratio	68.78	86.54	71.39	73.03
Ratio of deposits to total liabilities	82.99	71.22	57.51	78.50
Ratio of interest income to total assets	7.20	8.27	6.33	7.42
Net interest income to total assets (NIM)	2.12	3.38	3.41	2.51
Return on assets	-0.10	1.30	1.62	0.35
Return on equity	-2.05	11.87	9.12	4.16
Cost of deposits	5.70	5.59	4.24	5.61
Cost of borrowings	4.80	6.56	4.26	5.44
Cost of funds	5.62	5.76	4.24	5.59
2015-16				
Cash - Deposit Ratio	5.59	5.67	5.18	5.59
Credit - Deposit Ratio	74.72	90.30	79.24	78.24
Ratio of deposits to total liabilities	81.65	68.25	56.33	76.87
Ratio of interest income to total assets	7.74	8.63	6.67	7.88
Net interest income to total assets (NIM)	2.23	3.41	3.59	2.58
Return on assets	-0.07	1.50	1.45	0.40
Return on equity	-3.47	13.81	8.00	3.58
Cost of deposits	6.19	6.08	4.46	6.09
Cost of borrowings	5.27	6.27	4.00	5.50
Cost of funds	6.11	6.11	4.36	6.02

(Source: Statistical Tables Relating to Banks in India, www.rbi.org.in)

BBA/FIN/2

Determinants of Profitability in Indian Banking Scenario: An Empirical Study

Shreyans Sekhsaria¹ & Arindam Banerjee²

¹Student, Department of Management, J. D. Birla Institute, Kolkata

²Assistant Professor, Department of Management, J. D. Birla Institute, Kolkata

Introduction

Among the various financial institutions, banks are the fundamental component and the most active players in the financial system especially financial markets. It provides capital for innovation, infrastructure and job creation and over all prosperity. It has become the integral part of our society, both industries as well as individual consumers. Banks look for maximum profitability and have the responsibility in increasing the value of shareholders' equities on one side and improving customer satisfaction on other side. The role of the banking industry is crucial for sustained economic growth.

The performance of the Banks is a major concern for any countries trade and its development. It has to manage large volume transactions. Industry related stakeholders, investors, stock holders and other policy makers need to know about the financial performance of a bank for granting credits, loans and investments. The Reserve Bank of India have introduced many reforms to improve the strength, health, performance and profitability of the banking industry. These reforms and changes were aimed to improve the quality of regulation, create healthy competition, and efficient functioning of banking industry. Reforms and liberalization in financial and banking sectors created fierce competition, technology improvement, global integration and development of new banking products. It is reasonable to assume that all these changes must have had some impact on banks' profitability and performance. Hence, understanding underlying factors that influence banks' profitability is essential, not only for the managements of the banks but for other stakeholders such as the shareholders, deposit holders, employees, customers, Governments of India, and RBI. The determinants of bank performance have

Banking is an industry that handles cash, credit, and other financial transactions. Banks provide a safe place to store extra cash and credit. They offer savings accounts, certificates of deposit and checking accounts. Banks use these deposits to make loans. These loans include home mortgages, business loans, and car loans.

Due to their importance in the financial stability of a country, banks are highly regulated in most countries. Most nations have institutionalized a system known as fractional reserve banking under which banks hold liquid assets equal to only a portion of their current liabilities. In addition to other regulations intended to ensure liquidity, banks are generally subject to minimum capital requirements based on an international set of capital standards, known as the Basel Accords.

Banking began with the first prototype banks of merchants of the ancient world, which made grain loans to farmers and traders who carried goods between cities and this system is known as a barter system. This began around 2000 BC in Assyria and Babylonia. The origins of modern banking can be traced to medieval and early Renaissance Italy, to the rich cities in the centre and north like Florence, Lucca, Siena, Venice and Genoa.

Modern banking practices, including fractional reserve banking and the issue of banknotes, emerged in the 17th and 18th centuries. Merchants started to store their gold with the goldsmiths of London, who possessed private vaults, and charged a fee for that service. In exchange for each deposit of precious metal, the goldsmiths issued receipts certifying the quantity and purity of the metal they held as a Bailee; these receipts could not be assigned, only the original depositor could collect the stored goods.

Gradually the goldsmiths began to lend the money out on behalf of the depositor, which led to the development of modern banking practices; promissory notes (which evolved into banknotes) were issued for money deposited as a loan to the goldsmith. The goldsmith paid interest on these deposits. Since the promissory notes were payable on demand, and the advances (loans) to the goldsmith's customers were repayable over a longer time period, this was an early form of fractional reserve banking. The promissory notes developed into an assignable instrument which could circulate as a safe and convenient form of money backed by the goldsmith's promise to pay, allowing goldsmiths to advance loans with little risk of default. Thus, the goldsmiths of London became the forerunners of banking by creating new money based on credit.

The Bank of England was the first to begin the permanent issue of banknotes, in 1695. The Royal Bank of Scotland established the first overdraft facility in 1728. By the beginning of the 19th century a bankers' clearing house was established in London to allow multiple banks to clear transactions. The Rothschilds pioneered international finance on a large scale, financing the purchase of the Suez Canal for the British government.

Objective of the Study

The objectives of this study are:

1. Get an insight into the Indian Banking Sector.
2. Determine the factors influencing the bank profitability in India.
3. Rank the variables that affect the profitability of the banking sector from highest to lowest according to variable's beta.

Methodology

This study has focused on measuring the performance and profitability of the banking sector using the method of "Multiple linear regression model".

Multiple linear regression analysis is a technique for modeling the linear relationship between a dependent and one or more independent variables. It is one of the most widely used of all statistical methods. The general form of multiple regression equation is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + \epsilon$$

Where,

Y = Dependent Variable.

β_i = Partial regression coefficients of respective independent variables. These are estimated using least squares method from the input data ($i = 1, 2, 3 \dots K$)

X_i = Independent Variable ($i = 1, 2, 3 \dots K$)

ϵ = Error Term

Data Analysis & Findings

For the empirical analysis, eight independent variables and one dependent variables are used. Dependent variable denotes bank profitability and independent variables denoting factors that affect bank's profitability.

The data used in the regression analysis is of scheduled commercial banks in India over the period 2009-10 – 2017-18. The data is collected from RBI website.

The following table will provide the list of independent and dependent variables.

Table 1: Variables	
Variables	Measurement
<i>Dependent Variables</i>	
ROE	Net Income to Total Earnings
<i>Independent Bank Related Variables (Internal)</i>	
Bank Size	Logarithm of Total Assets
Customer Deposits	Logarithm of Customer Deposits
Equity/Total Assets	Shareholder's Equity/Total Assets
Credit Risk	Loan Loss Provision to Total Loans
NPA Ratio	NPA to Total Loans
Operational Efficiency	Operating Expense to Total Income
<i>Independent Macro-Economic Factor (External)</i>	
Inflation	Inflation Growth Rate
GDP Growth Rate	Annual GDP Growth Rate

Table 2: Hypothesis	
Null Hypothesis (H_0)	Alternate Hypothesis (H_1)
Model's Significance Test	
$H_0: b_1 = b_2 = b_3 = \dots = b_k = 0$ The model is insignificant i.e. none of the slope coefficients are significant	$H_1: b_1 = b_2 = b_3 = \dots = b_k \neq 0$ The model is significant i.e. at least one of the slope coefficient is significant
Independent Variable's Significance Test	
$H_0: b_k = 0$ Regression Coefficient i.e. $b = 0$ which means the coefficients are not significant.	$H_1: b_k \neq 0$ Regression Coefficient i.e. $b \neq 0$ which means the coefficients are significant.

Table 3: Regression Statistics	
Multiple R	0.999990563
R Square	0.999981125
Adjusted R Square	0.999830126
Standard Error	0.081040438
Observations	10

Table 4: ANOVA					
	Df	SS	MS	F	Significance F
Regression	8	347.946242	43.493280	6622.448796	0.009503
Residual	1	0.006568	0.006568		
Total	9	347.952810			

Table 5: Regression

	Coefficients	Standard Error	t Stat	P-value
Intercept	42.703436	8.314824	5.135820	0.122425
Deposits	522.706113	28.543167	18.312828	0.034729
Size	-493.116547	26.363375	-18.704606	0.034003
Credit Risk	271.677081	19.220080	14.135065	0.044963
NPA Ratio	-217.029317	15.231277	-14.248924	0.044605
Operational Efficiency	-113.749140	8.088180	-14.063626	0.045191
Equity-Total Assets	-1287.497839	178.713289	-7.204265	0.087806
Inflation	13.569438	1.883677	7.203698	0.087813
GDP Growth Rate	-73.455433	3.010724	-24.397929	0.026079

The regression model of the following form has been used by entering all the eight independent variables in the model:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8$$

Interpretations:

The model's significance can be concluded by the F test.

$$F \text{ statistic} = 6622.448796$$

$$F \text{ critical} = 239$$

Since F statistic > F critical, hence the model is significant

The independent variable's significance can be concluded by their respective *p value*.

If *p value* < 0.05, the independent variables are significant. Hence the null hypothesis is rejected.

According to the regression output the significant variables are as follows.

- Deposits ($0.034729 < 0.05$)
- Size ($0.034003 < 0.05$)
- Credit Risk ($0.044963 < 0.05$)
- NPA Ratio ($0.044605 < 0.05$)
- Operational Efficiency ($0.045191 < 0.05$)
- GDP Growth Rate ($0.026079 < 0.05$)

The insignificant variables are

- Equity-Total Assets ($0.087806 > 0.05$)
- Inflation ($0.087813 > 0.05$)

Deposits:

The coefficient being 522.706113 means that other factors remaining constant, when deposits will increase by 1, bank's profitability will also increase by 522.706113 in the same direction.

Customer Deposit is a liability to the bank. It is the main source of funding for banks. Banks have more deposits, the bank can provide more loan opportunities to customers. Then it will be able to create profits in future. Generally supposed that customer deposits positively related to bank profitability, if there is a satisfactory demand for loan

opportunities in the market. Additional deposits can generate more profits and lower level of deposits negatively impact on bank profitability. Therefore customer deposits are positively related to bank profitability.

Size:

The coefficient being -493.116547 means that other factors remaining constant, when bank size will increase by 1, bank's profitability will decrease by -493.116547.

Bank Size is important bank specific determinant of bank profitability. Generally, the effect of a growing size on profitability has been proved to be positive to a certain extent. However inverse relation between size and profitability can be observed here. This can happen when banks become extremely large, the effect of size could be negative due to bureaucratic and other reasons.

Credit Risk:

The coefficient being 271.677081 means that other factors remaining constant, when credit risk will increase by 1, bank's profitability will increase by 271.677081 in the same direction.

It exhibits the loss probability because of the failure of the debtor to fulfil its obligations to the bank. This paper suggest that's bank's profitability comes at a price of greater credit risk. The theory is backed by Sufian (2009) [11].

NPA Ratio:

The coefficient being -217.029317 means that other factors remaining constant, when NPA increases by 1, bank's profitability will decrease by -217.029317.

This indicates presence of an inverse relationship between bank's profitability and NPA. To increase their profitability banks should control their NPA. They should take necessary measure to recover the loans.

Loans should be given after through underwriting process and advance actions should be taken in order to prevent the loans turning bad.

Operational Efficiency:

The coefficient being -113.749140 means that other factors remaining constant, when operational efficiency increases by 1, bank's profitability will decrease by -113.749140. Operational efficiency is taken as Operating Expense/Total Income.

The reason for the inverse relationship might be, as operating expense decreases, total income being constant or as operating expense decreases more than the total income, this will cause the operational efficiency to decrease and bank's profitability to increase.

GDP Growth Rate:

The coefficient being -73.455433 means that other factors remaining constant, when GDP increases by 1, bank's profitability will decrease by -73.455433.

The GDP growth is found to be significantly and negatively related to bank profitability. This result partially supports the view that high economic growth improves business environment and lowers bank entry barriers. The consequently increased competition dampens bank's profitability.

The above said view is supported by Tan, Aaron Yong and Floros, Christos in their paper "Bank profitability and GDP growth in China" [12].

Equity-Total Assets:

The results according to ANOVA table indicate that leverage has a negative insignificant effect on bank profitability at 5% level of significance. Thus, we fail to reject null hypothesis i.e. inflation has insignificant impact. This is consistent with Syaza (2017) [13].

Inflation:

The results according to ANOVA table indicate that inflation has a positive insignificant effect on bank profitability at 5 % level of significance. Thus, we fail to reject null hypothesis i.e. inflation has insignificant impact. This finding is consistent with Otuori (2013) [14], Jasmine (2011) [15].

The variables that affect the profitability of the banking sector from highest to lowest according to variable's beta are as follows

1. Deposits	522.7061132
2. Size	-493.1165468
3. Credit Risk	271.6770806
4. NPA Ratio	-217.0293174
5. Operational Efficiency	-113.7491396
6. GDP Growth Rate	-73.45543293

Methods of Improving Profitability

Improving Employee Productivity:

For the last about 50 years, the banking industry has been following a system of industry-wise wage settlement with its employee unions once in five years. This has caused considerable disenchantment among the banking public, as has always been preceded by strikes and long drawn out negotiations. This is because individual banks have no say in these settlements, and they had to simply nod their head for what is decided at the Ministry level, without any consideration for each bank's capacity to pay such wages. This system of industry-wise settlement has outlived its utility as it has robbed the banks of their freedom to negotiate with their own employees. The time has come, to completely dismantle the industry-wise wage settlement system in favour of individual banks entering into wage agreements with their own employees. They can deal depending on their own profitability, productivity and service requirements.

Improving Customer Service:

A robust and transparent charter of bank customers' rights with built-in compensation for non-compliance by banks will greatly improve customer service in banks. The charter of customers' rights must specify in clear and unambiguous terms the rights and responsibilities of both banks and their customers, coupled with stringent penalties for non-compliance. At present, banks levy penalties on customers for non-compliance with their rules and regulations, but there are no penalties on banks and no compensation is paid to customers when banks fail to honor their own obligations towards their customers. Even the latest charter released by the RBI has little in terms of accountability by banks. The charter currently reads more like a vision statement than a concrete framework.

Improving Trust and Confidence of the Public in Banking Institutions:

Banks have started levying charges for withdrawing your own money from ATMs. Limits on the number of free transactions and such measures do not inspire confidence among consumers. Banks today are known for mis-selling of third party products without any regard for the customers' needs and priorities. This has only worsened the situation, affecting the credibility of banks and there are no penalties for their misdeeds. Therefore, there is an urgent need to clear this mistrust and lack of confidence in banks, by laying down clear cut guidelines for banks in terms of the products they can and cannot push or charge for.

Improving NPA Management:

Today, banks are at the mercy of big borrowers. The biggest problem faced by banks is that the companies go bankrupt, but the promoters remain wealthy and healthy and they force the banks to give all sorts of undeserved concessions. Simply declaring them willful defaulters, as banks do now, does not solve the problem for the banks; on the contrary it results in further siphoning off of funds and stripping of assets of companies leaving the banks high and dry.

In the words of RBI Governor, Dr Raghuram Rajan the most obvious reason is that the system protects the large borrower and his divine right to stay in control.

A special insolvency law should be immediately enacted by which all those who borrow from banks beyond a certain amount should be subject to a legal stipulation that mandatorily declares the promoters and those in management unfit to continue in management, if the company they own and manage goes into negative net worth in any financial year due to whatever reasons. Such companies should be considered bankrupt and the promoters should not be allowed to continue in management.

Following this, the recovery process from large borrowers, including sale of assets etc. needs to be expedited. Unscrupulous borrowers with political or big corporate patronage are mainly responsible for the poor performance of public sector banks in our country.

This single banking reform will be the biggest game changer for the entire banking industry in our country.

Improving the Norms of Priority Sector Lending:

In order to improve the performance of banks, there is a case for improving the norms for priority sector lending by banks, which needs changes with changing times. In order to serve the twin objectives of serving social good with equity and justice for banks, the priority sector lending norms be modified to provide incentives to banks which perform well in this area of lending activity. The best way to incentivize banks is to offer to those banks, which achieve higher level of lending to this sector, relaxations in regulatory prescriptions like reduced SLR and CRR requirements etc.

Improving Corporate Governance:

In order to improve the performance of public sector banks, it is necessary to bring all public sector banks under the Companies Act, 2013 and make them accountable to public shareholders. Today they are only accountable only to the majority shareholder, and the AGMs are a mere farce. They bend backwards to appease the powers that be and follow hackneyed policies to suit political bosses without any innovation in their operations. The system of appointment of independent directors leaves much to be desired. There is a need to overhaul the entire system of appointment of the top management of banks, making it transparent and merit oriented.

Placing Inspection Rating Of Banks by RBI in Public Domain:

The RBI conducts an annual financial review of all banks, but their reports are kept confidential and their findings are never published. Those banks who continue to be rated poor must be pulled up and made answerable for their poor performance. The banks' performance under all parameters must be made known to the customers of banks to keep the managements of banks on their toes.

Making Bank Auditors More Accountable For Their Failures:

It is a well-known fact that window dressing of balance sheet of banks is most common in our country. The most common occurrence in this sphere is fudging the balance sheet just before the retirement of a CMD of the bank. Now that the appointment of auditors is proposed to be delegated to individual banks, the chances of such financial jugglery taking place will be much higher, unless drastic steps are taken to ensure that the auditors are made accountable for large variations in key parameters every quarter and shown the door if found to be hand in glove with the management.

Avoiding Dual Control of Public Sector Banks:

The RBI is the banking regulator but public sector banks have a super regulator in the Finance Ministry of the Central Government, who by virtue of their majority shareholding, take the liberty to issue periodic directions to public sector banks in matters of banking operations. While the Central Government as the majority shareholder is represented by a Finance Ministry official on the boards of public sector banks, it is preposterous to issue separate directions which are outside their domain, which put the public sector banks in a bind and undermines the authority of RBI

Eliminating Political Interference in Functioning Of Banks Totally:

The public sector banks in our country are highly politicized due to interference from all those in power. The top officials of banks owe their positions to these bigwigs in the higher echelons of the government and are bound to show obeisance to their demands, putting the banks at risk. It is necessary to issue strict instructions to public sector bank chiefs that they too should insist upon written instructions from all those in power and act upon them only if they are in accordance with rules and are in the best interest of the banks concerned. This would go a long way to improve the functioning of banks and serve the interest of our nation.

Conclusion

This paper studies the different variables that affect profits at India's banking sector. Return on equity (ROE) is one of the key profitability ratios which indicate the amount of net income returned as a percentage of shareholders' equity. In other words, it can be used for evaluating how effectively a bank's management team is managing the capital that shareholders entrust to it. A higher ROE is expected for high growth banks. Also, the average of ROEs of past years gives a better idea of the historical growth of the bank. The analysis conducted shows that size, deposits, operational efficiency, credit risk, NPA ratio & GDP growth rate have significant impact on ROE. Credit risk and deposits are positively correlated whereas credit risk, bank size, GDP growth rate, NPA Ratio are negatively correlated with ROE.

References

1. Brahmaiah, B. and Ranajee, (2018) Factors Influencing Profitability of Banks in India. *Theoretical Economics Letters*, 8, 3046-3061. doi: 10.4236/tel.2018.814189.
2. Debaprosanna Nandy, "A Multivariate Analysis Approach of Selecting Profitability Indicators – An Empirical Study of Commercial Banks in India". *International Journal of Multidisciplinary Research Vol.1 Issue 6*, October 2011.
3. Dinson, Syaza Laila, 2017. "CIMB Bank Performance: Relationship between GDP, Leverage Ratio and Operating Efficiency Ratio to Profitability," MPRA Paper 78497, University Library of Munich, Germany.
4. İslatince, Nuray. "Analysis of the Factors that Determine the Profitability of the Deposit Banks in Turkey." (2015).
5. Jasmine, E. (2008). "An Empirical Analysis of Commercial Banks' Profitability Determinants in Malaysia after the 2008 Financial Crisis". A Research Project Submitted in Partial Fulfilment of the Requirement for the Degree of Bachelor of Business Administration (Hons) Banking and Finance. University of Tunku Abdul Rahman.
6. Klein, Paul-Olivier and Weill, Laurent, Bank Profitability and Economic Growth (July 2, 2018). BOFIT Discussion Paper No. 15/2018. Available at SSRN: <https://ssrn.com/abstract=3207171>
7. Otuori, O. H. (2013). "Influence of exchange rate determinants on the performance of commercial banks in Kenya". *European Journal of Management Sciences and Economics*, 1(2), 86-98.
8. Pankaj Sinha & Sakshi Sharma, 2016. "Determinants of bank profits and its persistence in Indian Banks: a study in a dynamic panel data framework," International Journal of System Assurance Engineering and Management, Springer; The Society for Reliability, Engineering Quality and Operations Management (SREQOM), India, and Division of Operation and Maintenance, Lulea University of Technology, Sweden, vol. 7(1), pages 35-46, March.
9. Rawlin, Rajveer and Shanmugam, Ramaswamy and Bhat, Vanashree, A Comparison of Key Determinants on Profitability of India's Largest Public and Private Sector Banks (October 10, 2014). *European Journal of Business and Management*, Vol. 6, No. 34, 2014. Available at SSRN: <https://ssrn.com/abstract=2508368>
10. Runilda Duraj & Elvana MOCI, 2015. "Factors Influencing The Bank Profitability – Empirical Evidence from Albania," *Romanian Economic Business Review*, Romanian-American University, vol. 10(1), pages 60-72, March.
11. Staikouras, C. K. and Wood, G. E. (2004) "The Determinants of European Bank Profitability", *International Business & Economics Research Journal (IBER)*, 3(6). doi: 10.19030/iber.v3i6.3699.
12. Sufian, F. (2009) Determinants of Bank Profitability in a Developing Economy: Empirical Evidence from the China Banking Sector. *Journal of Asia-Pacific Business*, 10, 281-307.
13. Tan, Aaron Yong and Floros, Christos (2012) Stock market volatility and bank performance in China. *Studies in Economics and Finance*, 29 (3). pp. 211-228. ISSN 1086-7376
14. Thota, Nagaraju, The Determinants of Commercial Banks Profitability in India (March 2, 2013). Available at SSRN: <https://ssrn.com/abstract=2544838> or <http://dx.doi.org/10.2139/ssrn.2544838>
15. Yalem selam Worku Bogale, Factors Affecting Profitability of Banks: Empirical Evidence from Ethiopian Private Commercial Banks, *Journal of Investment and Management*. Vol. 8, No. 1, 2019, pp. 8-15. doi: 10.11648/j.jim.20190801.12

BBA/HR/1

An Analytical Appraisal of Emotional Intelligence in Academic Administration

Swati Banerjee¹ & Dipa Mitra²

¹PhD Scholar, Indian Institute of Social Welfare & Business Management, Kolkata;
swatibankerji78@gmail.com

²Associate Professor & Coordinator, M.Phil & PhD Programme, Indian Institute of Social Welfare & Business Management, Kolkata; askdipa@gmail.com

Introduction

In recent years, amid incessant waves of education reform and curriculum changes in India, create a call for return to endorsing the age-old educational beliefs in promoting students' lifelong learning and all-round development in all the domains. An academic administrator is a person who is to ensure that the institution's goals and objectives are achieved. An administrator is solely responsible for controlling the whole administrative activities. He /she has to make plans, implement those plans and has to observe if the ultimately institution's goal of attaining success of the students is finally achieved. They have to ensure that their institutions should be the cream in terms of result and their academicians should always be motivated so that they can provide their best guidance to the students. They are the one who are responsible for building up educated and responsible citizens of the country. In higher studies academic administrators plays a very crucial role in guiding and shaping the future of the students by providing the best possible education to the students through their institution. For this they have to be good administrators and administrative effectiveness is very important. Administrative effectiveness can be termed as the achievement of goals, enhancing capabilities, increasing experiences, energy goals and value as well as increasing the satisfaction derived. Administrative effectiveness in terms of academic administrator can be described as the skill to get all members of the organisation to work together towards the achievement of the excellent goal of the education of all the students. It implies the limits to which employees in the education institutions are motivated and given adequate direction with a view to achieving institutional goals of best education possible.

With the academic sector in India operating in a complex and challenging environment characterized with frequent policy changes, and with the stress in workplace, administrators are constantly feeling threatened in one way or another. This makes emotional intelligence and its implication crucial in the organisation. . Emotional intelligence can be inferred as the ability to recognize and manage emotions in ourselves and others. In this context its characteristics has already been predicted primarily to understand self and other's emotion, understanding those feelings, regulate those emotions and using these emotions in a proper way for self-actualisation and to maintain a better relationship with other people. Basically, EI tries to explore the mental state of wellbeing rather than the physical by helping one person to recognise himself, his inner traits and to try to judge the inner qualities of the other persons. It not only helps to perceive emotions but also helps to use emotions in thinking process and also to regulate the same.

This is not the substitute for receiving actual medical advice and therapy. Emotional intelligence helps to revive from the beginning of psychological problem and helps to

motivate the employees by increasing their positivity. EI has five dimensions of *self-awareness, regulating emotion, motivation, empathy and relationship building.*

Relation between Emotional Intelligence & Academic Administrators

Emotional intelligence led to excellent performance in academic field i.e., increment in communication skills, greater levels of openness and agreeableness, and greater occupational success – all attributes that can increase one's administrative effectiveness. Introducing emotional intelligence among academicians will benefit not only themselves, but also their students. EI in educational institutions help to develop a student friendly atmosphere by improving the student teacher relationship with improvise communication skills. It enhances the positivity in academicians and to maintain a better understanding and to inspire the future student community.

Relation between Emotional Intelligence & Administrative Effectiveness

Understanding others' perception enables us to more effectively motivate individuals and guide them to a better organizational culture. The stress faced by the academic administrators is strong both intellectually and emotionally. Emotionally intelligent administrators may lead to greater organisational effectiveness.

Ways by which EI may enhance Administrative Effectiveness

1. Enhancing self awareness by maintaining a journal to record feelings, practice mindfulness techniques and meditation.
2. Openness in expressing of thoughts, feelings, and beliefs –express the thoughts in a calm and diplomatic manner to the concerned people in the appropriate circumstances.
3. Developing passions by following their instinct, develop passion and follow them
4. Knowing your strengths and weaknesses.
5. Listen to others carefully and understand their viewpoint
6. Managing your own impulses by analysis and motivational self-talk
7. Try to be flexible in your attitude.
8. Using humour and be humble to deal with challenging situations.

Present study is regarding if there exists any relationship between EI and administrative effectiveness. This study also investigates whether the demographic variables affect the EI, and administrative effectiveness of the academic administrators. The effectiveness will be measured by measuring his /her EI and their administrative effectiveness on the basis of demographic criteria. Every person's thought may vary according to his/her age, sex, education received, the money earned as well the time being for which he or she is working. It may facilitate the academic administrators of today's educational organisations to implement strategies using the emotional intelligence of the administrators to understand self as well as other's problems and to develop a healthy academic environment irrespective of their mind set and facilitates in achieving the organisational goals. It studies the extent to which the demographic variables will influence the emotional intelligence and administrative effectiveness of the academic administrators.

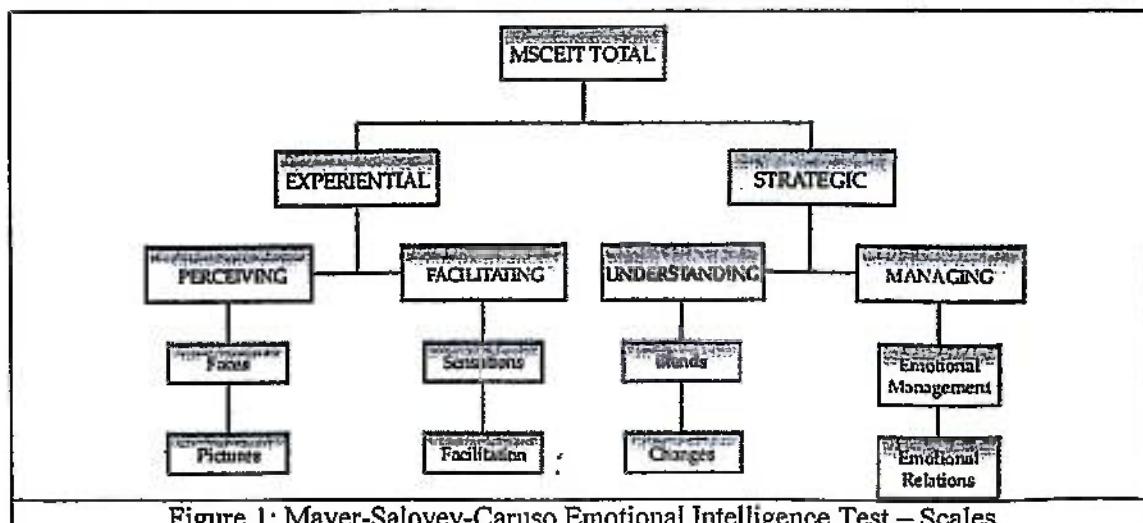
Review of Literature

Human world is full of emotions. There are emotions behind everything people do, every type of actions they do, whatever decision and judgement they take. Emotions help us to realise the relationship, behaviour and every aspect of the human life around us. Many researchers stated that the emotions positively contribute to the better performance and better decision making both at workplace and in personal life. Those people who have sound Emotional Intelligence (EI) recognize this and use their thinking to control their emotions rather than being managed by them.

Emotional Intelligence

Faltas Iberkis⁴(2017) studied the three major models on EI -Goleman's EI performance model, Bar-On's EI competencies model, and Mayer, Salovey, and Caruso's EI ability model. These EI models give stress on the individual's mental as well as physical proficiencies, intelligence, and abilities, with the purpose of figuring out how emotions drive human behaviour. *StysYvonne& Brown L. Shelley¹⁷(2004)* performed a survey in a correctional survey in Canada to implement EI for correctional ways. They studied the three important models of EI and concluded that the Correctional Service of Canada could be benefitted from hiring individuals who have a high level of E.I. *Hultin Maria (2011)* made a study on the three major theories of EI i.e.Mayer and Salovey's,Goleman's and Bar-On's theories of EI. There are other views and measures of EI, also suggested, which in future may be helpful in the field of EI.. *Reddy Samarender D (2014)*conducted a research on the importance of EI and its dimensions and the ways to develop the EI level in oneself. *Kannaiah Desti &Shanthi R (2015)* has made a study on the various reasons for emotion and to exert control over the emotion. This study analyses that both emotional intelligence and work life balance together create organizational success and develop competitive advantage for organizations.

By studying the above literature EI for the ADMINISTRATOR may be portrayed by following model:



The Four Branches of Emotional Intelligence

1. *Perceiving Emotions:* The ability to perceive emotions in oneself and others as well as in objects, art, stories, music, and other stimuli

2. *Facilitating Thought:* The ability to generate, use, and feel emotion as necessary to communicate feelings or employ them in other cognitive processes
3. *Understanding Emotions:* The ability to understand emotional information, to understand how emotions combine and progress through relationship transitions, and to appreciate such emotional meanings
4. *Managing Emotions:* The ability to be open to feelings, and to modulate them in oneself and others so as to promote personal understanding and growth

Emotional Intelligence & Demographic Profile

Pooja, Kumar Pranab (2015) studied the impact of demographic variables on EI and it was found that the demographic variables have a great amount of impact on EI. *Hassan Jorfi, Hashim Fauzy Bin Yacob, Ishak Mad Shah(2011)* this study focused on the lack of motivation and job satisfaction in educational administrations of Iran. This research proposes a relationship between demographic variables, emotional intelligence and Motivation. *Nagar Minakshi (2017)* made a study of the level of EI among branch managers of commercial banks in both the sectors many districts of Rajasthan. The study also tries to find the relationship between EI of branch (bank) managers and the demographic factors. The results revealed that branch managers have higher level of emotional intelligence. *Devi Rama, Narayamma Lakshmi (2014)* investigated the relationship of demographic variables such as age, father's education and occupation, mother's education, income family size depend on EI. It was found to be true. *Vanishree M.(2014)* made a research that 90% of the success of the organisation leaders depend on EI. It was observed that the people with high EI get more success in organisation and develops a good interpersonal skill.

Emotional Intelligence & Administrative Effectiveness of Academic Administrators

Nureni Adedokun Adeniyi (2014) investigated the relationship between EI and administrative effectiveness of Provosts of Federal Training Centres in Nigeria. It was observed that among others that provosts of Federal Training Centres in Nigeria should regularly be updated on the four domains of emotional intelligence because have impact on their administrative effectiveness and ultimately the school effectiveness.

Gap in the Literature

A lot of literatures have been studied in this case but very few researchers are keen on knowing about the EI of the administrators who are maintaining the impartment of education selflessly and their administrative effectiveness.. There are ample amount of research done in the field of knowing the wellbeing of the students. But there is a lot of paucity of research in the field of administrative effectiveness of academic administrators. There is also a vast scarcity in the thought process of how EI of academic administrators affect the administrative effectiveness.

Problem Statement

An education institution needs administrators who can manage the daily stressors of the job and who are able to lead teachers through the current changes and reform efforts. In such a complex and changing environment, an academic administrator must be able to articulate a vision for success, inspire others to embrace the vision, and have the ability to make the necessary changes happen. :

The problem to be investigated in this study concerns the relationship between an academic administrator's emotional intelligence and administrative effectiveness. The problem to be discussed in this study is regarding the relationship between academic administrator's emotional intelligence and administrative effectiveness in different education institutions across West Bengal.

This study also investigates the correlations between specific domains of emotional intelligence (self-awareness, self-management, social awareness, and relationship management) and administrative effectiveness of academic administrator.

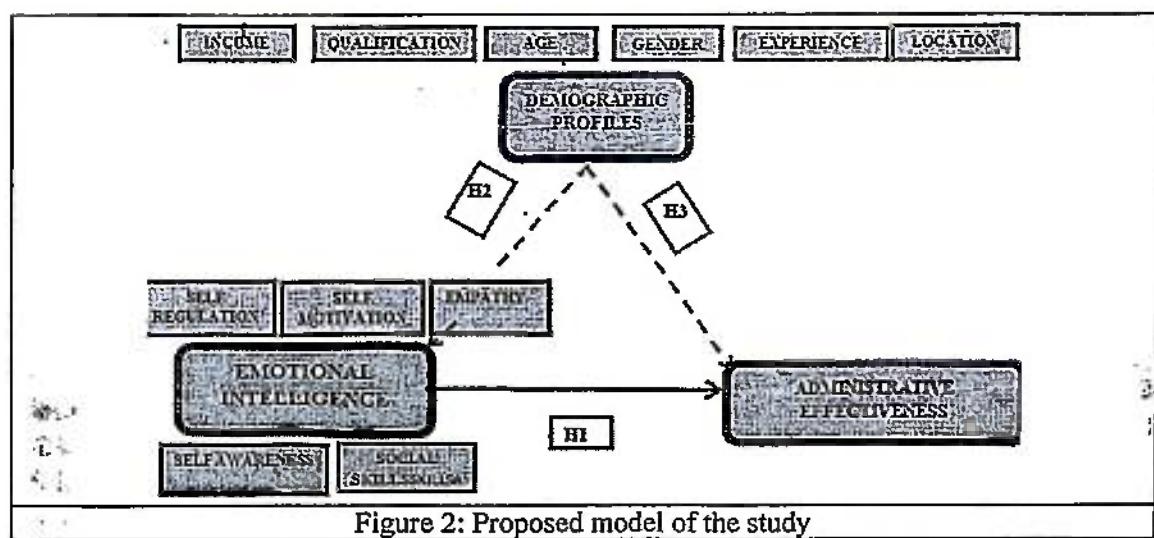


Figure 2: Proposed model of the study

Objectives of the Study

1. To what degree is emotional intelligence associated with administrative effectiveness of academic administrators
2. To find out the main factors of EI, and their impact on administrative effectiveness.
3. To diagnose whether the demographic variables have any effect on EI and administrative effectiveness.
4. To frame a generic model to establish the relationship among EI, and administrative effectiveness.
5. To find out the ways to enhance administrative effectiveness with respect to EI of academic administrators.

Proposed research hypothesis

- a. H0- There is no significant relation between EI and administrative effectiveness of Indian academic administrators.
- b. H1- There is significant relation between EI and administrative effectiveness of Indian academic administrators
- c. H0- Demographic factors do not have any impact on EI.
- H2- Demographic factors have impact on EI
- c. H0- Administrative effectiveness is not affected by Demographic profile.
- H3- Administrative effectiveness is affected by Demographic profile

Methodology

Sampling Frame & Scope:

A Judgmental sampling method will be used and data will be collected only from those academic administrators who are managing the administration of their work place or from respective departments from renowned management institutes , business schools and colleges located in West Bengal.

Sampling Size:

Data will be collected from 28 state universities, 9 central universities and 11 state universities.

Data Collection Method:

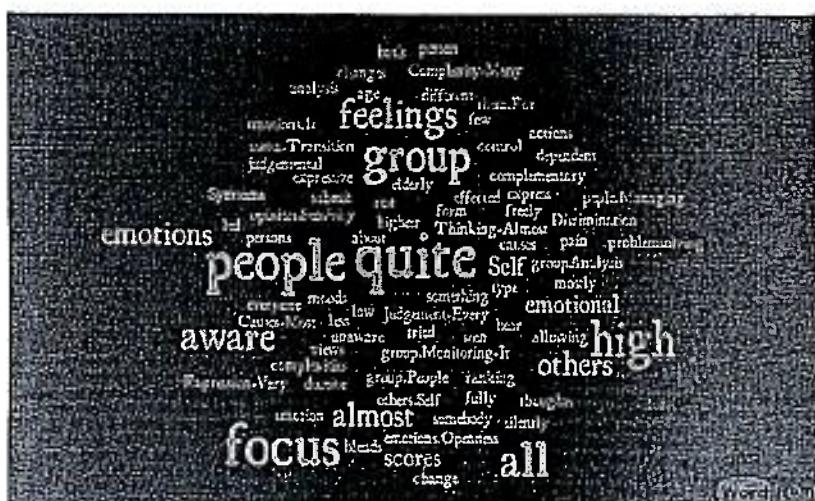
The data will be collected from various education institutions like business schools, colleges and management institutes across the state by using a standardised questionnaire. The questionnaire will be for measuring EI. This questionnaire is developed by Mayer & Salovey.

Data Analysis Techniques:

The data will be analysed using SPSS 23, AMOS, R programming software. There will be 3 types of correlation analysis to find out if there is relationship between EI and administrative effectiveness, EI and demographic features and demographic features and administrative effectiveness.. Two regression analyses will be done trying to predict administrative effectiveness by EI and demographic features. ANOVA is performed on the demographic data to find out if there exist any differences. Both exploratory and confirmatory factor analysis will be performed to know about the significant factors of EI and demographic features which effect the academic administrators.. A SEM model can be formed by using R programming.

Qualitative Analysis: A Focus group interview is conducted on Academic mentors of different Education institution. Their statements are recorded in the questionnaires.

Word Cloud Analysis: Word Cloud Analysis is performed on the data extracted from them. This analysis is performed to understand the factors of EI affecting academic administrators.



Quantitative Analysis:

1. The data is analyzed using SPSS 23
2. There are two types of correlation analysis to find out the relationship between EI and Academic administrators, EI and demographic features.
3. A regression analysis is done trying to predict the overall emotion.
4. MANOVA is performed on the demographic data to find out if there exist any differences
5. To check if there is any mediation effect of any variable on dependent variable mediation analysis is performed.

Correlation: Judgement and Monitoring have a statistically significant linear relationship ($p < .001$). The direction of the relationship is positive (i.e., judgement and monitoring are positively correlated), meaning that these variables tend to increase together (i.e., greater judgemental capacity is associated with greater monitoring). The magnitude, or strength, of the association is approximately moderate (.7 < |r| < .8).

Self Analysis and Managing others have a statistically significant linear relationship ($p < .001$). The direction of the relationship is positive (i.e., self analysis and managing others are positively correlated), meaning that these variables tend to increase together (i.e., greater self analysis is associated with greater managing others. The magnitude, or strength, of the association is approximately moderate (.3 < |r| < .5).

Table 1: One Way MANOVA

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.951	1744.522 ^a	2.000	181.000	.000
	Wilks' Lambda	0.49	1744.522 ^a	2.000	181.000	.000
	Hotelling's Trace	19.277	1744.522 ^a	2.000	181.000	.000
	Roy's Largest Root	19.277	1744.522 ^a	2.000	181.000	.000
Age	Pillai's Trace	.035	3.314 ^a	2.000	181.000	.039
	Wilks' Lambda	.665	3.314 ^a	2.000	181.000	.039
	Hotelling's Trace	.037	3.314 ^a	2.000	181.000	.039
	Roy's Largest Root	.037	3.314 ^a	2.000	181.000	.039

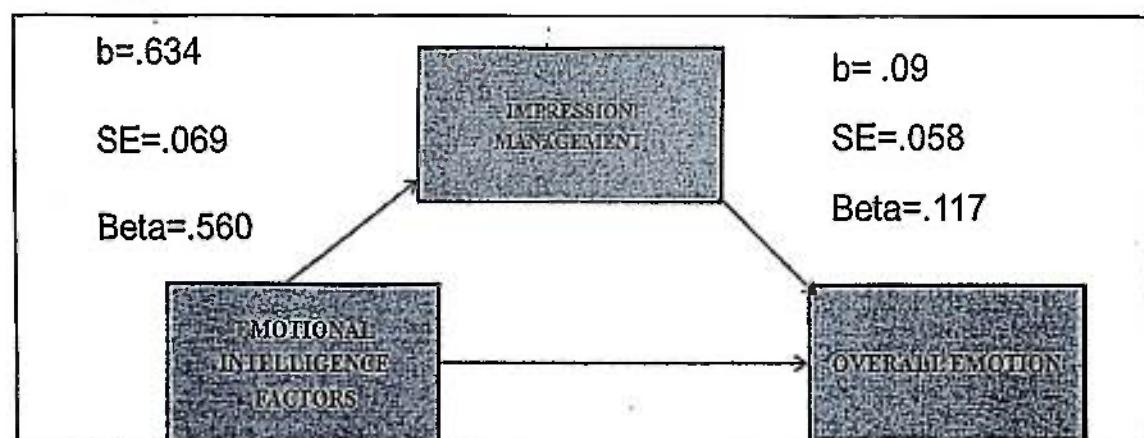
From the multivariate analysis table it can be interpreted that Wilks' Lambda row (highlighted in red) by looking at the significance level it can be said that age has a significant impact on transition and openness as the sig value is ($p < .05$). This result can be written as here is a statistically significant difference in job satisfaction and life satisfaction scores based on gender, $F(2, 181) = 3.34, p < .05$; Wilk's $\Lambda = 0.965$. The strength of the relationship is $1 - 0.665 = .335$,

Regression Analysis: The "Model Summary" table reports the same value for Pearson r obtained with the correlation analysis, of course. The r square shows that our linear model explains 92% of the variance. The regression equation appears to be very useful for making predictions since the value of r square is close to 1. The value of Durbin Watson is 1.

Model	#	R Square	Adjusted R Square	Std. Error of Estimate	Model Summary ^a						Durbin-Watson	
					Change Statistics			Significance F				
					R Square Change	F Change	dF	Sig. F Change	dF	Sig. P		
1	107	.022	-.005	.707	.022	.848	14	.1	.704	.704	1.000	
Coefficients^b												
Model	Unstandardized Coefficients				Standardized Coefficients				Correlations			
	Beta	t Stat	p-value	95% CI	Beta	t Stat	p-value	95% CI	Beta	t Stat	p-value	VIF
1 (Current)												
impressionmanagement	.634	1.628	.045	.002,.948	.623	.681	.023	.002,.623	.623	.623	.430	4.130
selfconfidence	.561	.650	.069	.002,.560	.562	.516	.126	.002,.516	.516	.516	.446	4.446
confidenceinself	1.510	1.273	.156	.002,.156	1.163	.447	.410	.002,.410	.410	.410	.176	6.017
depression	-.182	-.340	.178	.002, -.178	-.244	.348	.370	.002,.370	.370	.370	.143	6.028
anxiety	-.178	-.344	.178	.002, -.178	-.156	.306	.320	.002,.320	.320	.320	.143	6.028
stress	-.174	-.334	.174	.002, -.174	-.150	.300	.314	.002,.314	.314	.314	.143	6.028
anger	-.074	.205	.470	.002,.470	-.120	.200	.230	.002,.230	.230	.230	.200	3.200
hostility	-.281	-.130	.113	.002, -.113	-.103	-.024	.804	.002, .804	-.024	-.024	.117	6.217
positiveaffect	.246	.874	.102	.002,.874	.232	.190	.230	.002,.230	.190	.190	.177	1.938
negativeaffect	-.040	1.230	.225	.002, 1.230	-.140	.309	.264	.002,.264	.209	.209	.165	6.475
anxiousness	-.411	.803	.211	.002, .803	-.170	.447	.284	.002,.284	.172	.172	.174	6.184
depression	-.322	1.204	.252	.002, 1.204	-.147	.446	.240	.002,.240	.069	.069	.078	12.301
stress	-.260	-.310	.109	.002, -.310	-.109	.400	.259	.002,.259	-.111	-.111	.074	12.263
anger	-.104	.213	.493	.002,.493	-.145	.368	.160	.002,.160	.144	.144	.163	3.334
hostility	.109	.117	.293	.002, .117	.215	.507	.311	.002,.311	.144	.144	.154	7.490

a. Dependent Variable: overallemotion

Mediation Analysis: Most of the respondents from focus group suggested the influence of impression management on overall emotion. So a mediation analysis is done to check out the following recommendation. 'Impression management' is a conscious or subconscious process in which people attempt to influence the perceptions of other people about a person, object or event. They do so by regulating and controlling information in social interaction.



Simple Mediation is an extension of regression analysis. Here the dependent outcome variable is Overall Emotion score, predictor variable is Emotional intelligence factors mediating variable is Impression Management. It is hypothesised that the emotional intelligence factors affect the Overall emotion in two ways. By visual inspection of the above model the unstandardized path coefficient from emotional factors impression management in the unmediated model was .664 and now after mediation it reduces to .607 and (the corresponding standardized coefficients were .682 and .623). Because both the coefficients were statistically significant and by visual inspection it can be seen that the path coefficient is reduced in the mediated model so a partial mediation effect has been there. The strength of the indirect effect is product of $.560 * .117 = 0.065$

The strength of the direct effect is the beta coefficient is .682

Hence, the relative strength of the mediated effect is equal to indirect effect divided by the direct effect=0.028/.682=0.43

So we may conclude that 43% of the effect of EI factors on overall emotion is mediated through impression management.

Conclusion & Discussion

From the focus group interview it can be observed that the administrators behave differently in the Emotional intelligence aspects. It can also be interpreted that the demographic variables do have an effect on the EI of Academic administrators. It can be seen that there are many aspects of EI like Transition, Complexities that varies with Age, Preferences of the Administrators

The Regression equation depicts that dependent variable of overall emotion can be very well depicted by the respective factors. There is a perfect correlation between two of the factors. There is a partial mediation effect been seen that is the Overall emotion is somewhat influenced by the impression management. People try to impress others which satisfy them emotionally. MANOVA shows that Transition and openness is greatly affected by age.

So from the pilot survey we may conclude that EI do effect the academic administrator and also there certain demographic variables that have an influence on academic administrator.

Limitations and Future Scope

The work has been concentrated in only one state. This study can be extended to other states as well as outside the country in near future. This research may lead foundation to frame a model on Emotional Intelligence that may be applicable for analysing the administrative effectiveness of the working professionals.

References

1. Brackett et al. (2011). Emotional Intelligence: Implications of social, personal, academic success, Social and Personality Compass, 2011.
2. Chan Mei et al. (2013). Development and Validation of a Mental Wellbeing Scale in Singapore, Journal of Psychology, 2013, Vol.4 (7), 592-606.
3. Ciarrochi et al. (2000) "EI Moderates Relationship Between Stress and Mental Health" Elsevier science LTD.
4. Devi Rama, Narayananamma Lakshmi (2014). An Empirical Study of Demographic Correlates of Engineering Students, Indian Journal of management ISBN -0975-2854
5. FaltasIberkis (2017). Three Models of Emotional Intelligence, Research gate
6. Hassan Jorfi, Hashim Fauzy Bin Yacob, Ishak Mad Shah (2011). The Relationship Between Demographics Variables, Emotional Intelligence, Communication Effectiveness, Motivation, And Job Satisfaction, International Journal of Academic Research in Business and Social Sciences, April 2011, Vol. 1(1).
7. Hultin Maria (2011). Emotional Intelligence: The Three Major Theories in the field".www.diva-portal.org/smash/get/diva2:431846/FULLTEXT01.pdf
8. Kannaiah Desti &Shanthi R (2015). A study on emotional intelligence at work place, European Journal of Business and Management, Vol. 7 (24), 147-154.
9. Katarzyna A. Knopp (2016). Exploring the relationship of emotional intelligence with mental health status in polish unemployed persons – differences between men and women, Polish Psychological Bulletin, 2016, Vol. 47(4), 436–444. DOI - 10.1515/ppb-2016-0051

10. Kulshrestha Usha and Sen Chandrani (2006). Subjective Well Being in Relation to Emotional Intelligence and Locus of Control among Executives, Journal of the Indian Academy of Applied Psychology, February 2006, Vol. 32(2), 93-98.
11. Mitra Dipa (2017). Personality Traits And Performance: A Perception Study in Respect of Faculty in Academic Disciplines, published in The international Journal of Indian Psychology (ISBN: 978-1-365-68609-2)Volume 4 (89), January-March, 2017
12. Muhammad et al. (2017). Impact of emotional intelligence on teacher's performance in higher education institutions of Pakistan, Future Business Journal, 2017, Vol. 3, 87-97.
13. Nagar Minakshi (2017). Role Of Demographic Factors In Emotional Intelligence: An Empirical Study Of Bank Managers, Indian Journal of Commerce & Management Studies. DOI URL: <http://dx.doi.org/10.18843/ijcms/v8i3/04>
14. Nureni A. A. (2014). Emotional Intelligence and Administrative Effectiveness of Provosts of Federal Training Centres in Nigeria, IOSR Journal of Research & Method in Education (IOSR-JRME), Sep-Oct. 2014, Vol.4 (5) Ver. I, 15-24.
15. Pablo et al. (2017). Teachers' Affective Well-being and Teaching Experience: The Protective Role of Perceived Emotional Intelligence, Frontiers in Psychology, 2017, Vol.8, Article 2227.
16. Pooja , Kumar Pranab (2015). Demographic Variables and Its Effect on Emotional Intelligence: A Study on Indian Service Sector Employees. DOI: 10.1159/000443552
17. Pyne, Sarah Candice Roslyn (2017). Emotional Intelligence & Mental Health in the Classroom: Experiences of Canadian Teachers, Electronic Thesis and Dissertation Repository. 4458.<http://ir.lib.uwo.ca/etd/4458>
18. Reddy Samarender D (2014). The Significance of Emotional Intelligence, Metro India, March 17,2014.
19. Stys Yvonne & Brown L. Shelley (2004). A Review of the Emotional Intelligence Literature and Implications for Corrections, Service correctional du Canada, 340, avenue Laurier, Ottawa (Ontario) K1A 0P9
20. Vanishree M. (2014) The Relationship between Emotional Intelligence and Demographic Variables of Information Technology Professionals, Indian Journal of Research, 2014. Vol -3(1).

BBA/HR/2

Role of Leadership in Developing Safety Culture of an Organization

Madhabi Guha

Research Scholar, Maulana Abul Kalam Azad University, Kolkata

Introduction

Leadership plays an important role in developing the safety culture of an organization. It is vital for safety leaders to apply good leadership attributes of commitment and action, which will inspire employees to inculcate values of safety and productivity at work. Safety culture is characterized by a number of people within the organization with shared safety values, and working together to achieve common safety goals.

In an organization for safety culture to develop and progress, change of safety perception of the employees and the leadership team is vital. Collaborative efforts from the employees and leaders will foster a positive safety culture, where everyone considers safety as a priority. Employees contribute to a positive safety culture by actively participating in training and awareness programs on safety, and utilizing the knowledge gained in their daily lives at the workplace, where hazards and risks are inevitable. By abiding with the safety rules and regulations in place, and reporting any near-miss cases and accidents, employees actively contribute to the progress of the safety culture. Employees can also aid the leadership team by acting as disciplinary agents for safety, where they can participate in safety audits and inspection. By the knowledge imparted from their leaders, they will be able to observe any unsafe practices in the workplace and report it and apply corrective actions immediately.

The workplace behavior of the safety leaders becomes the most essential factor for the success of a positive safety culture, wherein, their actions and commitment towards safety are closely being observed by their subordinates. Leaders, who apply safety as an intrinsic part of their proceedings, influence the whole safety culture of an organization. An effective safety leader clearly communicates safety goals and rules and, provides insights into similar incidents and the corrective actions undertaken. Apart from being vigilant about unsafe behavior at the workplace, he will ensure to immediately correct such practices, punish the offenders if the case requires and ensures to act on any reported hazards and incidents as soon as possible. Acknowledging the high safety performance actors, and rewarding them is also a trait that effective safety leaders manifest; by doing so he encourages other employees to take safety seriously and actively contribute to the safety culture of the organization.

a. Leadership

Committed safety leaders are important to sustain a safety culture. When the protection of the employees from hazards and unsafe acts is the commitment of the management, it needs to be clearly demonstrated. Leaders leading by examples will ensure a positive safety culture, with better safety performance at work. The safety culture of an organization is human behavior- centric. Management is responsible for the participation of the employees where, the management's leadership roles, in ensuring safety as a priority influence the safety behavior of the employees. A well-designed safety management system has many benefits to the organization including reduction of incidents and the related expenses incurred from damages and workers' injuries, productivity and efficiency improvement, boosts the morale of the workers, improvement

in the quality of products/performance, and reduction in legal liabilities. A positive safety culture requires transformational leadership. Transformational leadership is one which exercises influence and not power. Such leadership will motivate and encourage employees to act on their shared safety values and goals, through their daily examples at the workplace and will enhance the safety performance of the organization.

b. Safety Culture

The safety culture of an organization depends on its safety goals, objectives and policies. In a positive safety culture, employees take responsibility for safety and behave and act according to the safety principles they have learned and practiced on a daily basis. Active contribution from the employees towards safety in their workplace by following safety rules and reporting incidents, and communicating with the management team leads to efficient collaboration. This collaborative effort on achieving the organization's safety goals will pave the way for a successful and positive safety culture. When employees regard safety as a priority, the safety performance of the organization improves by leaps and bounds. An organization that gives priority to safety culture depends on the management and its leadership to induce operational health and safety as a core value of the organization. The creation of a positive safety culture depends on the quality of the safety leadership team, presence of safety objectives that have strategically integrated safety into all of the organization's systems, and regular monitoring and review of the implementation of the objectives by the senior management team. A positive safety culture also ensures sharing the results of the findings from the review with every person in the organization. Safety culture is also characterized by the presence and quality of the organization's risk management systems. Proper risk assessment details and control measures for all of the organization's activities that have been recorded, indicates a positive safety culture.

c. Leadership & Safety Culture

Management leading with integrity, and encompassing all the occupational health and safety rules in its leadership roles, will act as a beacon for positive reinforcement of safety culture in an organization. Effective communication through leadership roles, in discussing and formulating behavior-centric safety goals reconfirms the management's commitment to safety. Instruction, inspection, incident analysis and hazard correction by managers and supervisors, ensure consistency in safety and positive reinforcement of safety culture. It is only when leaders commit and act those results in interested employees who collaborate with them to fulfill their shared safety duties for the organization. Safety culture in an organization is built from the engagement of the leadership team committed to safety and the employees who share the same vision on safety and its importance to their organization.

Review of Literature

Culture: A Leadership Approach (2002), have focused their study on how safety is a cultural issue of an organization. The requisites needed to reach a goal of zero incidents in the workplace have been provided in the book along with information on OSHA requirements for training, behavior-based safety processes, and the development of a job hazard analysis for each task. Through case studies, the author highlights his own experiences in the industry.

David Allan Galloway's book on *Safety Walk, Safety Talk: How small changes in what you think, say and do shape your safety culture* (2019), provides holistic knowledge on leadership and how it can progress an organization towards a better safety future. The book includes research findings in social psychology, sociology, and neuroscience; the author also shares his personal experiences of highly effective leadership.

Donald R. Groover, CIH, CSP, Jim Spigener's work on *The Emerging Role of Safety Professional* (2008), provides insights into the role of effective leadership in an organization for motivating people in new and creative ways. It addresses the emerging role of safety professionals in today's business landscape, and how one can effectively deal with the opportunities and pitfalls that the new business realities bring forth. Topics on effective change agents and change management and, transformational leadership have also been discussed in their work.

Manoj S.Patankar, Jeffery P.Brown, Edward J.Sabin, and Thomas G.Bigda-Peyton, in their book *Safety Culture: Building and Sustaining a Cultural Change in Aviation and Healthcare* (2011), has contributed immensely to the book with their knowledge and experience in different fields. The book highlights the dynamic nature of safety culture change and introduces a new model for safety climate analysis from the traditional perspectives. Safety values, safety strategies, safety climate, and safety performance are discussed in the book and case studies from the aviation and healthcare sectors are provided.

Cindy L.Caldwell's book on *Safety Culture and High-Risk Environments: A Leadership Perspective* (2017), provides an understanding of a leader's values and behavior and its influence on the safety culture of an organization. The book will provide a fresh perspective on safety culture and reliability that can be incorporated into the organization and lead to its improvement through such leadership. Practical tools on leadership improvement are provided in the book along with case-studies as examples.

James Roughton and Nathan Crutchfield's book on *Safety Culture: A Innovative Leadership Approach* (2014), is a reference guide for safety and risk management professionals. The book provides tools on improving the safety perception and analyzing the organizational culture and its impact on the safety management system of an organization. The book also discusses leadership and its impact on the safety management system.

Donald R. Groover, in his article titled Safety Leadership: Seizing moments of transformation in safety: Changing the culture by changing the experience(Safety and Health Magazine,23 August 2015), writes about the importance of strong leadership to sustain an injury-free workplace. The article provides guidance to leaders to ensure safety excellence and explains how transformational leadership is required to improve the culture of an organization.

Stephen (Steve) Quesnelle, in his article titled *Start a (Positive) Safety Cult Today* (EHS Today,4 March 2016), writes about how culture is dependent on the organizational collaboration rather than a single independent variable. Information on safety cults and their creation are addressed. The article also distinguishes between good and bad safety leaders.

Jim Spigener, in his article titled *Safety Leadership: Why system-focused behavior-based safety is the real deal* (Safety and Health Magazine,24 February 2019), explains the

importance and advantages of system-focused Behaviour Based Safety and the drawbacks of cookie-cutter BBS.

James Roughton, Nathan Crutchfield, and Michael Waite's book on *Safety Culture: An Innovative Leadership Approach* (2019), provides knowledge on safety leadership and techniques for safety culture development. Guidance on how to communicate, implement and develop a Safety Management System is also provided. The book also includes discussion on safety perception, safety culture analysis, communications network development, employee involvement, risk perception, curation, and tools to enhance the Safety Management System.

Dr Dominic Cooper's book on *Improving Safety Culture A Practical Guide* (1998), explains the following topics in detail: concept of safety culture, effective leadership for developing a safety culture, methods of evaluating and integrating organizational systems, developing risk control systems, integrating Management Information Systems, Safety Management System Auditing, safety propaganda and safety training, measuring safety climate and improving behavioural safety.

Objectives of the Study

The objective of the study is to determine how the role of leadership helps in developing the safety culture of an organization.

Methodology

A study has been conducted across 50 organizations on set of questionnaire to understand the leadership index and safety culture index of the organizations. The organizations are selected from east, west, south and northern part of India. The organizations those have structured safety system implemented those only have been selected for this study.

The culture parameters have been studied through survey questionnaire. This survey has been carried out both online and onsite (field survey). The online survey has been conducted for managers & supervisors. The field interactions have been done with the workers. For culture study total 30 questions have been studied. The leadership study only conducted with leadership team of each unit. Here, 15 questions have been asked through online survey.

Sample methodology:

The sampling of the workers, managers and supervisors has been selected on stratified random sampling basis following the confidence level of 95% and confidence interval of 10%. The perception, climate & culture survey has been covered following this sampling methodology across all the shifts. The leadership survey has been covered only for the plant leadership team i.e. up to managers' level. 516 people are considered under the scope of this study.

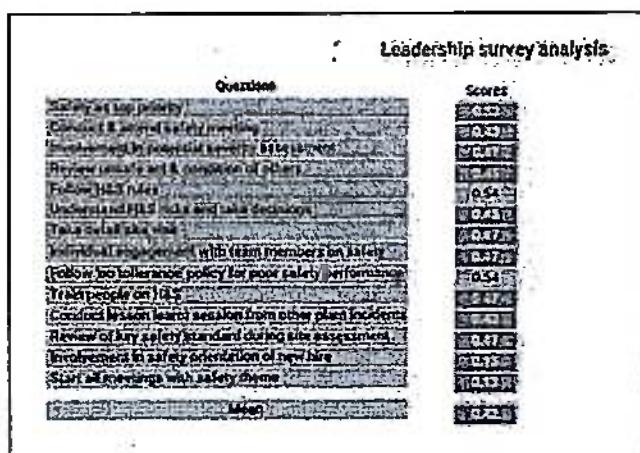
Results and Discussion

Without strong safety leaders, a safety culture development programme will suffer, and the expected positive results may not be observed.

The leaders affect workgroup in many ways:

1. Their own behaviour acts as a model for those reporting to them.
2. Their attitudes witnessed in what they say formally & informally, for instance in the canteen as well as at the start of a shift in front of senior managers, make their mark.
3. The most important effect comes from what the leaders really do and think, not what they say they do and think
4. They behave 'on behalf of' large groups of employees at times where time is short or energy is reduced. For instance, if employees are tired, their behaviour very much depends on what the leader does, says and accepts as reasonable from their group of reportees.

Safety is not flexible, but the leaders have to be. This is one difficulty with keeping a stringent, consistent approach to safety: letting someone do something unsafely even once diminishes every other attempt to do it properly. Leaders & managers can show flexibility in other matters, but not safety. It shows from the data that for few of the organizations safety is now the priority for leadership team rather it is a priority of safety managers. There safety culture system has not been developed. Most of the time organization does not have a system where leaders do regular engagement with team members on safety.



Safety Culture:

Cultural or behavioural approaches to safety improvement are at their most effective when the technical & systems aspects of safety are performing adequately and the majority of accidents appear to be due to behavioural or cultural factors. A poor health and safety culture is likely to lead to weaknesses due to problems at the person-work interface – perhaps because of poor training or communication. A poor culture encourages an atmosphere where not complying with safe working practices is acceptable, and it doesn't help the organisation to take effective action to solve health & safety problems. Quite often, organisations that have a poor safety culture can have the same underlying attitude to all process & procedures.

The parameters those have been studied under culture are safe work habit, proactive actions by management, top management (leadership team) involvement in safety programme, safety as a value, sense of willingness for others safe behavior. This study have been conducted for management, supervisors, workers permanent and contractual

all four levels. It demonstrates that for selected organizations safety culture level is good. The concern aspects related to safety culture are:

1. Only few people believe safety as a core value. This is the main hindrance in setting the culture
 2. Regular safety feedback is a way of life which is lacking for the companies.
 3. Corrective feedback is constructive and appreciated.
 4. Learning from the past errors is also an important factor for culture development. This is also an area where people need to work.

Correlation Analysis:

The correlation analysis has been done to study the impact of leadership on development of safety culture of the organization.

The data on leadership and safety culture of the organization represents that there is a strong correlation between the two variables. The role of leadership in the organization to develop, implement and sustain the safety culture is quite significant. The leader is the one who drive the entire safety value system. This leadership is all about situational leadership which needs to be demonstrated across all the levels of the organization.

Safety culture embodies the value placed on safety and the extent to which people take personal responsibility for safety in an organisation. Safety culture is often described as the 'personality' of an organisation, as it is a shared value of safety. Safety culture is just one aspect of an organisation's broader culture. Culture forms naturally wherever there are groups of people working together to achieve a common goal. Organisational culture is invisible as most people aren't consciously aware of the shared beliefs and assumptions that influence their behaviour.

A positive safety culture exists when employees understand the importance of safety and exhibit positive safety behaviours. Examples of positive safety behaviours include wearing personal protective equipment (PPE) without being asked, completing risks assessments for all jobs and reporting all incidents. If an organisation has a negative safety culture, safety may be seen as unnecessary and this might lead staff to have poor safety practices. Negative safety behaviours include taking shortcuts or choosing to ignore safety hazards.

In the organizations where safety leaders exhibit a strong commitment to safety, they get involved and inspire others to have positive safety behaviours, there strong safety culture prevails. Safety leaders can exist at all levels from senior executives, middle managers to informal leaders among workers.

Leadership Score	Safety Culture Score
40	50
50	80
70	81
78	88
67	75
56	78
79	90
80	92
40	50
50	56
45	60
78	88
67	75
56	78
79	90
80	92
40	50
50	70
45	60
78	88
67	75
56	78
79	90
80	92
40	50
50	56
45	60
78	88
67	75
56	78
79	90
80	92
40	50
50	56
45	60
78	88
67	75
56	78
79	90
80	92
40	50
50	56
45	60
78	88
67	75
56	78
79	90
80	92
40	50
59	87
75	91
78	88
67	75
56	78
70	84
80	92
49	89
50	56
59	91
78	88
67	75
56	78

So, put it all together, if safety leaders exhibit a strong commitment to safety, motivate staff and provide a positive example of safety, this will improve the safety climate. If we keep up our safety leadership efforts, over time it will cause people to reassess their deep beliefs and values about safety and have a positive effect of the safety culture. Through the

actions of safety leaders, we can create a positive safety culture, resulting in better safety performance, which will help keep our employees safe at work.

Leadership Score	Safety Culture Score
79	90
80	92
75	89
Pearson Correlation	0.87

Recommendation

If any organization needs to develop and maintain a mature safety culture, leadership of that organization is critical. An organization's safety culture is a combined result of how the organization's employees think, know, learn and do, to be safe. Similarly, a leader of an organization is successful and effective if it is a combination of commitment and action that influences others to do the same. In an organization, managers and supervisors make a major contribution to establish the safety environment whilst their decisions, actions and behaviours set benchmarks for safety, through the systems and processes they put in place, promote and support. Various elements of culture such as policies, procedures, experiences provide indications or clues to nature of culture in organizations. It can also be assessed or sensed through the demonstration of behaviours, action and skills by its employees.

A strong safety environment and culture in practice leads the employees to follow the organization's safety rules and procedures to prevent accidents. When employees see the positive results of their behaviours, they sub-consciously accept them and change their belief system. This ensures a positive cycle of high safety performance. A positive safety environment with a culture will enable the new entrants to the organization to quickly change or adapt to the organization's safety rules and procedures.

On the other hand, an effective leader will recognize that the zero goal probably looks very different at the front line than in the boardroom and knows that he or she won't get anywhere without establishing a commitment to employees first. If you want to become leader, who is good at safety, you must learn how to do things differently. That difference is called the transformational leadership.

References

1. Barling, J., Loughlin, C., and Kelloway, E. K. (2002). Development and test of a model linking safety specific transformational leadership and occupational safety, *Journal of applied psychology*, 87(3), 488.
2. Bass, B. M., and Avolio, B. J. (1990). Transformational leadership development: Manual for the multifactor leadership questionnaire, Consulting Psychologists Press.
3. Clarke, S. (2013). Safety leadership: A meta-analytic review of transformational and transactional leadership styles as antecedents of safety behaviours. *Journal of Occupational and Organizational Psychology*, 86(1), 22-49.
4. Downton, J. V. (1973). Rebel leadership: Commitment and charisma in the revolutionary process, Free Press. Huang, Y.-H., Verma, S. K., Chang, W.-R., Courtney, T. K., Lombardi, D. A., Brennan, M. J., and Perry, M. J. (2012).
5. Jossey-Bass, San Francisco. Lewin, K., Lippitt, R., and White, R. K. (1939). The leadership challenge. Patterns of aggressive behavior in experimentally created "social climates", *The Journal of social psychology*, 10(2), 269-299.
6. Kelloway, E. K., Mullen, J., and Francis, L. (2006). Supervisor vs. employee safety perceptions and association with future injury in US limited-service restaurant workers, *Accident Analysis & Prevention*, 47, 45-51.
7. Kouzes, J. M., and Posner, B. Z. (2002). Divergent effects of transformational and passive leadership on employee safety." *Journal of occupational health psychology*, 11(1), 76.
8. Zohar, D. (1980). Safety climate in industrial organizations: Theoretical and applied implications. *Leadership: theory and practice*, SAGE, Thousand Oaks.

BBA/HR/3

Industry 4.0 and Change Management: A Study of Benefits and Suggestions for Challenges
Surabita Roy

Former HR Faculty, Dinabandhu Andrews Institute of Technology and Management, Patuli, Kolkata; surabita19@gmail.com :

Introduction

"Our future is a race between the growing power of our technology and the wisdom with which we use it. Let's make sure that wisdom wins."

(Stephen Hawking, 2018)

We need to understand that human beings are the creators of Artificial Intelligence and if Artificial Intelligence fully overtakes human beings then there are potential threats of hacking , unethical activities , system errors, legal hurdles etc. Organizational Change and Stress Management of Lewin¹ is very applicable when it comes to fear of Artificial Intelligence replacing Human Beings in Industry 4.0 trending today.

Hence, data security and access control will be very significant areas for Organizations². We have seen the excellence of A.I tools; no doubt it will help in cost reduction, wealth maximization, but the art of reaping the benefit of Artificial Intelligence lies in taking care of Man Machine Interaction and their positioning in suitable tasks.

"Advances in Digital Technology are demanding HR professionals to rethink reinvent and redesign across all aspects of HR, right from building of the employer brand, talent acquisition, talent management, employee engagement to delivery of HR services."(A digital future, Times Ascent)³

So, in order to draw a structured approach we need to understand that Artificial Intelligence do not have the emotional maturity, they do what they are programmed to do. Hence, they lack judgement, creativity, empathy, taking decision, spontaneous answers, strategy etc. Study and Findings of the topic has produced this view stated. It is to stress here that Man is the creator of Artificial Intelligence, so Artificial Intelligence should not be the destroyer of Man. Rather, a balance of both is vital for the advantages of Industry 4.0

Review of Literature

Presenting some valuable instances and reports which will help human beings to understand that they are not obsolete, hence they should not feel endangered with Technology.

As noted in the table below, it is clear that we should try to find ways on how to balance and control this Man Machine Interaction when it comes to Computer Applications in the 'Strategic Management in Industry 4.0'

Lewin's three step Change Management Model¹ says a change should be made accepted (Unfreezing), then it should be embraced and directed to the new way (Change), hence comes the time to make it permanent (Refreeze).

Likewise we should prepare the employees to accept and learn how to use and reap the benefits of new technology. And moreover we should create new jobs parallel to obsolete jobs.

Reports & Personalities	Research findings & statements
ey.com ⁴	Suggested not to believe A.I. in making the business decisions. And not to assume that it will provide correct response always
hr.com ⁵	Stated that most still do not trust A.I. to read candidates emotions in a dependable way.
Elton Musk (Tesla Motors),Stanford Business ⁶	“Excessive Automation was a mistake at Tesla.”
Mc.Kinsey ⁷	Founded that out of 830 occupations only 5% could be fully automated.
The World Economic Forum ⁸	Believes that double the number of jobs could be created as lost for new technologies which will need requires concerted efforts by Governments and employers for this new work to materialize
University of Cambridge(2018) ⁸	Systems may be over rational with deleterious effects.
Bill Gates ¹³	Tax Robots Productivity
Facebook ⁸	Chat bots needed human help to answer 70% of customer requests
Poole (2018) ⁸	Stated machines are good at analytical tasks but not in elastic thinking.
Jay Goldman in Moulds (2018) ⁸	We haven't taken any of the decision-making powers away from our people and given them to the computer. The computer is just there to help.
David Autor's Podcast ,TED TALK	Explained that Human Labour has not become obsolete, redundant.
Rodney Allen Brooks, Australian Robotist	Artificial Intelligence is a tool not a threat.

Possible Solutions:

Some possible solutions have been given for the training in skill up-gradation, threat minimization, research and development after doing a study and are referred below: Whitepaper Skill Development for Industry 4.0, BRICS Working Group suggested⁹: There should be Industry Surveys to understand the barriers of new age technology. Labs should do proper test and trials. Industry 4.0 Courses should be made available for learning. Robotics should be introduced in schools. Skill Development Programmes should be conducted for up-skilling, re-skilling, continuous learning, mindset change.

In the same report, World Economic Forum has given a wonderful skill sets family for training which are categorized as cognitive analytics, content skills, social skills, physical abilities, resource management, process skills, system skills, complex problem solving skills, technical skills. So, it can be understood that skill up-gradation is the need of the hour in this trending of technology age. A change in role diagram is given by Festo Didactic⁹ for a clear picture of understanding.

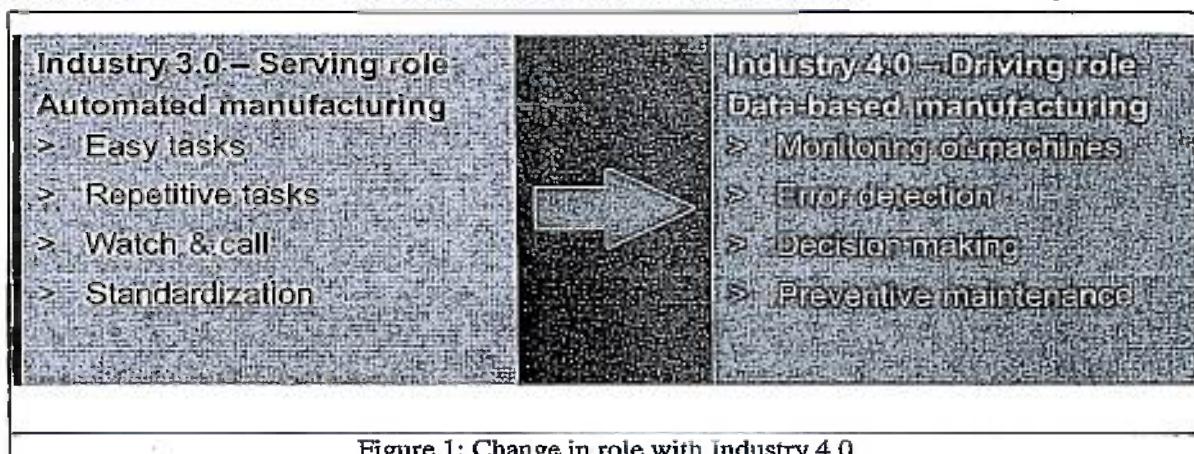


Figure 1: Change in role with Industry 4.0

So, in order to apply artificial intelligence for success we need to track artificial intelligence and human beings with: proper digital training, certification skill upgrading, development programmes, ethical training-monitoring-controlling, and Data safety. Human beings can be placed in more strategic tasks¹⁰, monitoring jobs. Creativity, empathy, team building skills will remain for Human Beings¹¹. Monotonous jobs which are taken by automation can be given maintenance jobs in the era of artificial intelligence.

Industry 4.0 maturity model of PWC said that collaboration is a key value driver¹².

After a study of various research papers, it can be understood that automation will save cost and maximize profits; hence this profit can be invested towards digital education and artificial intelligence training. Research & development, cyber ethics, maintenance, test and trial, auditing, monitoring will be new areas where jobs can be positioned. More production with more automation will need more warehousing as said by Amazon¹³. Bill Gates has suggested that we can tax robots' productivity¹³ similar to how we tax income in order to finance retraining programmes and create jobs, will somehow balance the situation.

Results

The qualitative study for this research work has gone through a manual thematic analysis of literature reviews findings and noted the following:

1. Industry 4.0 is highly productive with the modern applications. It should be managed with a positive welcome note.
2. But the study has found that there is a fear of change and job elimination phobia among employees that their job will be soon invalid, as robots and machine applications will do everything for us.
3. This Change has to be managed through digital awareness, technical courses skilling, with a sense of positive adaptability. Moreover, job areas can be created more in monitoring, maintenance, strategic, research positions.
4. Finally, organizations should never rely totally on artificial intelligence, as data privacy, ethics, access control, test and trials should always remain in human control and audit. Human have the sense of empathy, emotion, correction itself, which robots lacks and these areas could be new job areas for human beings.

Conclusion

Drucker, Dyson et.al believe that 'It is not technology but the art of human and humane management that matter most in the new production and manufacturing era.'

We should be prepared with the new change of Industry 4.0 and artificial intelligence should be studied at various levels as per requirement. Human resource managers can discuss and deliver syllabus modules for various positions with the changing business environment to make a learning organization. But the wisdom and control should be given to the human beings, because technology will prove beneficial if it is under continuous monitor, detection and control. The urgent strategic need is change management, new job creation and skill up-gradation, government initiatives and implementation.

To see this change management of new tech era from the national scenario, it is noted that India is taking fast steps to improve and excel in the artificial intelligence and digital India. I.T. Jobs is in fast pace and students are very tech – aware. Smartphone's are now very much in use. Rural sectors are also developing. Urban are moving towards even a more advanced stage of I.T. level.

India's first interactive use of Robot in Banking is 'LAKHSHMI' of City Union Bank, can attend customers on –site and answer with gestures on around 125 subjects. Humanoid robotics start ups are also on rise. Technology is highly beneficial for productivity and advancement. But things do come with some terms and conditions. To conclude again the studied thought is repeatedly mentioned here that Man is the creator of artificial intelligence, so artificial intelligence should not be the destroyer of Man, rather a balance of both is vital for the advantages of Industry 4.0 and wisdom of Man.

References

1. Ahmed Owais (2018). Artificial intelligence in HR, International Journal of Research and Analytical Reviews, December 2018, Vol. 5(4), 973.
2. Alber Wilfred et.al (2016). Whitepaper skill development for industry 4.0, BRICS Business Council India Section, pp.14,33,35
3. Bhattacharya Avijit (2017). A digital future -How digital disruption will impact human resources , Careers & Training - HR Zone - Ascent - TimesAscent.com
4. Ey.com members (2018). The new age: artificial intelligence for human resource opportunities and functions, Ernst & Young, pp.7
5. hr.com (2017). The state of artificial intelligence in HR', www.hr.com 877-472-6648, pp.22
6. Jain Sweta (2017). Is Artificial Intelligence -the next big thing in HR? International Conference on Innovative Research in Science Technology and Management, Modi Institute of Management and Technology, 222.
7. Keslerr Sarah (2017). Fear not the optimist's guide to the robot apocalypse, <https://qz.com/904285/the-optimists-guide-to-the-robot-apocalypse/>
8. Nagy Judit et.al (2018). The Role and Impact of Industry 4.0 and the internet of things on the business strategy of the value chain, Sustainability, 2018, 7.
9. Reilly Peter (2018). The impact of artificial intelligence on the HR Function, Institute for Employment Studies Perspectives on HR 2018, pp. 1,10,11.
10. Robbins S.P. et.al, Organizational Behaviour Book - Organizational change and stress management, Pearson Publications.

BBA/MARK/1

**A Study on the Purchase Pattern of Consumers of Kolkata with respect
to Social Learning Theory****Debarati Roy Chowdhury (Banerjee)¹ & Sudipta Majumdar²**¹Ph.D. Scholar & Faculty of Management Studies, ICFAI University Jharkhand,
E3 debarati_rc18@iuj harkhand.edu.in²Assistant Professor, Faculty of Management Studies, ICFAI University Jharkhand,
E3 sudiptam 16@iuj harkhand.edu.in**Introduction**

Buying pattern refers to the typical way in which consumers buy goods or avail services-encompassing frequency, quantity, duration, timing etc. In simple words, buying patterns indicate how consumers purchase goods or services but are highly susceptible to change. Marketers often try to understand buying pattern and its relation with geographical, demographic and psychological characteristics of the consumer. In order to understand the buying patterns, marketers conduct comprehensive surveys. This along with demographic and psychological information including age, gender, occupation, household income, household size, education level, geographic location, hobbies, interests etc. could provide valuable insights. Understanding the buying pattern allows the company to decide on strategies for market segmentation, distribution and sales promotions.

Social Learning Theory has stated that human beings learn from observing and imitating others. People can learn new behaviors even without motor reproduction or direct reinforcement. Learning is a cognitive process that occurs in a social context through observation and direct instruction. Behaviors that are rewarded are repeated by the learner. Conversely, behaviors which are punished are discarded. People learn from observing and imitating others and then put what they have learned into effect depending on if they receive positive responses or refrain from putting what they have learned into effect if they have received negative responses.

According to Neil Miller and John Dollard's 1941 book, "Social Learning Theory", someone's personality is constituted by learned habits. Julian B. Rotter takes a more holistic viewpoint and examines the relationship between individual and environment.

An individual's personality creates a range of probable behaviours in conjunction with the social environment. Depending on the kind of reinforcement these behaviours was met with, an individual would learn new behavioural patterns. Albert Bandura studied social learning with a focus on interpersonal contexts.

He placed emphasis on the acquisition of new behaviors through social learning. Learning then occurs as a result of observing behaviors along with the consequences of said behaviors and imitating them accordingly. The observer draws conclusions from observing behavior and decides whether to perform the behavior or not.

Environment, behavior, and personality exist in an interconnected relationship where they influence each other. People learn new behaviors from different models including models who actually carry out the behaviors that are being learned before the learner, models who teach using verbal instruction as they tell the learner about the behavior they are

expected to learn and how they are to perform it, and symbolic models, which include components of media such as the Internet, literature, movies, television and so on.

As we have been discussing, there are various factors which positively as well as negatively influence the purchase pattern of the consumer. In this context, we will examine various psychographic factors which influence the purchase pattern or buying behavior of consumer in Kolkata with respect to Social Learning Theory which have been discussed above. The various psychographic variables, Credit Card Usage, Buying Behavioral Factors, Social Consciousness and Product Category, are selected through a thorough literature review. The consumers' perception about each psychographic variable is being understood. This paper aims to provide a snapshot of consumers' buying behavior with respect to various Psychographic variables in Kolkata.

Literature Review

According to a study conducted by Catlin Jenny (2005) while working on "A Research Study, Marketing Mastermind", pester power is a means of children supplementing their own infinite spending power by commandeering that of their parents or other adults. Children may employ a number of tactics to coerce their parents into buying them what they want. This can unleash impulse spending and more pocket money in order to buy them what they want. Today's kids are more independent, sophisticated and confident than their predecessors and know exactly how to use pester power effectively.

Sashidhar Ajitha (2006) while he was studying on "Banking on Pester Power, Brandline," he revealed that children's channels are perceived as indispensable for kids and household brands. Kids channels have come in handy for brands that want to approach kids and their parents in the hope that pester power will work. Be it cars, bike, paints, health drinks, detergents or shampoos, pester power drives home the sales.

Carter Meg (1994), in his study about, Pester Power, Contemporary Issues in Marketing, has revealed that children greatly influence their parents even when it comes to buying the weekly groceries. According to a study undertaken by the children's channel, fathers spent 13 percent more when shopping with the children and mothers were far more resistant, although they quickly balanced the budget by dropping normal items from the shopping list to make room for unusual products bought at a child's request.

It is written in the Cover Story, Welcoming the New Age Indian Consumer, 4P's, Business and Marketing (2006) that The Confederation of Indian Industries (CII) is touting India as the largest kid segment market in the world (worth a whopping Rs. 25,000 crore and growing at 25 percent) in. Kids are the 'new-age' customers and marketers across the world are devising unique ways to tap into their psyche. Sheer pester power of these teenagers sway their parent's purchase decisions in their favour. Due to their pester power, phones, apparel, food and other lifestyle goods to more serious products like cars, insurance, banks, all are clamouring to attract the kid's attention.

Kapoor Neeru (2003) during his research on TV Advertising and Consumer Responses & Children's Buying Behaviour, observes that when getting things from parents become difficult, children resort to demanding, manipulating, nagging, and screaming. Sometimes they also resort to reasoning, sweet talk or even bargaining and negotiating for things in return to do something. In order to get what they want, they also create a scene in a mall

or a big shop and often throw tantrums in front of guests. The end result is that, parents give in to their children's demands, which many times would be for unnecessary things.

According to a study undertaken by Cook Dan, (Children's Market for the Marketers), the real question haunting us today is, 'whether kids are using products or products are using kids?' The growing influence of children on their parents has become the targeting point for advertising campaigns. Children in their early childhood become more demanding and are influencing family purchase decisions. Children or to be precise, media massaged images of children now routinely and aggressively hawk almost any kind of product, from car tyres to vacations to refrigerators to apple juice, as advertisers make use of both 'cute appeal' and 'safety fears'.

Many studies have shown pervasive group influence on purchasing behaviour. Assael Henry (2001), studied regarding Consumer Behaviour & Marketing Action. He said because of fear of ridicule, or expulsion from the group, teenagers respond to coercive power. At this age, kids want to emulate another's behaviour in order to be like him or at least appear like him. Peer pressure influences children's buying behaviour more than anything, particularly at this age Catlin Jenny (2005) observes that the new trend is that the teenagers don't want to be spotted buying 'uncool' food and drink products for the lunch box. Nowadays money is power to children and will have a bearing on how they are perceived by their peers in a world in which image is everything. Due to this, there is tendency for children's tastes to change more rapidly than it once did, making them grow out of themes quickly. This puts greater onus on the manufacturer to come up with suitable theme that will grab and keep the attention of this fickle audience.

The cover story of USP Age has identified the 'alpha pup' as a kid, who is deemed by his peers to be the coolest in their school, neighbourhood or town. Today marketers are spending enough energy and resources to study this alpha pup, because the peer group is a determining factor in children's lives and the leaders of such peer groups have immense influence and power. The details are described in Cover Story, Welcoming the New Age Indian Consumer, 4P's, Business and Marketing (2006).

Sinha Amit Kumar (2006) reports in Brand Choices: Influence of Peers in Adolescent Preferences that peer pressures play an important role in influencing the children's buying behavior. It is noticed that the tweens emulate the preferences of those whom they tend to look up to. Their behavior, brand choices, spending pattern, choices related to music, games all show their desperate need to belong to a group. Hence the marketers are concentrating on these peer leaders who in turn will influence the subordinates.

Panigrahi Ipsitaa and Roy Bhavya (2008) in Longing to Belong, Education Times, have indicated that identity is the big question at the end of the day. The pressure of getting along with one's peers is so high, that a majority of tweens blindfolded follow their peers in order to gain support and confidence. To fit into the system, one has to be a part of it, and that's what draws everybody into a vicious circle. This vicious circle is difficult to break and hence following it, remains the only option.

A recent article, Kids Pocket Money Rises Six Times in 10 years, published in Mumbai Mirror (2008) that children receive hefty amount as parent choose to spend a part of their income on children questioning them. School children have different spending habits and tastes compared to their counterparts 10 years ago. Presently, kids spend 73 percent of the pocket money on sweets and chocolates and drinks. They also see an annual increment of

24 percent. D'Souza William Charles (2008) said in Look who's talking, Mumbai Mirror, that Leading children's channel Cartoon Network covered 3000 Indian Kids -between 7-14 years across 14 cities. The survey titled 'New Generations' found that the average pocket money dispersed in Indian households translated to a grand total of Rs. 478 crores annually.

An article by Hitesh Bhasin in Marketing Management articles (2018) indicated the Social Learning Theory and spoke about the significance of the theory in the modulating the human behaviour. He said that It has been theorized that human beings learn from observing and imitating others. People can learn new behaviours even without motor reproduction or direct reinforcement. Learning is a cognitive process that occurs in a social context through observation and direct instruction. Behaviours that are rewarded are repeated by the learner.

Usman Ahmad Qadri1, Syed Salman Hassan and Zaman Arshad wrote about "Consumer's Social Influences towards Compulsive Buying Behaviour: A Structural Approach" (2016) where they spoke about behavioural disorder known as "compulsive buying" because an individual makes buying frequent despite financial, psychological or social consequences. Their finds are generally, buyers shop as a routine matter. As prior studies hypothesized these normal consumers do not feel any specific excitement during shopping and do not spoil themselves by glancing at advertisements and overall, they do not keep compulsive disorders in family history. On the other hand, purchasing and shopping is an exciting experience of life. Such buyers have an uncontrollable desire for shopping. Pakistan has a collectivist or socialist culture.

Methodology

The study was based on quantitative data on consumers' perception about their buying behavior and their psychographic profile. Data was collected both in online and offline format. All the respondents were briefed about the project before they responded.

In case of the online format, the data was collected with the help of mail-based questionnaire. The questionnaire was sent to many respondents selected randomly. A cover letter was also sent along with the questionnaire. A total of 100 respondents were selected randomly and the questionnaires were sent to them. To improve the success rate, the questionnaires were sent repeatedly to the prospective respondents. Approximately, 32 respondents sent back the filled-in questionnaires. The survey was also carried on in the offline format. For that, the questionnaires were distributed to the respondents, i.e., Consumers selected randomly from the different parts of Kolkata, India. A total of 18 respondents submitted their feedback. So, considering both the online and offline format, 50 respondents were considered for their responses.

The questionnaire was formulated from reviewing existing literature. Although the questionnaire was a comprehensive one to identify the factors that influence the buying behavior of the consumers, the use of the filled-in questionnaire for this part of the study figures out the impact of the various demographic variables, such as age, gender, education, occupation, income and number of members in the household on the respondent's buying behavior. The paper will be studying the responses on the purchase pattern of the consumers in Kolkata.

The questionnaire is divided into four parts. The first part is trying to measure the Buying Power of the respondents. The second part is measuring the Buying Behavior of the respondent. The third part is measuring the Social Consciousness of the respondents. And finally the fourth part is dealing with the different types of buying items procured by the respondents. All the factors were measured on a Five point rating scale stating the following things (1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree Nor Disagree, 4 = Agree, 5 = Strongly Agree.). The socio-demographic information of the respondents is collected in the General Information 1 & 2.

The collected data for all the parts of the questionnaire is analyzed using One-Way ANOVA, to find out the relationship between independent and dependent variables. The IBM SPSS (version 19) is used for the purpose.

Results & Discussion

Impact of Psychographic variables on the impulsive buying behavior of the consumer (ANOVA)

Credit Card Usage

The first psychographic variable which is studied is the Credit Card Usage. One-Way ANOVA is done in order to know whether Usage of Credit Card has significant impact on Buying Behaviour and Purchase pattern of the consumers. The seven predictor variables related to Usage of Credit Card identified and on which the data has been collected are;

- V1: Consumers always use Credit Card for shopping
- V2: Consumers use credit card even if they have cash in hand
- V3: Consumers use credit card only in emergency when they do not have cash in hand
- V4: Consumers rarely use Credit Card
- V5: Consumers use cash as they do not have a credit Card.
- V6: Consumers are never a defaulter in paying credit card bills
- V7: Consumers have huge amount of pending loans to repay every month

Purchase Pattern of the Consumer is the dependent variable in the analysis, and it is denoted as V24. For the purpose, the responses were collected using five categories; 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Neither Agree Nor Disagree (NAD), 4 = Agree (A), 5 = Strongly Agree (SA).

The relevant portion of SPSS output sheet is presented below to infer whether there is any significant effect of Credit Card Usage on the Purchase Pattern of the Consumer.

Table 1: ANOVA output for Credit Card Usage

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	34.152	7	4.879	3.507	.005 ^b
Residual	58.428	42	1.391		
Total	92.580	49			
a. Dependent Variable: V24					
b. Predictors: (Constant), V7, V6, V4, V5, V3, V2, V1					
Source: SPSS Output					

Hypothesis on Credit Card Usage

H: Use of Credit Card does not influence Consumers' Purchase Pattern

The exact significant level (p value) of ANOVA is exhibited in 6th Col. (Sig.) of the above mentioned table. The level of significance set by us is 5%, i.e., $\alpha = 0.05$ (on the basis of existing researches of similar type). The table reveals that 'p' value is less than the ' α ' value. In fact, since $p = 0.005$ is less than $\alpha = 0.05$, the null hypothesis is not accepted and the alternative hypothesis is accepted. That means, usage of Credit Card significantly influence the consumers' pattern of purchase.

Buying Behavioral Factors

The second psychographic variable which is studied in this present research is the Buying Behavioral Factors for which six predictor variables identified and on which the data has been collected are:

- V8: Depressions compels consumer to go for shopping
- V9: Going for shopping makes the consumer feel happy.
- V10: Unnecessary shopping grows a guilty conscience within the consumer
- V11: Shopping is a hobby for the consumer
- V12: Consumers pamper themselves by buying things unnecessarily
- V13: Loneliness compels consumer to go for shopping

Purchase Pattern of the Consumer is the dependent variable and in the analysis, and it is denoted as V24. For the purpose, the responses were collected using five categories; 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Neither Agree Nor Disagree (NAD), 4 = Agree (A), 5 = Strongly Agree (SA).

The relevant portion of SPSS output sheet is presented below to infer whether there is any significant effect of Buying Behavioral Factors on the Purchase Pattern of the Consumer.

Hypothesis on Buying Behavioral Factors

Table 2: ANOVA output for Buying Behavioral Factors

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	10.462	6	1.745	0.914	0.004
Residual	82.112	43	1.910	--	--
Total	92.580	49	--	--	--
a. Dependent Variable: V24					
b. Predictors: (constant), V13, V12, V11, V10, V9, V8					
SPSS Output					

H: Buying Behavioral Factors does not influence consumers' Purchase Pattern

The exact significant level (p value) of ANOVA is exhibited in 6th Col. (Sig.) of the above mentioned table. The level of significance set by us is 5%, i.e., $\alpha = 0.05$ (on the basis of existing researches of similar type). The table reveals that 'p' value is less than the ' α ' value. In fact, since $p = 0.004$ is less than $\alpha = 0.05$, the null hypothesis is not accepted and the alternative hypothesis is accepted. That means, Buying Behavioural Factors influence the consumers' pattern of purchase.

Social Consciousness

The third psychographic variable which is studied is Social Consciousness while buying products. One-Way ANOVA is done in order to know whether Social Consciousness has significant impact on consumers while buying products.

The four predictor variables related to Social Consciousness while buying products identified and on which the data has been collected are:

V14: Consumers buy certain products to maintain the social status even if the product is not necessary.

V15: Consumers very often buy things which they see among their friends V16: Consumers buy certain expensive materials to show the society that they belong to High income Group (HIG)

V17: Consumers who are single parent buy for their children whatever they want as they are single biological guardian so that their child does not feel the absence of the other parent.

V18: Consumers often buy unnecessary things as compensation, to their children & family as they are unable to give time to them.

Purchase Pattern of the Consumer is the dependent variable and in analysis, it is denoted as V24. For the purpose, the responses were collected using five categories; 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Neither Agree Nor Disagree (NAD), 4 = Agree (A), 5 = Strongly Agree (SA).

The relevant portion of SPSS output sheet is presented below to infer whether there is any significant effect of Buying Behavioral Factors on the Purchase Pattern of the Consumer.

Table 3: ANOVA output for Social Consciousness

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	16.623	5	3.325	1.926	0.019
Residual	75.957	44	1.726	--	--
Total	92.580	49	--	--	--
a. Dependent Variable: V24					
b. Predictors: (constant), V14, V15, V16, V17, V18					
SPSS Output					

Hypothesis on Social Consciousness

H: Social Consciousness will not influence consumers' Purchase Pattern

The exact significant level (p value) of ANOVA is exhibited in 6th Col. (Sig.) of the above mentioned table. The level of significance set by us is 5%, i.e., $\alpha = 0.05$ (on the basis of existing researches of similar type). The table reveals that 'p' value is less than the ' α ' value. In fact, since $p = 0.019$ is less than $\alpha = 0.05$, the null hypothesis is not accepted and the alternative hypothesis is accepted. That means, Social Consciousness influence consumers' pattern of purchase.

Product Category

The fourth psychographic variable which is studied is Product Category. One-Way ANOVA is done in order to know whether Product Category has significant impact on the Consumers Buying Pattern.

The five predictor variables related to Product Category are identified and on which the data has been collected are:

V19: Consumers always buy low priced items

V20: Consumers always buy high priced items as they feel that the quality comes with price

V21: Consumers often / only buy items from offers and promotions

V22: Consumers always buy items of my choice immediately which are launched after viewing from the digital and print advertisements

V23: Products displayed in the malls and shops compels consumers for unplanned shopping

Purchase Pattern of the Consumer is the dependent variable and in analysis, it is denoted as V24. For the purpose, the responses were collected using five categories; 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Neither Agree Nor Disagree (NAD), 4 = Agree (A), 5 = Strongly Agree (SA).

The relevant portion of SPSS output sheet is presented below to infer whether there is any significant effect of Buying Behavioral Factors on the Purchase Pattern of the Consumer.

Table 4: ANOVA output for Product Category

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	9.351	5	1.870	.989	.436 ^b
Residual	83.229	44	1.892		
Total	92.580	49			
a. Dependent Variable: V24					
b. Predictors: (Constant), V23, V21, V20, V19, V22					
Source: SPSS Output					

Hypothesis on Product category

H: Product Category does not influence consumers' Purchase Pattern.

The exact significant level (p value) of ANOVA is exhibited in 6th Col. (Sig.) of the above mentioned table. The level of significance set by us is 5%, i.e., $\alpha = 0.05$ (on the basis of existing researches of similar type). The table reveals that 'p' value is less than the ' α ' value. In fact, since $p = 0.436$ is greater than $\alpha = 0.05$, the null hypothesis is accepted and established. That means, Product Category will not significantly influence the consumers' purchase Pattern.

Conclusion

In order to meet the purpose of the study as envisaged in the introduction part of the paper, OneWay ANOVA is used to know whether any facet of psychographic profile of the consumers has significant impact on their purchase pattern. The psychographic variables which are considered in the study have significant impact on the consumers' purchase pattern other than Product Category. Participatory observation method is followed in uncovering the logic behind our findings which reveals that the purchase pattern of most of the consumers are governed by ownership of Credit Card, Buying Behavioral factors, and Social Consciousness. On observation, it is found that though consumers are regular user of credit cards, they are never defaulters in paying the bill. Consumers are very happy after shopping even though they are not an impulsive buyer. However, in-depth study on facet-wise psychographic profile on preference may bring forth some exceptional result which may be considered for future research.

On the basis of the research findings, it is inferred that, the purchase pattern of the consumers does have a significant impact of the Social Learning Theory which governs the normal human behavior. Environment, behavior, and personality exist in an

interconnected relationship where they influence each other. People learn new behaviors from different models that actually carry out the behaviors that are being learned before the learner. The models who teach using verbal instruction tell the learner about the behavior they are expected to learn and how to perform.

References

1. Assael Henry, *op cit*. Consumer Behaviour And Marketing Action, 6th Edition, New Delhi, Asian Books Pvt Ltd, 2001, P-495
2. Bhasin, Hitesh, Marketing Management Articles » Social Learning Theory, August 02, 2018
3. Catlin Jenny, Marketing to Children, A Research Study, Marketing Mastermind, Vol. No. II, No.2, Feb. 2005, p 47.
4. Cook Dan, Department of Advertising, University of Illinois, Children's market for the marketers, The ICAI University Press, pp 166-173.
5. Cover Story, Welcoming the New Age Indian Consumer, 4P's, Business and Marketing, Vol. I, Issue-18, Nov. 10-23, 2006, pp 30-33.
6. D'Souza William Charles, Look who's talking, Mumbai Mirror, May 1", 2008, p 8. Vincent, Nithila Study on Brand Consciousness Among Children and its Effect on Family Buying Behaviour, January 2006, SSRN Electronic Journal, DOI: 10.2139/ssrn.2402100.
7. Kapoor Neeru, TV Advertising and Consumer Responses-Children's Buying Behaviour, A Mittal Publication Jan 01, 2003, ISBN 9788170999010
8. Kaur Karanjeet, Brand Heroics, The Brand Reporter, May 16-31, 2007, Vol. II, Issue 21. Kids Pocket Money Rises Six Times in 10 years, Mumbai Mirror; Saturday, April 19", 2008, p 20.
9. Marketing & Strategy: Buying Pattern <https://www.mba Skool.com/business-concepts/marketing-and-strategy-terms/10916-buying-pattern.html>
10. No Child's Play, Business India, November 7-20, 2005, p 104.
11. Panigrahi Ipsitaa, Bhavya Roy, Longing to Belong, Education Times, Times of India, Monday, June 30 2008.
12. Roser Granero et al, June 15, 2016, Compulsive Buying Behaviour: Clinical comparison with other Behavioral addiction. doi: 10.3389/fpsyg.2016.00914. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4908125/>
13. Sashidhar Ajitha, Banking on Pester Power, Brandline, Thursday, April 6, 2006. Carter Meg. (1994) Pester Power, Contemporary Issues in Marketing, Macmillan Business, pp 41-42.
14. Shabbir MS (2016) The Impact of Advertisement on Buying Behavior of the Children. Arabian Journal of Business Management Review <https://www.omicsonline.org/open-access/the-impact-of-advertisement-on-buying-behavior-of-the-children-2223-5833-1000220.php?aid=75988>
15. Shahram, Heshmat PhD. June 12, 2018, Science of Choice, 5 Patterns of Compulsive Buying Disorder, How do you know that you have a shopping addiction? <https://www.psychologytoday.com/intl/blog/science-choice/201806/5-patterns-compulsive-buying-disorder>
16. Sinha Amit Kumar, Brand Choices: Influence of Peers in Adolescent Preferences, Journal of Marketing and Commerce, Vol.11, Issue 2, Sept.-Dec. 2006, ISSN 0973-2330, pp 8384.

BBA/MARK/2

Marketing Standardization Strategies and Adaptation of International Marketing Mix and Performance: Evidences from the Past

Abhijit Pandit¹ & Jayjit Chakraborty²

¹Assistant Professor, Amity University, Kolkata

²Full Time Lecturer, The Bhawanipur Education Society College, University of Calcutta

Introduction

Considering the current globalized market, companies have seen the internationalization of their activities as a way to remain competitive. Decision-making concerning the international marketing mix has become critical, especially because of the influence this arrangement has on performance. Thus, many authors have pointed out the need for research that relates standardization and adaptation to performance (Calantone, Cavusgil, Schmidt, & Shin, 2004; Dow, 2006; Florin & Ogbuehi, 2004; Julian & O'Cass, 2004; Shoham, 2002). Despite such encouragement, no consensus on the relationship between the two former and the latter has yet been reached.

The literature as to which is the best decision is still inconclusive, considering the type of effect (positive or negative) of standardization and adaptation on performance. Some authors believe that a relationship between standardization and performance does not exist (Samiee & Roth, 1992). Others, in contrast, have found a positive link between the adaptation of the product and its performance (e.g. Calantone *et al.*, 2004; Calantone, Kim, Schmidt, & Cavusgil, 2006; Cavusgil & Zou, 1994; Lee & Griffith, 2004). Hence, the agreement about the effects of these strategies on performance represents a gap in the literature (Zou & Cavusgil, 2002), which this research aims to fulfill.

Although companies' strategies may influence performance, the findings so far are not conclusive, especially those that deal with the relationships between the marketing mix and performance (Shoham, 2002). Besides, contradictory and confusing results have emerged from the literature, turning marketers' decision making into a difficult course of action. This discrepancy clamors for the development of more concise and accurate theories, methods, and strategic frameworks, since marketers need to understand under which circumstances each strategy turns out to be more suitable, and under which conjunctures such strategies lead to positive performance (Calantone *et al.*, 2004).

Also, the Researcher identified the need for a statistical analysis of a large collection of analyzed data (that is, previous primary research) for the purpose of integrating the findings, and providing methodological rigor to the literature on this specific subject. These are the goals of meta-analyses, a statistical method generally centred on the relationship between one explanatory and one response variable. This relationship, the effect of X on Y, defines the analysis (DeCoster, 2004).

Therefore, the aims of this study are: (a) to carry on a meta-analysis of previous empirical research pertaining to the role of the strategies of standardization and adaptation of the marketing mix and performance in an international context; and (b) suggest to marketers courses of action based on the analysis of these strategies and their relationships with performance.

Other studies have previously tried to understand the relationships between the marketing mix elements and performance (e.g. Leonidou, Katsikeas, & Samiee, 2002; Shoham, 2002; Theodosiou & Leonidou, 2003), but they had different goals. Leonidou, Katsikeas and Samiee (2002) proposed a study in which a meta-analysis was also conducted to evaluate the relationships between the marketing mix elements and performance, but their study did not consider adaptation and standardization of the mix elements, and was also based on a more complex framework, which included other variables and antecedents. Shoham (2002) analyzed the degree of standardization of the marketing mix in relation to a satisfaction-based performance measure; but he specifically considered the export marketing mix's degree of standardization and export planning impact on export performance. That is, as opposed to present study, he tested the degree of standardization/adaptation strategy, and not as a distinct strategy, as the Researcher treat it. Finally, Theodosiou and Leonidou (2003) have also studied the relationships between the marketing mix and performance. However, their article is an integrative view of the literature, not a meta-analysis. Besides, they evaluate the antecedents of the marketing mix and their impact on performance through a more complex combination of these elements. In short, this study is different from these previous ones because carried on is a meta-analysis that investigates the relationship between the role of the strategies of standardization and adaptation of the marketing mix and performance in an international context.

This paper unfolds as follows: briefly reviewed is the literature on standardization and adaptation of the marketing mix, and also on organizational performance. Based on this literature review the paper's hypotheses are drawn, followed by the methodology, main descriptive and quantitative results. Next discussed are findings, drawing conclusions for the theory and for the practice of marketing. Finally, discussed are the limitations of work, and presented are some suggestions for future research.

Theoretical Background

The expansion of a company into foreign markets demands a precise decision making process, because there are many aspects that influence such an internationalization process. One of the most important decisions concerns the marketing mix. By developing an adequate marketing mix, organizations can satisfy the needs of their target market and reach their organizational objectives, improving performance. Therefore, products that enter a market for the first time have to be tailored to the characteristics of that country, since it is not likely that a single strategy will be able to satisfy all consumers, especially taking into account the existing heterogeneity of the markets (Vignali, 2001). So the company deliberates on which is the best strategy for the marketing mix -adaptation or standardization.

Adaptation versus standardization

The main goal of a global strategy is management of the great differences that emerge beyond domestic borders (Ghemawat, 2007a). Global marketing is not a synonym for standardization in marketing processes. Although each element of this process is susceptible to standardization, this can be only one of the strategies adopted by the company.

The strategies of international marketing follow three different perspectives. The first is the concentration-dispersion perspective, which analyzes the organizational structure of the company. The second is the integration-independence perspective, which has to do with the competitive process faced by companies. The third - the focus of this article -deals with the adaptation-standardization perspective, which is related to the degree of adjustment or standardization of the marketing mix elements (Lim, Acito, & Rusetski, 2006; Zou & Cavusgil, 2002).

From the moment a company decides to extend its activities into foreign markets, it should settle on either standardizing or adapting the marketing mix. This can be done when the organization applies a single strategy in all the countries, or customizes the elements to each market (Jain, 2007; Vrontis & Kitchen, 2005; Vrontis & Papasolomou, 2005). The company's decision to standardize or to adapt its strategies is fundamental, since it influences the organization's fundamental approach to business and how it will compete (Ang & Massingham, 2007).

The debate concerning the standardization or adaptation of the marketing mix in different markets has been object of many studies (see, for example, Levitt, 1983, 1986; Quelch & Hoff, 1986; Sorenson & Wiechmann, 1975; Vrontis & Kitchen, 2005; Vrontis & Papasolomou, 2005). Studies about standardization started in the 1960s, when Elinder (1965) first analyzed the standardization of promotion, been followed by studies about product. Nowadays standardization studies comprise all elements of the marketing mix - product, promotion, price and distribution (Ozsomer & Simonin, 2004; Vrontis & Kitchen, 2005), although promotion and product have received more attention (e.g. Baalbaki & Malhotra, 1993; Kotler, 1986; Laroche, Kirpalani, Pons, & Zhou, 2001; Levitt, 1983; Papavassiliou & Stathakopoulos, 1997; Samiee & Roth, 1992).

Broadly speaking, standardization has been analyzed under two perspectives -standardization of marketing processes and marketing programs. The former is concerned with the philosophy, principles, and technology used in planning and implementing marketing decisions. The latter - the purpose of this study - refers to the elements of the marketing mix.

Despite some studies that have analyzed the standardization concept (e.g. Jain, 1989; Ozsomer, Bodur, & Cavusgil, 1991), its consensual understanding has yet to be established (Ryans, Griffith, & White, 2003). Standardization is the use of the same marketing program in different countries or regions, regarding the product offered, the promotion employed, the price established and the distribution process chosen (Elinder, 1965; Jain, 1989, 2007; Levitt, 1983; Ozsomer & Simonin, 2004; Roostal, 1963; Sands, 1979; Szymanski, Bharadwaj, & Varadara, 1993; Viswanathan & Dickson 2007).

The main argument supporting the standardization strategy is the belief that the world is becoming more and more homogeneous, especially as a result of the advances in communication and technology (Jain, 1989; Levitt, 1983). As a consequence, tastes and cultures are becoming homogeneous; world consumers are sharing preferences, needs, desires and demands (Jain, 1989, 2007; Levitt, 1983; Vrontis & Papasolomou, 2005). This similarity of demands, along with convergent cultures and the lowering of barriers, would make it possible for companies to sell more standardized products, with standardized marketing programs (Zou & Cavusgil 2002).

Standardization, thus, allows focus on common segments, bringing economy of scale and more consistent promotions. Papavassiliou and Stathakopoulos (1997) and Levitt (1983, 1986) offer four main reasons for such benefits: (a) standardization allows the corporation to preserve a consistent image and identity throughout the world; (b) it reduces uncertainty among buyers who travel frequently; (c) it allows the company to develop a single advertising campaign for different markets; and (d) it results in sizeable savings in advertising, such as illustrative material, media and advertising production costs. Despite such economies of scale, cultural and socio-economic differences among countries seem to hinder the standardization strategy, sometimes requiring adjustments to the market, and demanding additional expenses to justify the standardization decision (Kogut, 1989).

In any case, the decision on standardizing or adapting must be based on the possible financial returns and risks involved for each alternative (Sands, 1979). The option for global standardization will be appropriate only up to the point when a positive influence is present on the company's performance (Samiee & Roth, 1992). However, immense differences between markets do exist, even in industrialized nations. In order to address these differences, changes in design, packaging, price, or distribution of goods might be necessary. Moreover, viability, communication costs, media habits, differences in the range of distribution channels, intermediaries, financial resources and know-how may also cause trouble (Samiee & Roth, 1992). In short, total standardization can lead the company to fail when it comes to taking care of local consumers' needs, and might result in its alienation from the local market (Newburry & Yakova, 2006). In this case, the standardization arguments fall apart - especially when considering the peculiar differences between consumers, administrators and nations - and adaptation becomes an option (Shoham, 1999).

For the purposes of this paper, defined is adaptation of the product as the degree to which its elements (brand, design, label, product line, and quality) are adapted to the external markets in order to adjust to the differences in the environment, consumer behavior, standards of use, and competitiveness. Thus, adaptation involves the use of specific strategies in each market, where the organization adapts its marketing mix to each environment (Ang & Massingham, 2007; Zou, Andrus, & Norvell, 1997). It involves the customization of strategies for different regions, based upon assorted factors. Sands (1979) defines adaptation as the use of marketing strategies with no common elements. That is, the company should always observe national identity, language, tastes, and preferences. Defenders of adaptation believe that markets are subject to changing macro-environmental issues, such as climate, language, race, occupations, topography, education, tastes, legal and political barriers and socio-economic matters (Baalbaki & Malhotra, 1993; Jain, 1989).

Pricing adaptation focuses on adjustment to the external market for many reasons, such as economic, political, and legal issues, price controls, transportation costs, market structures, demands, rates, taxes, trade barriers, pricing practices, etc. Distribution adaptation is associated with the adjustment of the firm's channels to the foreign market, including the criteria for selection of the distribution system, transportation, budget and network. Finally, promotion is linked to the adjustments in the campaign (*e.g.* idea/theme, media channels, objectives, budget, etc.) made for the new market in comparison with the domestic one (Lages & Montgomery, 2004; Leonidou *et al.*, 2002).

Some understand that the core question is not whether to standardize or to adapt marketing strategies, but how much to adapt them (Cavusgil & Zou, 1994; Jain, 1989, 2007). Cavusgil, Zou, and Naidu (1993) suggest that the degree of adaptation of the product and promotion is significantly influenced by the firm's characteristics, products and industry, as well as by the foreign market's characteristics. Thus, many authors reject the extreme use of only one or another strategy. Instead, they believe that there is a need for the simultaneous use of both strategies, where the degree of standardization or adaptation should depend on internal and external factors (Cavusgil, Zou, & Naidu, 1993; Jain, 1989; Vrontis & Papasolomou, 2005; Walters, 1986). For them, multinational companies should be simultaneously focused on the facets that need global standardization as well as on those requiring a local variation (Vrontis, 2003); incorporating elements of both strategies, standardizing the elements that bring benefits, and adapting those that satisfy the needs of the local market (Vrontis & Kitchen, 2005). Next briefly reviewed is the theory about the dependent variable of meta-analysis - performance.

Performance

Organizational performance is a complex and multifaceted phenomenon that is comprised by different views of a company, a division, or a project success. Carneiro, Silva, Rocha and Hemais (2005) affirm that it is not possible to describe performance success using only one perspective and/or a single metric. For them, different perspectives must be taken into account when evaluating if success has been reached or not. This is why success can be understood through different perspectives (e.g. degree, level, etc.), and not as single 'yes' or 'no' result (Carneiro, Silva, Rocha, & Hemais, 2005).

Despite this view that performance is a complex and multifaceted phenomenon, there are many authors who have tried to define it. A few of these definitions have been widely studied and applied both on the academic and on the managerial fields. For example, Kaplan and Norton's (1992) Balanced Scorecard conceptualizes performance by considering four different views: financial, customer, internal business process, and learning and growth; Barney (1996) considers four different approaches to performance: firm survival, accounting measures, multiple stakeholders' views, and present-value measurements; Ginsberg (1984) focuses on how to measure performance, analyzing the importance of data sources, format, and analysis techniques.

After studying over 150 articles about performance that have been published in Strategic Management, International Business, Marketing, and New Business journals, Carneiro *et al.* (2005) proposed a robust integrative model of performance appraisal. Strategic Management, International Business, Marketing, and New Business, and proposed a robust integrative model of performance appraisal. Their model considered, first, conceptual macro-dimensions (*i.e.*, performance definitions); and second, methodological macro-dimensions (*i.e.*, focused on data collection procedures) of performance. Their conceptual macro-dimensions proposition considers stakeholders' views, classes of measurements, perspective of reference (absolute or relative), and temporal orientation (transversal/static, or longitudinal/dynamic). The methodological macro-dimensions include level of analysis (business unit, company, specific combinations, etc.), data objectivity, and data format.

Broadly speaking, the international marketing literature does not consider the performance construct in such a robust stance as Carneiro *et al.* (2005). Instead, identified are two broad dimensions: financial (all value-related affairs) and strategic (procedures to be adopted, such as segmentation, target and positioning) (Cavusgil & Zou, 1994; Julian, 2003; Leonidou *et al.*, 2002; Okazaki, Taylor, & Zou, 2006; Samiee & Roth, 1992; Zou & Cavusgil, 2002).

Carneiro *et al.* (2005) have found that usually one or just a few performance facets are used in most of the studies, and sometimes they can even be measured incorrectly. The reason for this is that there are always conceptual, methodological, operational, and practical limitations in each and every work that drive authors to emphasize just one or a few perspectives concerning performance. This is precisely the case with this paper. Even considering the relevance of a more robust evaluation of the performance construct, goal is not to discuss the performance construct in depth, but to analyze the impact standardization and adaptation strategies of the marketing mix have on performance. Choice of using a more generic and broader view of the performance construct, thus, has been made to allow a more comprehensive meta-analysis concerning the impact of the international marketing strategies. Therefore, our theoretical appraisal of the performance construct is focused on how the international marketing papers have analyzed it, what can be different - one might say less accurate - as compared to papers that have dealt exclusively with the performance construct.

Considering the relationship between performance and the marketing mix - as treated in the international marketing literature - many studies have analyzed the relationships between product and performance (Doole, Grimes, & Demack, 2006; Julian, 2003; Julian & O'Cass, 2004; Kazem & Heijden, 2006; Kemppainen, Vepsalainen, & Tinnila, 2008; Ogunmokun & Esther, 2004), price and performance (Colpan, 2006; Doole *et al.*, 2006; Myers & Harvey, 2001; Myers, Cavusgil, & Diamantopoulos, 2002), distribution and performance (Amine & Cavusgil, 2001; McNaughton, 2002; Myers & Harvey, 2001), and promotion and performance (Amine & Cavusgil, 2001; Francis & Collins-Dodd, 2004; Shamsuddoha & Ali, 2006).

Other articles considered the marketing mix as a single construct, analyzing the four mix elements all together (*e.g.* Johnson & Arunthanes, 1995; Julian & O'Cass, 2004; O'Donnell & Jeong, 2000; Ozsomer & Simonin, 2004; Schilke, Reimann, & Thomas, 2009; Zou & Cavusgil, 2002; Wu & Cheng, 2009). In spite of so many studies that have analyzed the relationship between the marketing mix elements and performance, the Researcher have not found articles that have analyzed the impact of standardization and adaptation of all four elements of the marketing mix - analyzed separately, in only one article - on performance. The hypotheses drawn next try to overcome such gap.

Hypotheses

The researcher developed the hypotheses of the study based on the recent literature on the relationships between the marketing mix and performance, moderated by the adaptation and standardization variables. As independent variables, we consider the elements of the marketing mix, namely, product, price, promotion and distribution; as the dependent variable we considered the company's performance; as moderators, adaptation and standardization. While the majority of the studies present a significant influence from the standardization of the marketing mix on the performance of a company (*e.g.* Conant & White, 1999; Florin & Ogbuehi, 2004; Szymanski *et al.*, 1993), others found a non-significant or inverse relationship (*e.g.* Julian, 2003; Samiee & Roth, 1992). Thus, the following hypotheses are proposed:

H1a: the standardization of the company's product, in international markets, affects its performance positively.

H1b: the standardization of the company's promotion, in international markets, affects its performance positively.

H1c: the standardization of the company's distribution, in international markets, affects its performance positively.

H1d: the standardization of the company's pricing, in international markets, affects its performance positively.

The Researcher have found similar analysis in articles involving adaptation. Some of these results demonstrate the positive influence of the moderator variable on performance (*e.g.* Conant & White, 1999; Florin & Ogbuehi, 2004; Lages, Abrantes, & Lages, 2008; Leonidou *et al.*, 2002; Sousa & Lengler, 2009). Some other studies identified a negative or insignificant influence (*e.g.* Julian, 2003; Julian & O'Cass, 2002; Lages & Montgomery, 2005; O'Cass & Julian, 2003; Shoham, 1999; Tantong, Karande, Nair, & Singhapakdi, 2010). Therefore, the following hypotheses are proposed:

H2a: the adaptation of the company's product, in international markets, affects its performance positively.

H2b: the adaptation of the company's promotion, in international markets, affects its performance positively.

H2c: the adaptation of the company's distribution, in international markets, affects its performance positively.

H2d: the adaptation of the company's pricing, in international markets, affects its performance positively.

Methodology

Considering the inconclusive nature of the literature on the subject, the Researcher have adopted a meta-analytical procedure. As Farley, Lehmann and Sawyer (1995) argue, the confrontation between the theory and the knowledge accumulated after many studies is essential to the progress of the research. A meta-analysis aims to contribute to the growth of the literature concerning a certain topic, as well as its applicability and possibility for generalization, which is an important tool for reaching a consensus. Therefore, the aim is to group conflicting results on a specific subject, where the researcher conducts an analysis of the analyses (Wolf, 1986).

Data Collection

Some criteria were initially adopted to identify studies that would be incorporated into the sample. First, to be part of the meta-analysis, the study should consider the relationship between standardization and adaptation - of at least one of the elements of the marketing mix - and performance. Second, considering the diversity of concepts referring to performance, the selected articles should relate performance to the results of the firm's activities, whether economic or behavioural.

Table 1: Final Sample Characteristics

	j 9 =<	I	c u	c I	3 "8fa	I — = - s	B tn	= ~ QC	E J	- £ 9	m v s 1	7 a - i e . Z	= 1 8 =
\	Lee and Griffith	2004	Korea	CI	180	63	58	32.2	1	'CS	Mail		
B	O'Cass and Julian	2003	Australia	C 1	1132	NSa	293	25.8	7	>es	Mail		
C	O'Donnell and Jeong	2000	I ISA: IK; Canada: Japan and German\	I	426	NS	110	26.0	2	yes	Mail		
D	O'somcr and Simonin	2004	Turkey	C/I	253	180	NS	71.0	NS	>> ^s	Mail		
i:	Johnson and Arunthanes	1995	1 SA	C 1	1300	224	208	18.0	NS	yes	Mail		
F	Shoham	1999	Israel	C 1	463	98	NS	21.2	IS	yes	Mail		
G	Samiec and Roth	1992	USA	C 1	322	147	NS	46.0	12	yes	Mail		
H	/ou and Cavusgil	2002	USA	C/I	422	126	374	33.6	23	yes	Mail		
I	C alanlonc <i>et al</i>	2004	1 SA	NS	541	NS	239	47.0	1s	yes	Mail		
			1 S\	NS	541	NS	239	47.0	NS	yes	Mail		
J	(alanlonc <i>et til</i>	2006	Japan	NS	500	NS	11<	29.0	NS	yes	Mail		
			Korea	NS	700	325	303	43.0	NS	yw	Mail		
K	Dow	2006	Autralia	NS	207	NS	100	48.0	NS	yes	Mail		
L	Cauisgil and /ou	1994	1 S A	ai	203	NA	NA	NA	16	NA	Perso nal		
M	Lages and Montgomery	2005	Portugal	NS	25< K)	519	NS	22.0	NS	yes	Mail		
N	Julian and O'Cass	2004	Australia: UK and France	(1	1132	NS	293	25.8	7	yes	Mail		
O	Oka/aki <i>et al</i>	2006	Germany: Italy and Netherlands	NS	564	116	107	23.5	NS	ya	Mail		
P	hiti'N and Montgomery	2004	Portugal	NS	1967	459	413	23.3	NS	yes	Mail		
Q	l uges <i>et al.</i>	2008	Portugal	I	93	NA	88	95	NS	yes	Perso nal		
K	Si. Ill Ike </ fli	2009	1 SA	I 1	2549	NA	489	19	7	yes	Mail		
S	Chung	2009	1 K	C/I	233	NA	78	33	NA	>es	Mail		
T	Sousa and Lenglcr	2009	Brazil	C 1	1000	NA	201	20.1	NA	yes	Mail		
U	W ua and Cheng	1009	NA	(1	345	NA	NA	NA	4	NA	NA		
V	llullman, Robson and Katsikeas	2009	Sweden	C 1	M	401	341	60.8	1	JW	Mail		
W	1 among. .■ al.	2010	Thailand	C/I	2200	252	252	11.9	13	yes	Mail		
Mean					809	249	232	411	9				

Note.^a Each letter corresponds to one study
consumer I = industrial: NS = not specified: NA = not applicable.

Third, the researcher have not adopted any kind of restrictions about the business unit or variable analyzed - i.e., headquarters or branch offices, number of operating countries, industrial diversity, country of origin, or foreign experience. This is because main goal was not to analyze social, political or environmental variables that may interfere in the relationships. Instead, focus was to consider the strategic elements of standardization and adaptation of the

marketing mix as moderators of performance. Last, the articles should be cross-sectional or longitudinal, due to the statistical analysis to be conducted.

The Researcher carried out the data collection through a key-word search in major electronic databases such as EBSCO and Proquest. The keywords were: marketing, performance, standardization, adaptation, product, price, promotion and distribution. No restrictions about the starting date of publication were made, and the ending date was the year 2011. Considering these criteria, found are a total of 63 articles published in the major marketing and business journals, such as Journal of Marketing, Journal of Business Research, Journal of Advertising, International Journal of Research in Marketing, European Journal of Marketing, Journal of Marketing Management, Journal of Asia Pacific Marketing, Journal of Product Innovation Management, Journal of International Business Studies, International Marketing Review, Applied Economics Letters, Journal of Marketing Theory and Practice and Journal of International Marketing.

To be included in final sample, the article should present at least one tested hypothesis relating marketing mix elements with performance. Also, each article should be based on quantitative data, containing all minimum information required for a meta-analytical statistical calculus (*e.g.* sample size, valid sample, p-value). Each selected article was read and analyzed in order to check for the minimum necessary information. Based on these criteria, 23 of the original 63 studies qualified for the meta-analysis, therefore constituting final sample (see Table 1).

Data Analysis

Procedures employed in meta-analysis allow a quantitative examination and synthesize the literature about a certain issue. There are two kinds of procedures. The first measures the effect size; or the strength of the relationship (Wolf, 1986). It is observed that the great majority of meta-analytical studies calculate the effect size. This refers to a set of indexes that measure the magnitude of one specific relation, *i.e.*, the strength of the relationship between the independent and dependent variables (Jitpaiboon & Rao, 2007). The second procedure, alternatively, focuses on testing the statistical significance of a relationship through combined results from different studies, which is known as a combined test (Wolf, 1986). We have used the first procedure - the effect size - to test our hypothesis, as it is suitable for the quantitative calculation of existence and strength of a relationship between variables.

The Researcher have selected, tabulated, and analyzed data from sample. First, conducted was a descriptive analysis to detail the major characteristics of each article of sample (see Table 1). Next calculated was the effect size to verify the strength of the relationships between the moderator variables (standardization and adaptation of the marketing mix) and performance. Then, the Researcher converted the statistical analyses of the original studies into a common metric - *e.g.* p-values of each hypothesis into z scores. It is important to note that the z score was calculated considering the p_value and the inverse of the standard cumulative probability distribution, a formula available on a number of statistical software like MS Excel. The scores were then used to calculate the effect size r, as shown in the formula bellow (Cooper & Hedges, 1999): where z is the z score and N is the sample, *i.e.*, the number of questionnaires that were returned and had been used (that is, the valid sample). In order to test hypotheses, calculated was the mean value of the correlations of those studies found on our sample that examined equivalent hypothesis. These mean values -representing the effect size - were calculated as follows (Wolf, 1986):

$$r = \frac{\sum r}{\sqrt{N}} \quad \bar{r} = \frac{\sum r}{n}$$

where r is the correlation coefficient and n is the sample, i.e., the number of studies that supports each hypothesis. We have adopted this procedure to determine the strength of the relationships between the adaptation or standardization of one or more elements of the marketing mix and the performance.

Results

Descriptive Analysis

The first analysis refers to the descriptive characteristics of the final sample. As shown in Table 1, from the 23 analyzed studies, only 4 were carried out in the 1990s, while the other 19 were published after 2000. Geographically, 16 studies were held in either Europe or North America. In all, 27 different samples were used in the 23 studies, 12 of them composed of up to 500 respondents, and 11 of them with more than 500 respondents. Despite the fact that samples from studies B, E, M, N, P, R and W had more than 1000 respondents, the average number of respondents was 798.

The average number of returned questionnaires was 244, although 13 studies did not specify this number on at least one of its samples. In one of them (study L) this characteristic was not considered, since all respondents were personally interviewed. In the total, 5 studies did not specify the percentage of usable questionnaires. Again, this criterion was not employed for study L, due to the abovementioned reason. For the remaining 17 studies, the average number of usable questionnaires was 229. Excluding study L, the response rate average was 40%. Only 12 studies presented the number of different industries involved. All studies - except study L - applied the non-bias test. Data were collected by mail in 20 out of 23 studies; the 3 remaining gathered data through personal interviews, or did not inform of the data collection method.

Quantitative Analysis

In order to test hypotheses, converted were all p-values found in the studies into z scores. The p-values, z scores and r correlations for the sample are presented on Table 2. Some articles did not show the exact p-value, but only an indication of the reference value (e.g. p-value < 0,01). In this case, it was assumed the p-value as equal to the reference value. Studies A, E, and K presented hypotheses followed by specific p values; we converted these values into z scores and calculated the correlation r .

Values

Studies B, G, L, O, P, V, and W did not present a p_value, nor indicate a similar or comparable parameter. Thus, the effect size calculation was not possible. Studies C, H, J, V, and W did not show specific p_values, although they did indicate the parameter $p < .01$. Thus, we converted the values $p < .01$ into z scores. The same was done on studies D, F, H, I, and N, except that in these cases the parameter indicated was $p < .05$. Study M proposed a positive relationship between price adaptation and performance. However, the test of the hypothesis in this study showed a significant negative effect for this relationship (linear regression coefficient). Thus, this study was not included in the meta-analysis because the relationship between price adaptation and performance based on study M was contrary to the ones hypothesized in our research. Study V and W posited hypotheses that product adaptation and performance were positively related, but the test of hypothesis of these studies was not significant. Therefore, they were not included in the meta-analysis. It is imperative to emphasize that the effect size is calculated on the basis of equivalent hypotheses from dissimilar studies. This is the reason for the exclusion of the studies M, V and W from our meta-analysis.

Next calculated was the correlation coefficients, estimating separately the mean values for each of the proposed hypotheses. The results (or effect sizes) can be seen in Table 3, as well as the list of papers used to calculate each hypothesis. In order to interpret the effect sizes, we considered the following parameters, from Cohen (1988): small effect size (up to $r = .10$), medium effect size (up to $r = .30$) and large effect size ($r = .50$ or more).

Results

H1a hypothesized that the standardization of the company's product, in international markets, affects its performance positively. The statistical tests found a correlation - or effect size - of .134. Hence, the hypothesis was accepted and the strength of this relationship was medium. H1b proposed that the standardization of promotion, in the international environment, positively affects the performance of the organization. The tests showed the same results, i.e., a correlation of .134. Consequently, this hypothesis was equally accepted, also revealing a medium strength. H1c proposed that the standardization of distribution, in the external environment, affects performance positively. The tests found a correlation of .133, which leads to the acceptance of the hypothesis, attributing a medium strength to it. H1d suggested that the standardization of the price, in international markets, positively affects the performance of the company. The tests also presented a correlation of medium strength (.133), which confirms this hypothesis too. The similarity between the scores of hypotheses H1a, H1b, H1c and H1d is a result of the studies included in meta-analysis. Articles C, D, H, N, R, and U tested for just one hypothesis the effect of standardization of the marketing mix (product, promotion, distribution, and price) on performance. Article S tested, in a combined hypothesis, the standardization of product and promotion on performance (H1a and H1b), but not the standardization of distribution and price (H1c and H1d). This explains the small difference between the values obtained in H1a and H1b, compared with those of H1c and H1d.

In short, the effect size of the four hypotheses related to standardization was very similar - but not identical - because the sub-sample used to calculate them was almost the same, with the exception of study S. Furthermore, some of them did not provide accurate p-values, as well as statistical significance (i.e., $p < .01$ or $p < .05$)⁽²⁾, which did not allow us a more precise calculation of the effect size.

H2a suggested that adaptation of the product in the external environment affects its performance positively. We have found a correlation of .154, thus the hypothesis was accepted, showing a medium effect. H2b suggested that the adaptation of promotion in the external market affects performance positively. The correlation was also medium (.155), driving us to accept this hypothesis too. H2c suggested that the adaptation of distribution in the international market affects performance positively. The statistical test showed a correlation of .141, again a medium strength, which also confirms the hypothesis. Finally, H2d suggested that the adaptation of price in the international environment affects performance positively. The tests demonstrated the existence of a medium strength of .209, which likewise confirms the last hypothesis, also showing a medium magnitude for the influence - the largest effect size found in all statistical tests.

In summary, the estimated effect sizes suggest the existence of a medium strength (ranging from .133 to .209); all influencing the relationships between the standardization and adaptation of the marketing mix and the performance of a company.

Discussion and Conclusion

Both views of standardization and adaptation seem logic and coherent. However, the heterogeneity of the markets does not allow total standardization, and the high costs of

adaptation do not allow its use for the whole marketing mix. Marketers seem to avoid the polarization of these strategies since their extreme use is not beneficial. This initiative is defended by some authors who reject the application of a single strategy for all markets (Cavusgil *et.al.*, 1993; Jain, 1989; Sorenson & Wiechmann, 1975; Vrontis, 2003; Vrontis & Kitchen, 2005; Vrontis & Papasolomou, 2005; Walters, 1986). Perhaps one of the reasons that make this an ongoing debate is that both schools assume their own perspective as being unique and superior.

Interestingly, the results of our meta-analysis support the existence and importance of both views, because we have found positive relationships between both the adaptation and the standardization of the marketing mix, when related to performance. The results, however, suggest that companies should slightly emphasize the adaptation of their marketing mix (ES mean = .168) instead of standardizing it (ES mean = .134) when entering into a new international market. Although statistically significant, the difference between both strategies is small (.034) and should, thus, be used with caution by marketers when deciding to adopt one strategy instead of other.

While separately analyzing each of the variables of the marketing mix, researcher have found that the price adaptation is, among all the marketing mix variables, the one that should be focused on the most, as it resulted in the largest effect size of all tested hypothesis (ES = .209). This result is different from previous research (*e.g.* Shoham, 2002) that had disconfirmed the adaptation of price impact on performance and somehow showed a different perspective for marketers. Nevertheless, one should note that Shoham's (2002) article studied the relationship between price and performance with a different perspective than ours, as earlier commented. Even considering that our meta-analysis is more recent and somehow different from Shoham's, such emphasis on price adaptation is something that should receive more attention in future research.

The adaptation of product (ES = .154) and promotion (ES = .155) should also be considered as more important than distribution adaptation (ES = .141). These results are also different from previous studies. For example, Theodosiou and Leonidou (2003) posit - based on a literature review - that adaptation of promotion, price and distribution have an impact on performance, and that product standardization is related to performance. Our results are also different from Shoham's (2002), as he found that product and promotion adaptation strategies are more important than price and distribution strategies, when considering their impact on performance.

The relative similarity and magnitude of the meta-analysis results show that the main decision a marketer should take is not necessarily which of the strategies to apply, nor which one to privilege, but the intensity of the strategy used. Here, the organization also has to consider its common strategy, the environment and market orientation. In general, cost reductions and market complexity are the most common impetus for standardization, whereas the necessity to take care of the particular needs of each market is a frequent reason for adaptation. Our results also show that both strategies can coexist and cause effects on performance. Therefore, the core choice is "how much", *i.e.*, to what degree should each strategy be used (Cavusgil & Zou, 1994; Jain, 1989, 2007).

Some practical examples can illustrate these recommendations. For example, companies such as Nike, Levi's and Coca-Cola are considered global, and they tend to see the world as a single market. But even these companies have adapted their marketing mix, sometimes in a subtle way (Gupta & Govindarajan, 2001; Vignali, 2001). Coca-Cola, for instance, sells virtually the same product all over the world: Coca-Cola. However, beyond this marquee product, its major strategy is diversification of products and their adaptation, encompassing all its consumers in the 200 countries where the company operates. In Japan, one of its main markets, its products include coffee, teas and even Real, a hangover cure (Ghemawat, 2007b). The adaptations also include product descriptions, the ingredients, packing, line of products, and advertising

campaigns. Although there is a prototype product, local adaptations are still made (Dana & Vignal, 1999).

Furthermore, companies must be attentive since the need for degree of adaptation can change periodically. In many industries, factors such as the global media and decreasing incomes may pave the way toward increasing standardization. Otherwise, in industries where the product can be delivered over the Internet, such as the music industry, the need for customization may increase over time (Gupta & Govindarajan, 2001). A similar situation is faced by Pizza Hut Inc., a company that usually adapts its products in each country where it operates (Kumar & Goel, 2007).

Therefore, marketers might use the results shown here in our meta-analysis as guidance, since we have used empirical data collected from companies that have faced the internationalization process. Our results, thus, can be compared to the actual practices adopted by the organizations. Differences found lead to a deeper reflection concerning the strategies, the improvement of tactics, or the implementation of a new behavior. Aware of the relationship between adaptation, standardization and performance, companies should adjust themselves considering their interests, objectives, market proximity, target market, and customers' needs. It seems essential that marketers visualize the tenuous line between standardization and adaptation, especially regarding performance.

Overall, the most important conclusion of our meta-analysis is that organizations can achieve greater performance if they do not consider the world as a single market. It may be that standardization should only be adopted in situations where it would not compromise performance, market orientation and consumer satisfaction. Besides, we have found that each component of the marketing mix demands different degrees of the chosen strategy. The important decision - we suggest - is to balance the strategy level and the market needs. As Cavusgil *et al.* (1993) pointed out, to determine this level some aspects must be observed, such as technology, culture, competition, and international experience. The level should be defined by the degree of adaptation required to operate in the market, considering the characteristics of each place in which the company will operate. Whatever the decision is, it should also take into account financial returns, which involve competitive advantage and performance. As Theodosiou and Leonidou (2003, p. 167) affirmed, "international marketing strategy - whether standardized or adapted - will lead to superior performance only to the extent that it properly matches the unique set of circumstances that the firm is confronted by within a particular overseas market". We hope our study fulfills some gaps of the literature and, most importantly, helps marketers to decide about some courses of action when dealing with the internationalization process.

Limitations and future research

A meta-analysis provides an opportunity for shared subjectivity in reviews, rather than true objectivity. Authors that use meta-analyses must sometimes make decisions based on their own judgment, such as when defining the boundaries of the analysis or deciding exactly how to code moderator variables. However, meta-analysis requires that these decisions are made public so they are open to criticism from other scholars (DeCoster, 2004). Thus, one important issue on conducting a meta-analysis is to consider its limitations.

For Sobrero and Schrader (1998), this methodology should be viewed carefully, considering that: (a) the previous studies could have been conducted with different relationships between constructs or variables, and the framework on which each study was based can determine different impact on the effect size; (b) the methodology applied, and problems in the constructs validity and reliability can also impact the meta analyzed results; and (c) the search technique and the availability of studies are also some limitation on every meta-analysis. Indeed, some studies included in our meta-analysis presented different constructs, variables, and even methodologies.

Other important consideration about a meta-analysis is that it requires a sample of articles in which the same hypotheses are tested. In some of the articles we analyzed the hypotheses were sometimes grouped or, in some cases, tested in relation to other constructs, what might have somehow influenced the results.

In spite of the acceptance of all the hypotheses, all results we have found showed a medium magnitude, but closer to a small one. However, we believe they can be used as guides of action because, as Cohen (1988) argues:

The terms 'small', 'medium', and 'large' are relative, not only to each other, but to the area of behavioral science or even more particularly to the specific content and research method being employed in any given investigation.... In the face of this relativity, there is a certain risk inherent in offering conventional operational definitions for these terms for use in power analysis in as diverse a field of inquiry as behavioral science. This risk is nevertheless accepted in the belief that more is to be gained than lost by supplying a common conventional frame of reference which is recommended for use only when no better basis for estimating the ES index is available (p. 25).

After conducting this meta-analysis, it became evident that some subjects require more research, such as the use of quantitative methods to: (a) measure the degree of adaptation within a determined segment; (b) measure the need for standardization within a specific segment; (c) understand possible differences in the application of these practices in different segments; (d) measure the level of adaptation actually employed in different segments and markets; (e) compare results of home vs. host regions, manufacturing vs. service sectors, etc.; (f) incorporate moderation variables to study contingent effects; (g) identify variables that may influence the decision making process; (h) utilize other statistics parameters to calculate the effect size in a more precise way.

Moreover, our theoretical revision of the performance construct was focused on how the international marketing papers have analyzed it, what is different - one might say less accurate - compared with papers that have dealt exclusively with the performance construct. Thus, we also recommend that future studies consider a more detailed analysis of this construct (see Carneiro *et al.*, 2005 for a detailed review of it).

Some qualitative research might also help to understand the problem, which could analyze: (a) internal elements that influence the choice of one strategy over another; (b) external elements that influence the choice of one strategy over another; (c) the influence of entry strategy on the decision to standardize or to adapt; (d) the marketing practices adopted by some companies in determined segments; (e) similarities and differences between organizations of various segments; (f) similarities and differences between companies in the same segment; (g) the level of adaptation employed by certain companies; and (h) the influence of culture on standardization and adaptation strategies. In short, the subject still requires more research; from the entry strategy to the international marketing strategy that brings the best results, and especially as to how it reflects on performance.

References

1. Amine, L. S., & Cavusgil, S. T. (2001). Export marketing strategies in the British clothing industry. *European Journal of Marketing*, 20(7), 21-33. doi: 10.1108/EUM0000000004653
2. Conant, J. S., & White, J. C. (1999). Marketing program planning, process benefits, and store performance: an initial study among small retail firms. *Journal of Retailing*, 75(4), 525-541. doi: 10.1016/S0022-4359(99)00017-2
3. Cooper, H., & Hedges, L. V. (1999). *The handbook of research synthesis*. London: Sage Publications.
4. Dana, L. P., & Vignali, C. (1999). Lublin Coca-Cola bottlers Ltd. *British Food Journal*, 101(5-6), 447-455. doi: 10.1108/00070709910278424
5. Szymanski, D. M., Bharadwaj, S. G., & Varadarajan, P. R. (1993). An analysis of the market share-profitability relationship. *Journal of Marketing*, 57(3), 1-18.

6. Tantong, P., Karande, K., Nair, A., & Singhapakdi, A. (2010). The effect of product adaptation and market orientation on export performance: a survey of Thai managers. *Journal of Marketing Theory and Practice*, 18(2), 155-169. doi:10.2753/MTP1069-6679180204
7. Vignali, C. (2001). McDonald's: "think global, act local" - the marketing mix. *British Food Journal*, 103(2), 97-111. doi: 10.1108/00070700110383154
8. Viswanathan, N. K., & Dickson, P. R. (2007). The fundamentals of standardizing global marketing strategy. *International Marketing Review*, 24(1), 46-63. doi:
9. 10.1108/02651330710727187 :
10. Vrontis, D. (2003). Integrating adaptation and standardization in international marketing: the AdaptStand modeling process *Journal of Marketing Management*, 19(3-4), 283-305.
12. Vrontis, D., & Papasolomou, I. (2005). The use of entry methods in identifying multinational companies' AdapStand behavior in foreign markets. *Review of Business*, 26(1), 13-20.
13. Wu, W., & Cheng, C. (2009). The optimal internal marketing strategy in services under open economy. *Applied Economics Letters*, 16(8), 841-845. doi: 10.1080/13504850701221964
14. Zou, S., Andrus, D. M., & Norvell, D. W. (1997). Standardization of international marketing strategy by firms from a developing country. *International Marketing Review*, 14(2), 107-123. doi: 10.1108/02651339710170203
15. Zou, S., & Cavusgil, S. T. (2002). The GMS: a broad conceptualization of global marketing strategy and its effect on firm performance. *Journal of Marketing*, 66(4), 4056. doi: 10.1509/jmkg.66.4.40.18519

BBA/MARK/3

Service Quality Gap Analysis for Online and Offline Household Service Provider Business using SERVQUAL Approach

Kushal Dey¹ & Pinaki Ranjan Bhattacharyya²

¹Research Scholar, Calcutta Business School, Kolkata; kushalphdscholar@gmail.com

²Associate Professor, Calcutta Business School, Kolkata; pinakirb@gmail.com

Introduction

E-Commerce is the act of buying or selling of products or services via online medium. The advent of information technology and increase in internet service facility can be viewed as a key factor behind the increase in the use of E-services generally in the world, and particularly in India. Internet users base in India is of about 475 million in July 2018, about almost half (40%) of the total country's population and it is predicted that India's E-Commerce revenue is supposed to make a shift from US\$ 39 billion in 2017 to US\$ 120 billion in 2020, developing at an annual rate of 51 percent and that is the highest in the world (www.economictimes.com). In the recent years, some of the major decisions by the reputed E-Commerce platforms to expand E-Commerce activities in the sector have established the facts:

- Flipkart, now acquired by Walmart for US\$ 16 billion, is assumed to launch more offline retail stores in India to put an emphasis on private labels in sectors such as fashion and electronics. In September 2018, Flipkart after getting possession of Israel based analytics start-up Upstream Commerce, would get to better the price and position of its products in an efficient way.
- Paytm has launched its bank - Paytm Payment Bank, India's first bank with zero charges on online transactions and no minimum balance need with additional facility of free virtual debit card.
- As of June 2018, Google is also trying to invade the E-Commerce space by November 2018. India is expected to be its first market.
- Reliance Retail is going to venture into online retail this year. It has already launched its food and grocery app for beta testing among its employees.
- E-Commerce industry in India noticed 21 private equity and venture capital deals worth US\$ 2.1 billion in 2017 and 40 deals worth US\$ 1,129 million in the first half of 2018.
- Google and Tata Trust have amalgamated for the project 'Internet Saathi' to improve internet penetration among rural women in India.

Government ventures in the E-Commerce sector

Since 2014, the Government of India has announced various initiatives namely, Digital India, Make in India, Start-up India, Skill India and Innovation Fund. The timely and effective implementation of such programs can be favourable for the E-Commerce growth in the country. Some of the major steps taken by the government to stimulate the E-Commerce sector in India are as follows:

- In order to shoot up the participation of foreign players in the E-Commerce field, the Indian Government raised the limit of foreign direct investment (FDI) in the E-Commerce marketplace model for up to 100 per cent (in B2B models).
- The humongous investment of Government of India in rolling out the fibre network for 5G will help boost ecommerce in India.
- In the Union Budget of 2018-19, government has devoted Rs 8,000 crore (US\$ 1.24 billion) to BharatNet Project, to provide broadband services to 150,000 gram panchayats.

- As of August 2018, the government is focusing on the second draft of E-Commerce policy, incorporating inputs from various industry stakeholders.

The rapid advancement of applications of ICT (Information and Communication Technology) has been observed in the Indian domestic households in the recent times. Traditionally, perception of Indian household towards services was confined to manual support from service providers in the form of personal contacts. For consumers word of mouth was ultimate feedback to identify the services, and the service providers were providing that services. If the consumers were satisfied a positive word of mouth used to substantiate and confirm the consumer satisfaction. But in online services the paradigm shift in technology has articulated a service feedback which was populated by Gronroos (1984). According to him, "for service firms to develop the quality of their services in order to compete successfully in the future, they must define how quality is perceived by consumers and determine in what way service can be influenced". He further opined that "the quality of service relies on two factors: 1. Expected service, and 2. Perceived service.

The instrumental performance of a product is the technical side of the product. Consumers are not only concerned with what they receive as a result of the production process, but in the process itself. Corporate image, or sometimes local image of an office 3 | P a g e or another organizational unit, is of greatest importance to most service firms. Tests in the instrumental performance and expressive performance of products suggest that the first type of performance is a necessary, but not sufficient condition for satisfaction. Functional quality, in fact, appears to be a very important facet of the perceived service, and the importance of image should be recognized". But the same is not possible in case of online services where the consumer do not have the option to identify the service provider directly, but has to rely more on online report submitted by served customers. Hence there is always a gap in terms of services expected and services delivered. This is applicable for daily household services to local electrician or plumber or have to search around for a reliable person. But now-a-days many home service start-ups have come up leveraging the on-demand economy and eliminating the hurdle in finding a professional. The top 10 home service startups in India are UrbanClap, HouseJoy, Zimmber, UrbanPro, Helpr, SBricks, Mr. Right, Timesaverz, Near.in, Cheep. Considering the number of players in this segment, the funds flowing in the sector, and the wide scope to explore, the industry is experiencing and will experience a strong competition. The potential is mammoth; the question becomes which player reaches the customer fastest to provide a standardised solution. Hence the players are emphasising on differentiation and expansion. But, Digital influence in every aspect of our lives has never been more profound.

Depending on the might of technology, home services as a sector has been seeing considerable interest as it looks to link local services to consumers. Whether it is dispatching somebody to repair faulty appliances, getting your washrooms cleaned, getting your clothes washed ironed and delivered to you on your doorstep or having a fitness instructor or music teacher to train you at home, start-ups, in an attempt to organize this highly fragmented sector, are offering these and many more at the click of a button."We identified three main problems in this industry. These are availability & reliability of service providers and the quality of their work, be it plumbing, electrical or carpentry," says on-demand home services company Housejoy, CEO, Saran Chatterjee. Launched in January 2015, it provides 14 categories of home services and is spread across 13 cities in India. Chatterjee further expounds, "Firstly, you do not find them when you need them. Secondly, you cannot be entirely sure whether they will show up or not and lastly, the quality of their service may be subpar."

Review of Literature

Service quality literature pointed that perceptions of high service quality and high service satisfaction resulted in a very high level of purchase intentions. According to Parasuraman, Berry and Zeithmal (1985), a perception of service quality consequence of a comparison between what consumers perceive the service should be and their perceptions about the actual performance offered by the service provider. Service quality and overall satisfaction implicitly include issues such as price perception, which is usually only sensed rather than objectively measurable. A majority of studies view them as precursory of satisfaction (Gajendra and Li, 2013), i.e. satisfaction is conceived as a mediator of the relationship between quality and loyalty. Service quality as defined by Santos (2003) described service quality as the customers' overall acumen of the merit of service offering. Service quality is also affected by the ability of an organization to satisfy customers' requirements, according to their assumption level (Yoo & Park 2007). E-service quality can help firms to distinguish themselves by offering amplified satisfaction, stimulating repeated purchases and constructing loyalty (Zeithaml, Parasuraman and Malhotra, 2002). Each service element in ecommerce offers a scope for such differentiation. Eservice quality may also affect customers' emotional responses such as liking, joy, pride, dislike and frustration. Customer service quality is directly entangled with customer satisfaction in the context of online marketing. Ribbink et al. (2009) comprehends that the importance of attributes of online customer's satisfaction is dependent on being technology savvy. Research on the precursor experience also suggest that availing e-service has an impact on customers' perception and assessment of e-service quality.

Traditional service quality dimensions:

Online customers still hire many services through traditional channels even if they often choose pure Internet-based suppliers with basic customer services. Numerous studies have sought to uncover the global traits of services that contribute most significantly to relevant quality evaluation in the traditional service environment (e.g. Hedvall and Paltschik, 1989; Kettinger and Lee, 1997; Parasuraman et al., 1985, 1988; Paulin and Perrien, 1996; Pitt et al., 1999; Sasser et al., 1978). Among them, two exploratory studies are regarded as the most appropriate frameworks for the current research. Parasuraman et al. (1985) reveals ten detailed dimensions through focus group study: tangibility, reliability, responsiveness, communication, credibility, security, competence, courtesy, understanding the customer, and accessibility. Later, these ten dimensions were further sieved and distilled to five: tangibility, reliability, responsibility, assurance, and empathy, which constitute base of a global measurement for service quality through the measuring instrument, SERVQUAL (Parasuraman et al., 1988). Another useful study conducted by Johnston (1995) shows 18 service dimensions and their definitions: accessibility, aesthetics, attentiveness, availability, care, tidiness, comfort, commitment, communication, competence, courtesy, flexibility, friendliness, functionality, integrity, reliability, responsiveness, and security. These two studies offer particularly robust service quality dimensions for measuring traditional services and could serve as a good starting point for the current exploratory research. :

Information systems quality dimensions:

The second stream of research relevant to e-service quality is from information systems literature. Since the Internet is still a relatively new information technology, research in information systems along with technology adoption provides useful insights into identifying some important dimensions in e-service quality. According to the technology adoption model (TAM), users' decisions to adopt a new information technology are principally determined by their attitudes toward two overarching factors related to the technology: ease of use and usefulness (Davis, 1989; Davis et al., 1989). Perceived ease of use refers to "the degree to

which a person believes that using a particular system would be free of effort", and perceived usefulness refers to "the degree to which a person believes that using a particular system would enhance his or her job performance" Davis (1989). The model has been extensively researched and been duly verified in a number of studies (Adams et al., 1992; Davis, 1989; Davis et al., 1989; Hendrickson and Collins, 1996; Igbaria et al., 1997). Since consumers' use of Internet-based services can be viewed as similar to the adoption of new technology, ease of use and usefulness are important factors in evaluating online service quality. Lin and Wu (2002) have employed the TAM to examine the impact of online service quality on portal site usage. They have found that several key dimensions of online service quality such as information content, customization, reliability, and response have significant effects on perceived ease of use and perceived usefulness, which in turn influence attitude toward using the portal site, behavioural 6 | P a g e intention to reuse portal sites, and actual portal site use. More importantly, their findings have indicated that perceived ease of use is more important than perceived usefulness. Online customers are end-users of both information and networked systems (DeLone and McLean, 1992; Stockdale and Standing, 2002). With the intent of measuring end-users' satisfaction with information systems, Doll and Torkzadeh (1988) devised a 12-item scale that assesses five quality dimensions that have been determined to influence end-user satisfaction. The five dimensions are content, accuracy, format, ease of use, and timeliness. The reliability and validity of this scale have been verified in several studies (Doll et al., 1994; Hendrickson and Collins, 1996). The quality attributes employed in the two afore mentioned streams of research can constitute a workable, preliminary framework for assessing online services. To gain more insights into recent development of online service quality research, we further review major studies in this arena.

Online service quality dimensions:

Drawing upon the traditional SERVQUAL scale, Zeithaml et al. (2001, 2002) have developed e-SERVQUAL for measuring e-service quality. In a series of focus group interviews, Zeithaml et al. (2001) have identified eleven dimensions of online service quality: access, ease of navigation, efficiency, flexibility, reliability, personalization, security/privacy, responsiveness, assurance/trust, site aesthetics, and price knowledge. The further comparison of e-service quality and traditional service quality indicates that consumers use some common dimensions such as reliability, responsiveness, access, and assurance to evaluate both traditional service quality and e-service quality. The study, however, was based on consumer experience of online retailing services. In the same vein, Wolfinbarger and Gilly (2002), through focus group interviews and an online survey, have uncovered four online retailing experience factors: Web site design, reliability, privacy/security, and customer service. Yang and Jun (2002) have uncovered six prominent factors - reliability, access, ease of use, personalization, security, and credibility - employed by Internet purchasers to evaluate e-tailers' service quality and seven principal service attributes - security, responsiveness, ease of use, reliability, availability, personalization, and access - that could prevent visitors from purchasing. These retailing services oriented studies have certain limitations in terms of the generalization of their findings to other settings. Some studies develop online service quality framework based on literature 7 | P a g e review. Cox and Dale (2001) have noted that traditional service quality dimensions, such as competence, courtesy, cleanliness, comfort, and friendliness, are not relevant to online retailing; whereas other factors, such as accessibility, communication, credibility, and appearance, are critical to its success. Madu and Madu (2002) proposed the following 15 dimensions of online service quality based on literature review: performance, features, structure, aesthetics, reliability, storage capacity, serviceability, security and system integrity, trust, responsiveness, product/service differentiation and customization, Web store policies, reputation, assurance, and empathy. Zeithaml et al. (2002) conducted a critical review of extant e-service quality literature and identified seven dimensions for e-service quality - efficiency,

reliability, fulfilment, privacy, responsiveness, compensation, and contact. These seven dimensions were further classified into two categories: a core service scale for measuring the customers' perceptions of e-tailers' service quality when customers experience no problems with the site (efficiency, reliability, fulfilment, and privacy) and a recovery service scale for measuring e-tailers' service recovery when problems occur (responsiveness, compensation, and contact).

Service Quality Dimensions and customer satisfaction:

Researchers have paid much attention to the close relationship between service quality and customer satisfaction (e.g. Bitner et al., 1990; Parasuraman et al., 1988). Oliver (1993) suggests that service quality is a more specific judgment, which can lead to a broad evaluation of customer satisfaction. The question was: how exactly will particular service quality dimensions influence customer satisfaction formation? Johnston (1995) has found that the causes of dissatisfaction and satisfaction are not necessarily the same. Some service quality attributes may not be critical for customer satisfaction but can significantly lead to dissatisfaction when they are performed poorly. Drawing upon Herzberg et al.'s (1995) research on work motivation, Johnston (1997) has further classified all dimensions into enhancing (satisfiers), hygiene (dissatisfiers), and dual factors. Enhancing factors are those which will lead to customer satisfaction if they are delivered properly, but will not necessarily cause dissatisfaction if absent. In contrast, hygiene factors are those which will lead to customer dissatisfaction if they fail to deliver, but will not result in satisfaction if present. Dual factors are those that will have an impact on both satisfaction and dissatisfaction. Johnston (1995) identified 8 factors: attentiveness, responsiveness, care, and friendliness as the main source of satisfaction in banking services, and integrity, reliability, responsiveness, availability, and functionality as the main source of dissatisfaction.

Research Rational:

Earlier consumers of household services were exposed only to offline service providers on the basis of personal contact and local networking. But with the increase in online household service providers' list, consumers are provided with opportunity to explore myriad of options. And therein rises the question - comparison between offline and online service providers in a consumer's psyche. One of the key factors that plays a pivotal role in the consideration of hiring household service can be limited persons providing service. Previously perception of consumers getting a household service done did not extend beyond exceed his familiar locality within a small and limited number of un-organised household workers. And they somehow were used to bear with the consequences of a call unattended, lack of proper tools, execution of task without proper planning, proper safety measures, unnecessary pressurizing for works uncalled for. But with a surge in population with less time in hand, there was an increase in demand for adept labour with vision who can execute tasks with proper tools and planning. And with a shortage of such kind of offline household service providers, a gap has been created between what consumer perceives and what they presented with. With the advent of E-Commerce, household service provider consumers tried to explore new alternatives, using online services. But online service providers too are not barred of their shortcomings. In competitive scenario, a premium price is for online household services. In case of reoccurrence of the problem, no free consultation is provided and lack of familiarity with certain problems due to several changes of service personnel causes headache. An absence of bond between consumer and service provider highlights the issue of lack of empathy. A common practice was to employ individuals from local market without professional certification and delivery of services on a long-term basis from a single person. But, presently the change in socio economic scenario has led to hiring of individuals with professional skill sets without ascertaining the

quality of service delivered or generated. This has created a gap in the services delivered and services expected for the present day consumer.

Objective of the Study***Broad Objective:***

- To analyze the gaps between online and offline household service provider business using SERVQUAL approach.

Secondary Objectives:

- The factors responsible for creation of gaps in both the services online and offline.
- Role of demography in creating perception.
- The factors responsible for creating satisfaction for different types of service holder.
- Perceptions of service quality in case of online vs. offline in SERVQUAL scale.

The following null and alternate hypotheses can be framed to understand and evaluate service quality gap using different attributes of SERVQUAL approach for different cases:

Case 1: In terms of Responsiveness scale

H₀₁: Frequency of use of online household service does not depend on timely delivery.

Alternate Hypotheses: Frequency of use of online household service depends on timely delivery.

Case 2: In terms of Assurance scale

H₀₂: Appropriate Pricing is not related to timely delivery.

Alternate Hypotheses: Appropriate Pricing is related to timely delivery.

Case 3: In terms of Tangibility scale

H₀₃: Usage of updated tool does not ensure use of online service.

Alternate Hypotheses: Usage of updated tool ensures use of online service.

Case 4: In terms of empathy scale

H₀₄: Backup support is not an important factor in case of online/offline household service consumer.

Alternate Hypotheses: Backup support is an important factor in case of online/offline household service consumer.

Case 5: In terms of reliability scale

H₀₅: On call attendance does not influence the preference of household service consumers.

Alternate Hypotheses: On call attendance influences the preference of household service consumers.

Case 6

H₀₆: Maintaining ethics does not influence the perception of online or offline service consumer. Alternate Hypotheses: Maintaining ethics influences the perception of online or offline service consumer.

Methodology

This research was carried out in three stages. In the first stage, a questionnaire was designed to measure service quality, to evaluate the customers' satisfaction and trust, and to assess the sentimental and behavioural dimensions of their loyalty towards online household service providers. Stage two involved the administration of the questionnaire for data collection and the appraisal of the measurement method. Finally, in the third stage, hypotheses were framed and data analysis was performed. The perceived service quality construct was based on the traditional SERVQUAL conceptualization (Parasuraman et al. 1985, 1988, Zeithaml et al. 2000). The survey was conducted in Kolkata region. A personally-administered questionnaire method was employed for the survey amongst a sample size of 75 respondents using Stratified Random sampling method based on the demographic variables like age, occupation, gender and monthly income in different age groups from 18 to 55 years and above. The method was chosen because of its relevant advantages such as the ability to understand and clarify complex questions, motivation, sample control and quality control evaluation. The disadvantages of a personally administered survey were cost, the potential for interviewer's bias and longer duration of data collection (Aaker et al. 2000, Burns and Bush 2000, Malhotra 1993, Sekaran 2000). However, these disadvantages were minimized wherever possible and they did not outweigh the benefits provided by a high response rate in a short period of time. The survey was carried out in shopping malls and by visiting organizations and private residences. The respondents who had not previously used online household services were also included in the survey.

Results

Reliability Test

Table 1: Reliability Test

Cronbach's Alpha	Cronbach's Alpha based on Standardized Items	No. Of Items
0.764	.766	29

Conclusion: As shown in Table I, the reliability of each factor was estimated by computing its Cronbach's Alpha, which was 0.764. This scale item had adequate reliability and were deemed appropriate for further analysis.

Frequencies

Table 2: Frequency Distribution in terms of Age

Age Group (Yrs.)	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	7	9.3	9.3
	26-35	47	62.7	72.0
	36-45	18	24.0	96.0
	46-55	3	4.0	100.0
	Total	75	100.0	

Table 3: Frequency Distribution in terms of Occupation

Occupation Group	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Salaried	57	76.0	76.0
	Self-Employed	18	24.0	100.0
	Total	75	100.0	

Table 4: Frequency Distribution in terms of Gender

Occupation Group		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	19	25.3	25.3	25.3
	Male	56	74.7	74.7	100.0
	Total	75	100.0	100.0	

Table 5: Frequency Distribution in terms of Monthly Income

Occupation Group		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<20k	11	14.7	14.7	14.7
	>60k	27	36.0	36.0	50.7
	20k-30k	11	14.7	14.7	65.3
	30k-40k	14	18.7	18.7	84.0
	40k-50k	7	9.3	9.3	93.3
	50k-60k	5	6.7	6.7	14.7
	Total	75	100.0	100.0	

Analysis

H₀₁: Frequency of use of online household service does not depend on timely delivery.

Table 6: Chi-Square Tests

	Value	df	Asymp. Sig. (2 sided)
Pearson Chi-Square	8.791 ^a	4	0.067
Likelihood Ratio	9.417	4	0.051
No. of Valid Cases	75		

a. 5 cells (50%) have expected count less than 5. The minimum expected count is 0.44.

Table 7: Symmetric Measures

		Value	Approx. Sig
Nominal by Nominal	Phi	0.342	0.067
	Cramer's V	0.342	0.067
		75	

a. Not assuming the null Hypotheses

b. Using the asymptotic standard error assuming the null Hypotheses

Conclusion: From the above analysis, it is observed that %2 (calculated) at d.f = 4 at 95% level of confidence (8.971) is greater than %2 (tabulated) (0.71). So, null Hypotheses rejected and it is concluded as frequency of online household service usage depends on timely delivery.

H₀₂: Appropriate Pricing is not related to timely delivery.

Table 7: Chi-Square Tests

	Value	df	Asymp. Sig. (2 sided)
Pearson Chi-Square	18.086 ^a	4	0.001
Likelihood Ratio	14.257	4	0.007
No. of Valid Cases	75		

b. 6 cells (60%) have expected count less than 5. The minimum expected count is 0.29.

Table 8: Symmetric Measures

		Value	Approx. Sig
Nominal by Nominal	Phi	0.491	0.001
	Carmer's V	0.491	0.001
		75	
c. Not assuming the null Hypotheses			
d. Using the asymptotic standard error assuming the null Hypotheses			

Conclusion: From the above analysis it is observed that %2 (calculated) at d.f = 4 at 95% level of confidence (18.086) is greater than %2 (tabulated) (0.71). So, null Hypotheses is rejected and it is concluded as usage of updated tool ensures use of online service.

H₀3: Usage of updated tool does not ensure use of online service.

Table 9: Chi-Square Tests

	Value	df	Asymp. Sig. (2 sided)
Pearson Chi-Square	1.243 ^a	4	0.871
Likelihood Ratio	2.161	4	0.706
No. of Valid Cases	75		
a. 6 cells (60%) have expected count less than 5. The minimum expected count is 0.19.			

Table 10: Symmetric Measures

		Value	Approx. Sig
Nominal by Nominal	Phi	0.129	0.871
	Carmer's V	0.129	0.871
		75	
a. Not assuming the null Hypotheses			
b. Using the asymptotic standard error assuming the null Hypotheses			

Conclusion: From the above analysis it is observed that %2 (calculated) at d.f = 4 at 95% level of confidence (1.243) is greater than %2 (tabulated) (0.71). So, null Hypothesis is rejected and it is concluded as appropriate pricing is related to timely delivery.

H₀4: Backup supports not an independent factor in case of online/offline household services (a. electrician, b. plumber, c. carpenter, d massage at Home, e. appliance and electronic repairing, f. home cleaning service).

Table 11: ANOVA

Backup Support		Sum of Squares	df	Mean Square	F	Sig.
Electrician (Online)	Between Groups	5.153	4	1.288	1.678	0.165
	Within Groups	53.727	70	0.768		
	Total	58.880	74			
Electrician (Offline)	Between Groups	1.622	4	0.406	0.400	0.808
	Within Groups	71.044	70	1.015		
	Total	72.667	74			

Conclusion: From the above analysis it is observed that for online electrician service F (calculated) at d.f = (4, 70) at 95% level of confidence (1.678) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and for offline also electrician service F (calculated) at d.f = (4, 70) at 95% level of confidence (0.400) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and it is concluded as backup support is not an independent factor in case of online and offline household services for electrician.

Table 12: ANOVA

Backup Support		Sum of Squares	df	Mean Square	F	Sig.
Plumber (Online)	Between Groups	9.355	4	2.339	3.399	0.013
	Within Groups	48.165	70	0.688		
	Total	57.520	74			
Plumber (Offline)	Between Groups	2.846	4	0.711	0.734	0.572
	Within Groups	67.874	70	0.970		
	Total	70.720	74			

Conclusion: From the above analysis it is observed that for online plumber service F (calculated) at d.f = (4, 70) at 95% level of confidence (3.399) is greater than F (tabulated) (2.5). So, null Hypotheses is rejected and it is concluded as backup support an independent factor in case of online household services for plumber. But, in case of offline plumbing service F (calculated) at d.f = (4, 70) at 95% level of confidence (0.734) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and it is concluded as backup support is not an independent factor in case of online and offline household services for plumbing.

Table 13: ANOVA

Backup Support		Sum of Squares	df	Mean Square	F	Sig.
Carpenter (Online)	Between Groups	8.960	4	2.240	3.498	0.012
	Within Groups	44.827	70	0.640		
	Total	53.787	74			
Carpenter (Offline)	Between Groups	2.688	4	0.672	0.743	0.566
	Within Groups	63.312	70	0.904		
	Total	66.000	74			

Conclusion: From the above analysis it is observed that for online plumber service F (calculated) at d.f = (4, 70) at 95% level of confidence (3.498) is greater than F (tabulated) (2.5). So, null Hypotheses is rejected and it is concluded as backup support an independent factor in case of online household services for carpenter. But, in case of offline carpentry service F (calculated) at d.f = (4, 70) at 95% level of confidence (0.743) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and it is concluded as backup support is not an independent factor in case of online and offline household services for carpentry.

Table 14: ANOVA

Backup Support		Sum of Squares	df	Mean Square	F	Sig.
Massage at Home (Online)	Between Groups	6.620	4	1.655	1.948	0.112
	Within Groups	59.460	70	0.849		
	Total	66.080	74			
Massage at Home (Offline)	Between Groups	2.980	4	0.745	0.771	0.548
	Within Groups	67.607	70	0.966		
	Total	70.587	74			

Conclusion: From the above analysis it is observed that for online massage at home service F (calculated) at d.f = (4, 70) at 95% level of confidence (1.948) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and for offline also massage at home service F (calculated) at d.f = (4, 70) at 95% level of confidence (0.400) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and it is concluded as backup support is not an independent factor in case of online and offline household services for massage at home.

Table 15: ANOVA

Backup Support		Sum of Squares	df	Mean Square	F	Sig.
Appliances & Electronic Repairing (Online)	Between Groups	2.024	4	0.506	0.537	0.709
	Within Groups	65.923	70	0.942		
	Total	67.947	74			
Appliances & Electronic Repairing (Offline)	Between Groups	0.787	4	0.197	0.168	0.954
	Within Groups	81.880	70	1.170		
	Total	82.667	74			

Conclusion: From the above analysis it is observed that for online appliance and electronic repairing service F (calculated) at d.f = (4, 70) at 95% level of confidence (0.537) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and for offline also appliance and electronic repairing service F (calculated) at d.f = (4, 70) at 95% level of confidence (0.168) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and it is concluded as backup support is not an independent factor in case of online and offline household services for appliance and electronic repairing.

Table 16: ANOVA

Backup Support		Sum of Squares	df	Mean Square	F	Sig.
Home Cleaning Service (Online)	Between Groups	5.796	4	1.449	2.023	0.101
	Within Groups	50.124	70	0.716		
	Total	55.124	74			
Home Cleaning Service (Offline)	Between Groups	1.965	4	0.491	0.606	0.660
	Within Groups	56.755	70	0.811		
	Total	58.720	74			

Conclusion: From the above analysis it is observed that for online home cleaning service F (calculated) at d.f = (4, 70) at 95% level of confidence (2.023) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and for offline also home cleaning service F (calculated) at d.f = (4, 70) at 95% level of confidence (0.606) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and it is concluded as backup support is not an independent factor in case of online and offline household services for home cleaning.

H₀₅: On call attendance does not influence the preference of household service consumers.

Table 17: Chi-Square Tests

	Value	df	Asymp. Sig. (2 sided)
Pearson Chi-Square	6.901 ^a	3	0.075
Likelihood Ratio	7.125	3	0.068
No. of Valid Cases	75		
a. 2 cells (25%) have expected count less than 5. The minimum expected count is 3.27.			

Table 18: Symmetric Measures

		Value	Approx. Sig
Nominal by Nominal	Phi	0.303	0.075
	Cramer's V	0.303	0.075
		75	
a. Not assuming the null Hypotheses			
b. Using the asymptotic standard error assuming the null Hypotheses			

Conclusion: From the above analysis it is observed that %2 (calculated) at d.f = 3 at 95% level of confidence (6.901) is greater than %2 (tabulated) (0.35). So, null Hypotheses is rejected and it is concluded as on call attendance influences the preferences among online or offline household services.

H₀₆: Maintaining ethics does not influence the perception of online and offline services (a. electrician, b. plumber, c. carpenter, d massage at Home, e. appliance and electronic repairing, f. home cleaning service).

Table 19: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Electrician (Online)	Between Groups	2.549	4	0.637	0.792	0.534
	Within Groups	56.331	70	0.805		
	Total	58.880	74			
Electrician (Offline)	Between Groups	6.104	4	1.526	1.605	0.183
	Within Groups	66.562	70	0.951		
	Total	72.667	74			

Conclusion: From the above analysis it is observed that for online electrician service F (calculated) at d.f = (4, 70) at 95% level of confidence (0.792) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and for offline also electrician service F (calculated) at d.f = (4, 70) at 95% level of confidence (1.605) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and it is concluded as Maintaining ethics does not influence the perception of online and offline services in case of electrician.

Table 19: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Plumber (Online)	Between Groups	5.806	4	1.451	1.965	0.109
	Within Groups	51.714	70	0.739		
	Total	57.520	74			
Plumber (Offline)	Between Groups	3.568	4	0.892	0.930	0.452
	Within Groups	67.152	70	0.959		
	Total	70.720	74			

Conclusion: From the above analysis it is observed that for online plumbing service F (calculated) at d.f = (4, 70) at 95% level of confidence (1.965) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and for offline also plumbing service F (calculated) at d.f = (4, 70) at 95% level of confidence (0.930) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and it is concluded as Maintaining ethics does not influence the perception of online and offline services in case of plumbing.

Table 20: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Carpenter (Online)	Between Groups	2.472	4	0.618	0.843	0.503
	Within Groups	51.314	70	0.733		
	Total	53.787	74			
Carpenter (Offline)	Between Groups	3.777	4	0.944	1.062	0.382
	Within Groups	62.223	70	0.889		
	Total	66.000	74			

Conclusion: From the above analysis it is observed that for online carpentry service F (calculated) at d.f = (4, 70) at 95% level of confidence (0.843) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and for offline also plumbing service F (calculated) at d.f = (4, 70) at 95% level of confidence (1.062) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and it is concluded as Maintaining ethics does not influence the perception of online and offline services in case of carpentry.

Table 21: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Massage at Home (Online)	Between Groups	5.183	4	1.296	1.489	0.215
	Within Groups	60.897	70	0.870		
	Total	66.080	74			
Massage at Home (Offline)	Between Groups	5.408	4	1.352	1.452	0.226
	Within Groups	65.179	70	0.931		
	Total	70.587	74			

Conclusion: From the above analysis it is observed that for online massage at home service F (calculated) at d.f = (4, 70) at 95% level of confidence (1.489) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and for offline also plumbing service F (calculated) at d.f = (4, 70) at 95% level of confidence (1.452) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and it is concluded as Maintaining ethics does not influence the perception of online and offline services in case of massage at home.

Table 22: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Appliance & Electronic Repairing (Online)	Between Groups	6.226	4	1.557	0.677	0.146
	Within Groups	61.720	70	0.882		
	Total	67.947	74			
Appliance & Electronic Repairing (Offline)	Between Groups	3.078	4	0.769	1.765	0.610
	Within Groups	79.589	70	1.137		
	Total	82.667	74			

Conclusion: From the above analysis it is observed that for online appliance and electronic repairing service F (calculated) at d.f = (4, 70) at 95% level of confidence (1.765) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and for offline also plumbing service F (calculated) at d.f = (4, 70) at 95% level of confidence (0.677) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and it is concluded as maintaining ethics does not influence the perception of online and offline services in case of appliance and electronic repairing.

Table 23: ANOVA

		Sum of Squares	df :	Mean Square	F	Sig.
Home Cleaning Service (Online)	Between Groups	8.106	4	2.026	0.770	0.025
	Within Groups	47.814	70	0.683		
	Total	55.920	74			
Home Cleaning Service (Offline)	Between Groups	2.474	4	0.619	2.967	0.549
	Within Groups	56.246	70	0.804		
	Total	58.720	74			

Conclusion: From the above analysis it is observed that for online home cleaning service F (calculated) at d.f = (4, 70) at 95% level of confidence (2.967) is greater than F (tabulated) (2.5). So, null Hypotheses is rejected and it is concluded as maintaining ethics influence the perception of online and offline services in case of home cleaning service. But, in case of offline home cleaning service F (calculated) at d.f = (4, 70) at 95% level of confidence (0.743) is less than F (tabulated) (2.5). So, null Hypotheses is accepted and it is concluded as maintaining ethics does not influence the perception of online and offline services in case of home cleaning.

Conclusion

From the analysis, it has been observed that for credence goods online is less preferable than offline as the result is not felt immediately and service quality does not determined. However in case of experienced goods online is better chance to justifying that in that case tangibility becomes an important factor. So it can be said SERVQUAL as a measuring scale is not always able to evaluate properly the relevant variables involved in such processes.

Limitations

1. Paucity of time and money was a deterrent in the study,
2. Since the study has been conducted in Kolkata, it may not reflect the true position present in the country.
3. Since the data collection is relatively small, deviations may be observed in case large data set.

Future Scope

Since SERVQUAL scale has been found to have its own limitations, it is expected that the same data may be able to explain the queries more accurately through SERVPERF scale.

References

1. Alford, B. L. and Sherrell, D. L.: 1995, The role of affect in consumer satisfaction judgment of credence-based services, *Journal of Business Research* 37, 71-84.
2. Gronroos, C. (1982). Strategic Management and Marketing in the Service Sector. Helsinki, Finland: Swedish School of Economics and Business Administration.
3. Gronroos, C. (1983). Strategic management and marketing in the service sector. Cambridge, MA: Marketing Science Institute.
4. Gronroos, C. (1988). Service Quality: The Six Criteria of Good Service Quality. *Review of Business*, St. John's University, No. 3.
5. Gronroos, C. (2000). Service Management and marketing. A Customer Relationship Management Approach. England, Wiley.
6. Gronroos, C., (1990). Service Management and Marketing. Managing the Moments of Truth in Service Competition. Massachusetts, Lexington Books.
7. Gronroos, C. Heinonen, F., Isoniemi, K. & Lindholm, M. (2000). The NetOffer model: a case example from the virtual marketspace. *Management Decision*, vol. 38 (4), 243-252.
8. Heinonen, K. (2006). Temporal and Spatial E-service Value. *International Journal of Service Industry Management*, vol. 17 (4), 380-400.
9. Hopker, O. & Hole, S. (2001). Small and medium-sized enterprises in the e-world - an application of quality standards. In. Ho, S.K & Donnelly, M. (Eds), Proceedings of the 6th International Conference on ISO 9000 and TQM.
10. Juran, J.M., Seder, L.A. & Bingham, R.S. (Eds) (1962). Quality control handbook, 2nd ed., New York, NY, McGraw-Hill.
11. Juran, J.M., Gryna, F.M. & Bingham, R.S. (Eds) (1974). Quality control handbook. New York, NY, McGraw-Hill.
12. Kano, N., Seraku, H., Takahashi, F. & Tsuji, S. (1984). Attractive quality and must be quality. *Quality*, vol. 14(2), 39-48.
13. KOTLER, P. & KELLER, K. 2011. *Marketing Management 14th Edition book*
14. Lee, G-G. & Lin, H-F. (2005). Customer Perceptions of E-Service Quality in On-Line Shopping, *International Journal of Retail & Distribution Management*, Vol. 33(2), 161-176.
15. Levitt, T. (1972). Product-line approach to service. *Harvard Business Review*, Vol 50(5), 4152.
16. NARESH K MALHOTRA & SATYABHUSAN DASH. *Marketing Research An Applied Orientation Revised Edition book*.

17. Parasuraman, A. and Grewal, D. (2000), "The impact of technology on the quality-value-loyalty chain: a research agenda", *Journal of the Academy of Marketing Science*, Vol. 28, No. 1, pp. 168-74.
18. Parasuraman, A., Zeithaml, V.A. & Berry, L.L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, vol. 49 (Fall), 41-50.
19. Parasuraman, A., Zeithaml V.A. & Berry, L.L. (1988). SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality, *Journal of Retailing*, vol. 64(1), 1240.
20. Parasuraman, A., Zeithaml, A.V. and Malhotra, A. (2005), "E-S-QUAL, a multiple-item scale for assessing electronic service quality", *Journal of Service Research*, Vol. 7 No. 3, pp. 213-233
21. Pfanner, E. (2007), "Consumers word is best advertisement, survey shows", available at: www.iht.com/articles/2007/09/30/business/ad01.php (accessed February 20, 2008).
22. Sara, L. (2000). The Electronic Commerce Market Impact. In Keyes, J. (Ed.), *Internet Management*, London, Auerbach.
23. Sebastianelli, R. & Tamimi, N. (2002). How product quality dimensions relate to defining quality", *International Journal of Quality & Reliability Management*, vol. 9(4), 442-453.
24. Surjadiaga, H., Ghosh, S. & Antony, J. (2003). Determining and assessing the determinants of e-service operations. *Managing Service Quality*, vol. 13 (1), 39-53.
25. Swaid, S.I. & Wigand, R.T. (2009). Measuring the quality of e-service: Scale development and initial validation, *Journal of Electronic Commerce Research*, vol. 10(1), 13-28.
26. Zeithaml, V. A., Parasuraman, A. and Malhotra, A. 2002. "Service Quality Delivery through Websites: A Critical Review of Extant Knowledge," *Journal of the Academy of Marketing Science* (30:4), pp. 362-375.

BBA/MARK/4

Factors Influencing Impulse Purchase while Shopping Online

Sohini Majumdar

Introduction

Due to the effect of globalization, Indian consumers are now exposed to the various multinational brands, their utility, values and advantages. There is a need to understand the consumer decision making process to meet their emerging demand and the marketers are thus trying to understand all the factors which a consumer takes into account for choosing a particular brand from all the alternatives available.

There are about 150 million internet users in India and due to the increase in mobile accessibility the Indian online shopping market as of now has reached a turnover of around Rs.1300 CR. And in this most of the purchases made are on impulse especially for Gen Z. The advancement in technology has increased the tendency of impulse purchasing amongst the consumer (Gen Z). An impulse purchase or impulse buying is an unplanned decision to buy a product or service, made just before a purchase. One who tends to make such purchases is referred to as an impulse purchaser or impulse buyer. It has been seen that emotions and feelings play a decisive role in purchasing, which is triggered by seeing the product or getting exposed to well-crafted promotional message.

Impulsive buying was redefined as "when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately. The impulse to buy is hedonically complex and may stimulate emotional conflict; also impulse buying is prone to occur with diminished regard for its consequences". (Rook, 1987). According to Stern (1962) there are 4 types of impulse buying a) Planned b) Pure c) Reminder d) Suggestion. With time the concept was further developed by Piron (1991), "Impulse buying is a purchase that is unplanned, the result of an exposure to stimulus, and decided on the spot. After the purchase the customer experiences emotional and /or cognitive reactions". Online impulse buying, to some extent is product specific and can be seen to dominate purchases of sensory products such as accessories, clothing, and jewelry (Kim, Ferrin and Raghav Rao 2008). An Impulse buying episode signifies a change in intention to buy the particular product before and after their exposure to the said stimuli which does not restrict to remind you about the product which is simply out of stock only but only creates an urge within to purchase the said product Madhavaram and Laverie (2004). The possibility to buy impulsively has been increased considerably with the convenience of online shopping (Burton 2002, Dittman, Long and Bond 2007, Koufaris, 2002, Moe and Fader, 2004, Rook and Fisher, 1995). The constraint of time and space has also been eliminated with the introduction of new mode of shopping i.e online shopping (Eroglu et al. 2001). The 24 hours availability with huge collection and content in each category, impulse buying is flourishing like never before. Each and every consumer is different thus the factor that influences them to purchase online is also different. This study will help us to investigate various reasons influencing the purchase and persuade the customer to buy the product immediately. As physical proximity is absent while shopping online so the need for browsing and information seeking as part of the consumer buying behavior leading up to a spontaneous purchase (Kim, 2008; Park and Kim, 2008)

Review of Literature

In this section we are reviewing the previous studies on this particular subject of online impulse purchase in order to find out the research gap between the theories and the practices.

Bhuvaneswari and Krisnan in International Journal of Management Research and Social Science, Vol 2 Issue 3 July (2015) have studied a review of literature on impulse buying behavior of consumer in Brick to Mortar and Click only stores. The paper describes that theories of impulse buying, consumer decision making model, in-store environment and internal-external stimuli are the factors that overall influence a shoppers impulse decision. Technological factors such as mobile app and personal computers with internet are responsible for the increment of impulse buying tendency. According to the study both offline and online platforms are responsible for the changes in the buying behavior of the consumers.

Deepti Wadera and Vrinda Sharma (2018) South Asian Journal of Management Volume 25 Issue 3, have studied on the impulsive buying behavior in online fashion apparel shopping: An investigation of the influence of the Internal and External factors among Indian Shoppers. This research has used SOR (Stimulus- Organism- Response) framework to study the impact of atmospheric variables like content, design, variety, navigation, price & promotion, on the browsing activities of the shopper and the impact on the urge to buy the product. Data was collected from 112 respondents from Indian Market of an age bracket of 18-45. Regression analysis has revealed that there is significant dependency between four of the atmospheric cues with respect to browsing activity namely content, variety, navigation and promotion. Other factors such as design (visual aesthetics) and price does not play any key role in influencing the impulse buying behavior of the online shoppers.

Badgaiyan and Verma (2014) have studied the effect of five internal factors (i)personality (ii) culture (iii) materialism (iv) shopping enjoyment tendency (v) impulsive buying tendency on the impulsive buying behavior of the consumers. The sample of 508 consumers was taken. The data was collected by using convenience sampling method from the different parts of India's Capital Region. SEM was used. The results showed that the materialism, shopping enjoyment tendency and impulsive buying tendency had positive relationship with impulsive buying behavior of the consumers

Dr Satinder Kumar and Mr Ashveer Kaur (2018) have studied the impact of a) Personal behavior, b) Situational factors, c) Ethical Issues, d) Promotion, e) Suggestive factors, on the online impulse buying by students. The factors have been placed on a 5-point Likert scale (1=strongly disagree, 2= disagree, 3= neutral, 4= agree, 5 = strongly agree) and were rated by the respondents. The questionnaires were distributed to 175 students. Among these 160 questionnaires were returned by the respondents and 152 questionnaires were used to conduct the study as some of the questionnaires were discarded because of incomplete information. Random sampling technique was used to collect the data. To check the positive correlation among the statements and to identify the adequate number of respondents Chronbach's Alpha and KMO techniques were used. After deducing the reliability of the statements the analysis of the data was done through factor analysis to extract the factors influencing the perception of the consumers towards online impulsive buying. As a means of data reduction exploratory factor analysis was conducted. All the mentioned factors have significant impact on online impulse buying.

Research Framework and Future Research

Online shopping is a pretty new phenomenon, especially in India, where online stores or online shopping websites are still trying hard to create a niche in this new dynamic market place. So understanding and evaluating what are the various factors that influence the impulse buying tendency of the Gen-Z customer most, has become very important. After the comprehensive study of the various literature and content available on the above mentioned subject I have derived some predictions for the future research endeavors. In this paper therefore would suggest a framework for understanding the impulse buying and the factors which helps in increasing the impulse buying.

After analyzing the content of various literature I can conceptualize that the factors which affects impulse buying most can be broadly categorized in two broad category as i) Personal factors (Personality, demographic profile, Socio-cultural background) and ii) External factors (Content, Variety, Reliability, Promotion, Navigation, Delivery Schedule).

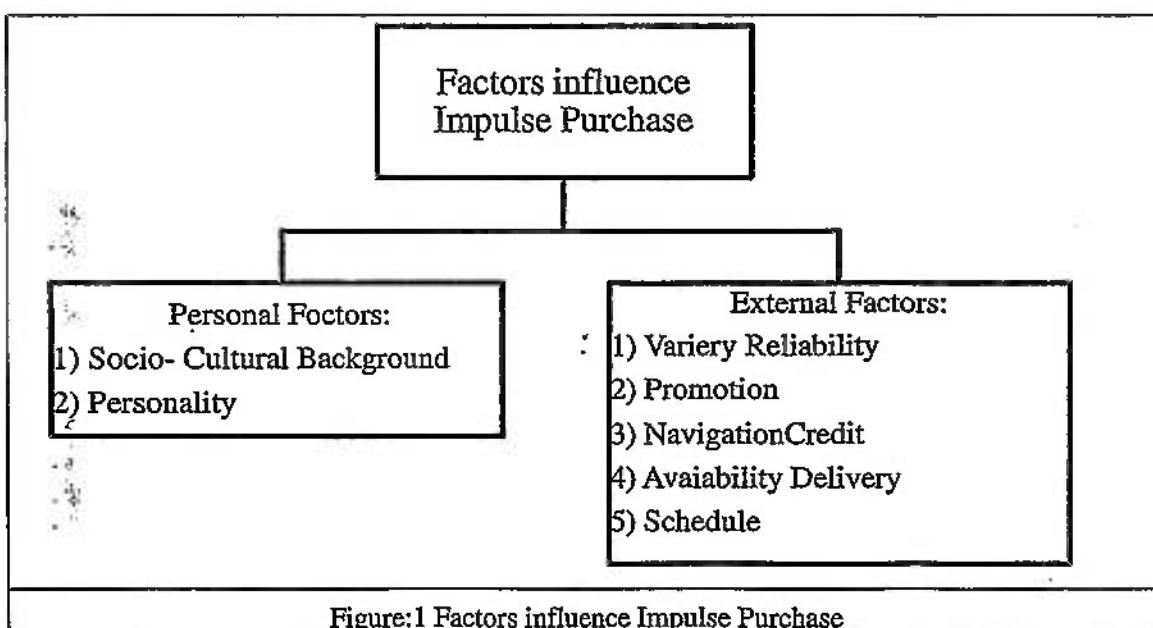


Figure:1 Factors influence Impulse Purchase

Based on the literature review can now produce a set of research proposition that could help in developing knowledge on this emerging pattern of consumer behavior. The future research can be done under the following lines:

- P1- Effect of various Personal factors on impulse buying
- P2 - Effect of various External factors on impulse buying
- P3- Degree of importance of all the factors and analyzing the most important ones.
- P4- Co-relation among the product kind and the factors influencing their impulse purchase.

With the technological advancement, the external influencing factors can easily be controlled but in order to implement it effectively the personal factors need to be analyzed in depth so that the right target consumer base can be reached effectively and the deals can be communicated in an efficient manner within a stipulated time frame which is very less for online browsing consumer.

Conclusion

Basically it is an amalgamation of analyzing the personal traits of the target consumer and developing the online interface(External factors) in such a way that can instigate their internal stimuli to an extent that encourages them to purchase the product immediately. The proper combination and synergistic effect of various factors could lead to more sales turnover hence benefitting both the marketer and the consumer. Based upon the changing trend of the consumer behavior in developing country like India I can infer that online impulse buying may turn into a growing area of research for many marketers to increase their turnover by manifold as now the purchase is not only limited to apparel, accessories or gadgets but also for daily household goods as well.

References :

1. Badgaiyan, and Verma. "Effect of five internal factors on impulsive buying behaviour of consumers." *Journal of Retailing and Consumer Services* , 2014: 6.
 2. Bhuvaneswari, and Krisnan. "Impulse buying behaviour of consumer in Brick to Mortar and click stores." *International Journal of Management Research and Social Science*, 2015: 5.
 3. Kumar, Satinder, and Ashveer Kaur. "Impact of various factors on online impulse buying by students." *International Journal of Management Studies*, 2018: 6.
 4. Madhavaram, Sreedhar Rao, and Debra A. Laverie. "Exploring impulse purchasing on the internet." *ACR North American Advances* (2004).
 5. Piron, Francis. "Defining impulse purchasing." *ACR North American Advances* (1991).
 6. Rook, Dennis W. "The buying impulse." *Journal of consumer research* 14, no. 2 (1987): 189-199.
 7. Wadera, Deepti, and Vrinda Sharma. "Impulsive buying behaviour in online fashion apparel shopping." *South Asian Journal Of management*, 2018: 7.
- :
- :
- :

BBA/MARK/5

An Investigation of Indian Restaurant Industry

Ayushi Bhuwalika¹, Aayushi Mittal² and Oindrila Chakraborty³

^{1&2} Student & ³Assistant Professor, Dept. of Management, J.D. Birla Institute

Introduction

Eating is one of life's pleasure and pride - so is cooking and serving good food to others. A restaurant is a commercial outfit which specializes in the preparation of quality food and to serve them to satisfy the customer's demands. Their motto is "Customers are our assets and satisfied customers are our source of wealth". Restaurants do have state of the art kitchens in their premises, where food items are prepared, following a fixed menu to serve the customers. Most restaurants are also equipped with infrastructure facilities, table settings, and dining halls of various sizes to cater to needs of small gatherings to grandiose banquets to suit customer demands and above all, trained personnel to provide a satisfactory service.

A restaurant is an eating place where people are served food, drinks and desserts for their money. The food is served normally within a building even though presently, one can be given packed food to be eaten away. Food in a restaurant is prepared by chefs. Sometimes, restaurants specialize in the kind of food they offer.

The term restaurant (from the French word *trestaurer*, to restore) first appeared in the 16th century, meaning "a food which restores", and referred specifically to a rich, highly flavored soup. The modern sense of the word was born around 1765 when a Parisian soup-seller named Boulanger opened his establishment. Whilst inns and taverns were known from antiquity, these were establishments aimed at travelers, and in general locals would rarely eat there. The modern formal style of dining, where customers are given a plate with the food already arranged on it, is known as *service à la russe*, as it is said to have been introduced to France by the Russian Prince Kurakin in the 1810s, from where it spread rapidly to England and beyond.

Table 1: Market Share of Different Types of Restaurants

Segment	Market Size (Rs. Cr)	Expected Growth Rate (in %)
Quick Service Restaurants	4675	21.5
Casual Dining	2365	11.9
Cafes	1265	12.3
Fine Dining	1045	12.0
Pubs, Bars, Clubs and Lounges	963	11.0

Definition of Restaurant

A restaurant is a retail establishment that serves prepared food to customers. Service is generally for eating on premises, though the term has been used to include take-out establishments and food delivery services. The term covers many types of venues and a diversity of styles of cuisine and service.

Restaurants are sometimes a feature of a larger complex, typically a hotel, where the dining amenities are provided for the convenience of the residents and, of course, for the hotel with a singular objective to maximize their potential revenue. Such restaurants are often also open to non-residents. Restaurants range from unpretentious lunching or dining places catering to

people working nearby, with simple food and fixed menu served in simple settings at low prices, to expensive establishments serving expensive special food and wines in a formal setting. In the former case, customers usually wear casual clothing. In the latter case, depending on culture and local traditions, customers might wear semi-casual, semi-formal, or even in rare cases formal wear. Typically, customers sit at tables, their orders are taken by a waiter, who brings the food when it is ready, and the customers pay the bill before leaving. In class or porche restaurants there will be a host or hostess or even a *maitre d'hotel* to welcome customers and to seat them. Other staffs waiting on customers include busboys and slimmers.

Classification of Restaurants

Restaurants can be classified by whether they provide places to sit, whether they are served by wait-staff and the quality of the service, the formal atmosphere, and the price range. Restaurants are generally classified into three groups.

- Quick Service - Also known as fast food restaurants. They offer limited menus that are prepared quickly. They usually have drive-thru windows and take-out. They may also be self-service outfits.
- Mid scale - They offer full meals at a medium price that customers perceive as "good value." They can be of full service, buffets or limited service with customers ordering at the counter and having their food brought to them or self service.
- Upscale - Offer high quality cuisine at a high end price. They offer full service and have a high quality of ambience.

Types of Restaurants

Restaurants often specialize in certain types of food or present a certain unifying, and often entertaining, theme. For example, there are seafood restaurants, vegetarian restaurants or ethnic restaurants. Generally speaking, restaurants selling "local" food are simply called restaurants, while restaurants selling food of foreign origin are called accordingly, for example, a Chinese restaurant and a French restaurant.

Depending on local customs and the policy of the establishment, restaurants may or may not serve alcoholic beverages. Restaurants are often prohibited from selling alcohol without a meal by alcohol sale laws; such sale is considered to be activity for bars, which are meant to have more severe restrictions. Some restaurants are licensed to serve alcohol ('fully licensed'), and / or permit customers to 'bring your own' alcohol.

Cafeterias

A cafeteria is a restaurant serving mostly cooked ready to food arranged behind a food -serving counter. There is little or no table service. Typically, a patron takes a tray and pushes it along a track in front of the counter. Depending on the establishment, servings may be ordered from attendants, selected as ready-made portions already on plates, or self-serve of food of their own choice. In some establishments, a few items such as steaks may be ordered specially prepared rare, medium and well done from the attendants. The patron waits for those items to be prepared or is given a number and they are brought to the table. Beverages may be filled from self-service dispensers or ordered from the attendants. At the end of the line a cashier rings up the purchases. At some self-service cafeterias, purchases are priced by weight, rather than by individual item.

The trays filled with selected items of food are taken to a table to eat. Institutional cafeterias may have common tables, but upscale cafeterias provide individual tables as in sit-down

restaurants. Upscale cafeterias have traditional cutlery and crockery, and some have servers to carry the trays from the line to the patrons' tables, and/or bus the empty trays and used dishes.

Cafeterias have a wider variety of prepared foods. For example, it may have a variety of roasts (beef, ham, turkey) ready for carving by a server, as well as other cooked entrees, rather than simply an offering of hamburgers or fried chicken.

Casual Restaurants

A casual dining restaurant is a restaurant that serves moderately-priced food in a casual atmosphere. Except for buffet-style restaurants, casual dining restaurants typically provide table service. Casual dining comprises of a market segment between fast food establishments and fine dining restaurants.

Fast Casual-Dining Restaurants

A fast casual restaurant is similar to a fast-food restaurant in that it does not offer full table service, but promises a somewhat higher quality of food and atmosphere. Average prices charged are higher than fast-food prices and non-disposable plates and cutlery are usually offered. This category is a growing concept that fills the space between fast food and casual dining. Counter service accompanied by handmade food (often visible via an open kitchen) is typical. Alcohol may be served. Dishes like steak, which require experience on the part of the cook to get it right, may be offered. The menu is usually limited to an extended over-counter display, and options in the way the food is prepared are emphasized. Many fast casual-dining restaurants are marketed as health-conscious: healthful items may have a larger number of items than normal portion of the menu and high-quality ingredients such as free-range chicken and freshly made salsas may be advertised. Overall, the quality of the food is presented as a much higher class than conventional factory-made fast food. An obvious ethnic theme may or may not be present in the menu.

Fine-Dining Restaurants

Fine-dining restaurants, also referred to as white tablecloth restaurants, are typically higher end and fancier restaurants. As opposed to casual eateries, cafes or family-style restaurants, fine dining caters to an upscale clientele and provides the highest quality of food. A fine dining restaurant has a formal atmosphere, is almost always a sit down restaurant, and has a fancier menu than most restaurants. Fine dining restaurants offer wine lists, and sometimes sommeliers, to help you with your food and wine pairing. They also have dress codes in most cases.

Other Restaurants

Most of these establishments can be considered subtypes of fast casual-dining restaurants or casual-dining restaurants.

Cafe

Cafes and coffee shops are informal restaurants offering a range of hot meals and made-to-order sandwiches. Cafes offer table service. Many cafes are open for breakfast and serve full hot breakfasts. In some areas, cafes offer outdoor seating.

Coffeehouse

Coffeehouses are casual restaurants without table service that emphasize coffee and other beverages; typically a limited selection of cold foods such as pastries and perhaps sandwiches are offered as well. Their distinguishing feature is that they allow patrons to relax and socialize on their premises for long periods of time without pressure to leave promptly after eating.

Pub

A pub (short for public house) is a bar that serves simple food fare. Traditionally, pubs were primarily drinking establishments with food in a decidedly secondary position, whereas the modern pub business relies on food as well, to the point where gastropubs are known for their high-quality pub food. A typical pub has a large selection of beers and ales on tap.

Bistros and Brasserie

A brasserie is a cafe doubling as a restaurant and serving single dishes and other meals in a relaxed setting. A bistro is a familiar name for a cafe serving moderately priced simple meals in an unpretentious setting. Especially in Paris, bistros have become increasingly popular with tourists. When used in English, the term bistro usually indicates either a fast casual-dining restaurant with a European-influenced menu or a cafe with a larger menu of food.

Family Style

"Family style restaurants" are restaurants that have a fixed menu and fixed price, usually with diners seated at a communal table such as on bench seats. More common in the 19th and early 20th century, they can still be found in rural communities, or as theme restaurants, or in vacation lodges. There is no menu to choose from; rather food is brought out in courses, usually with communal serving dishes, like at a family meal. Typical examples can include crab houses, German-style beer halls, BBQ restaurants, hunting lodges, etc. Some normal restaurants will mix elements of family style, such as a table salad or bread bowl that is included as part of the meal.

Delicatessens Restaurant

Restaurants offering foods intended for immediate consumption. The main product line is normally luncheon meats and cheeses. They may offer sandwiches, soups, and salads as well. Most foods are precooked prior to delivery. Preparation of food products is generally simple and only involves one or two steps.

Ethnic Restaurants

They range from quick-service to upscale. Their menus usually include ethnic dishes and / or authentic ethnic foods. Specialize in a particular multicultural cuisine not specifically accommodated by any other listed categories. Example: Asian Cuisine, Chinese cuisine, Indian Cuisine, American Cuisine etc.

Destination Restaurants

A destination restaurant is one that has a strong enough appeal to draw customers from beyond its community. Example: Michelin Guide 3-star restaurant in Europe, which according to the restaurant guides is "worthy of a journey".

Problem Statement

Not having an USP, as a major problem in restaurant industry is not having an original idea or use which create a positive emotional board between customers and restaurant along with great food and service. Also menu was one of the most common mistakes that a restaurant owner can

move is having an over reaching menu which indeed leads to more pressure on the chefs with numerous different dishes cooking at the same time , increasing the chances that something would go wrong . Another problem faced by restaurant industry is lack of customer's footfalls due to mismanaged ambience.

Objectives of the Study

- To find out consumer inclination towards restaurants on the basis of price range, ambience, hospitality and cuisine diversity.
- To know about the relationship between age and frequency of visiting a restaurant of consumers.
- To find out food ordering preferences.
- To find out preferred method of ordering food. Lastly it aimed at helping emerging restaurants to find a USP.

Review of Literature

Andaleeb And Conway's (2006) Study Showed That Customer Satisfaction Is Significantly Affected By The Responsiveness Of The Employees, Price And Food Quality.

According to Kumar, Kee And Manshor (2009) high Level Of Services Quality Leads To High Customer Satisfaction And Thereby Increases Customer Loyalty. For Any Marketing Activity, Customer Satisfaction Is Major Output.

Oliver (1980) & Naeem & Safi(2009) stated that in Restaurant, Especially where there is a mix of product and service, restaurants are likely to have impact on service quality more than on product quality. Hence, service quality is defined as customers perception and how well a service meets those expectation.

According To Wu And Liang (2009) Employees Of Restaurants Affect Customer Satisfaction. There Search Of Liu And Jang (2009) Indicated That Food Quality (Taste, Food Safety, Menu Variety, Food Presentation), Service Reliability, Environmental Cleanliness, Interior Design, And Neat And Well-Dressed Employees Significantly Influenced Customer Satisfaction.

Methodology

Research Approach:

The main portion of the study was survey based through a structured questionnaire and the survey was conducted for a week at Kolkata And Its Surrounding Areas And The Respondents Were Commoners, Who Are Visitors In A Restaurant On A Regular Trend And Have A Track For It. The Detailed Composition of The Respondents In Given In The Latter Part Of Methodology.

Research Design:

The Project Is Divided Into Two Phases. The First Phase Is Explorative In Nature, Where Respondents Were Interviewed About The Important Factors For Their Choosing A Particular Restaurant. Since Exploratory Study Aims At A Quantitative Part Of Researchers To Provide Summation, Insights And Knowledge Of Information, This Was Targeted As The Foundation Of Questionnaire Structuring For The Latter Part Of The Research. The Next Phase - Descriptive In Name Was Conducted Through A Structure Questionnaire, Based On The Factors Identified In Phase 1.

Sample Frame:

The sample frame used for the study was the people of Kolkata and surroundings who prefer restaurant on a sequential basis and have some opinion about it.

Sample size:

The sample size for the study in total was 89 respondents finally.

Sample unit:

The sample unit selected for the study was the people of age between 18 and 46 who regularly go to restaurant.

Research Instruments:

There is basically one kind of instrument used, the questionnaire was developed to identify the factors with the utmost importance for restaurant industry, consumption pattern and preferences for restaurants.

Sampling technique:

The sampling technique followed for collection of responses was in the form of google forms which were generated via social media applications (WhatsApp) to a random group of people in a restricted region of Kolkata.

Sampling composition

The sample has more female than male respondents, while the maximum respondents are in the age group of 18 - 25.

Status of restaurant in Indian Industry:

The Indian restaurant industry is worth Rs.75,000 crores. It has an annual growth rate of 7%. It is highly fragmented with 1.5 million eating outlets, of which more than 3,000 outlets form the organized segment. However, the organized segment is rapidly growing at an annual rate of 16%.

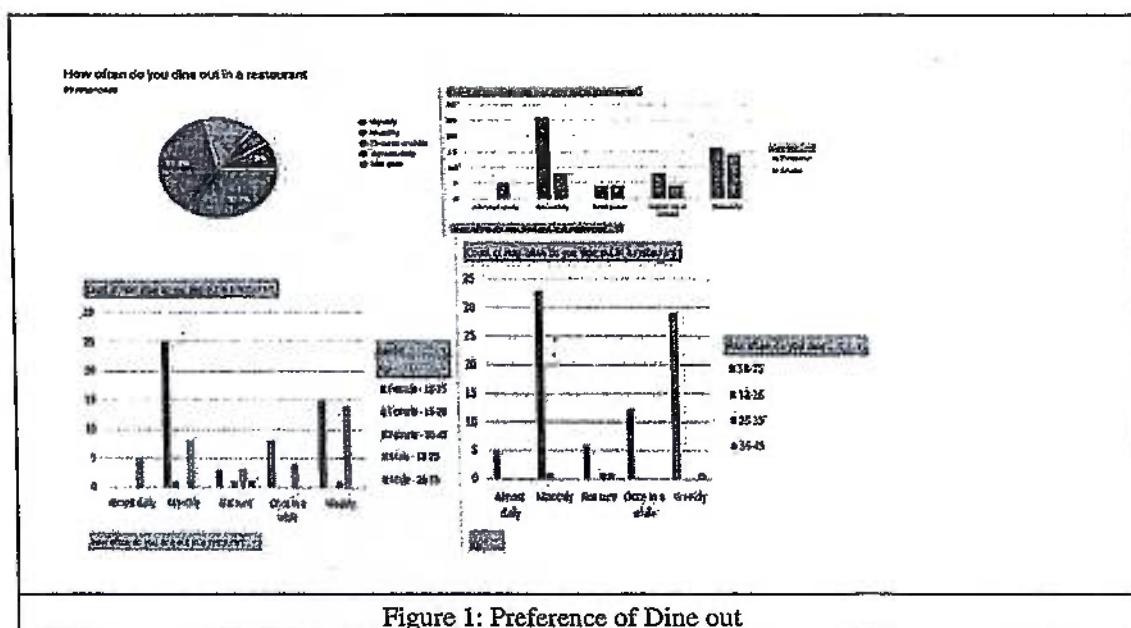
Results

Figure 1: Preference of Dine out

Interpretation: According to the survey, most of the people dine out on monthly basis and least of the people opt dine out daily. On the basis of gender, most of the women prefer dining out monthly whereas men prefer to dine out weekly. Age wise, young people falling under the age group 18-25 have tendency to dine either monthly or weekly. On clubbing the data, we see that the female population of the country under the age group 18-25 prefers monthly dine out and the male population under the age group prefer weekly dine out.

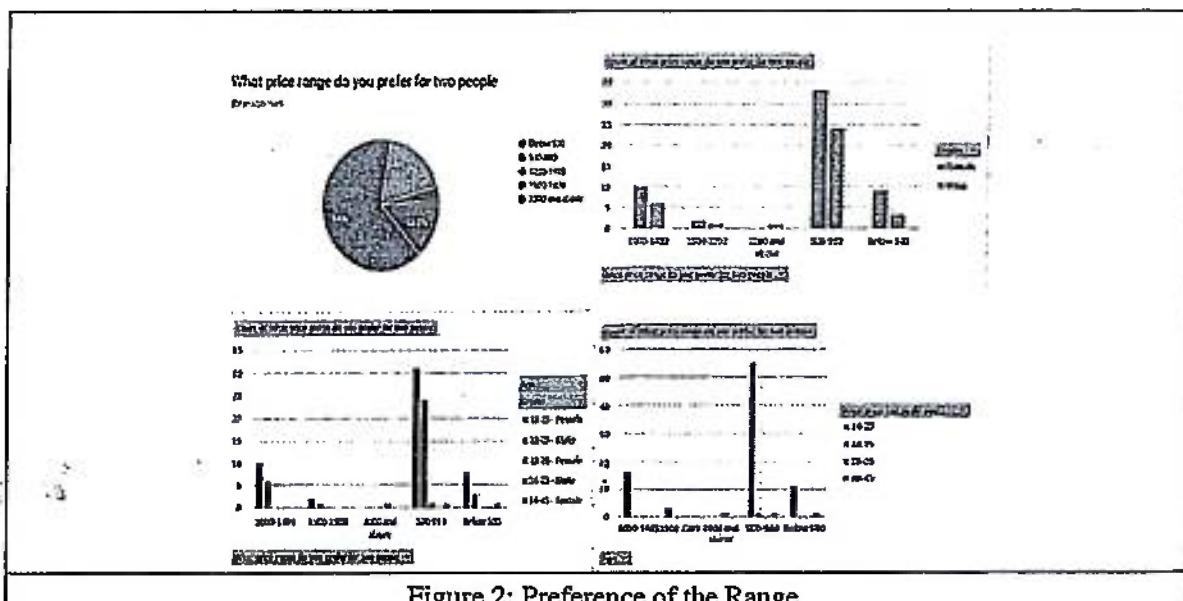


Figure 2: Preference of the Range

Interpretation: According to survey, maximum number of people prefer the price range between 500-999 and minimum number of people prefer the price range of 2000 and above. Gender wise response shows both male and female respondents are likely to prefer range of price 500-999. Likewise, age wise data and combined data show 500-999 as the most preferred price range.

Maximum respondents preferred having a separate shisha zone. Both male and female from the respondents preferred separate shisha zone. Again, on explaining age wise data and combined data, a separate shisha zone is preferred by youngest age group of both male and female.

Interpretation: Through study it can be inferred that amongst several factors, food quality is one which is highly stressed on in terms of preference of choosing a restaurant. It is also seen that value added deals has least contribution in making a restaurant preferable in terms of important services.

DO YOU PREFER RESTAURANTS WITH SEPARATE SHISHA ZONES?

Do you prefer restaurants with separate shisha zones?
89 responses

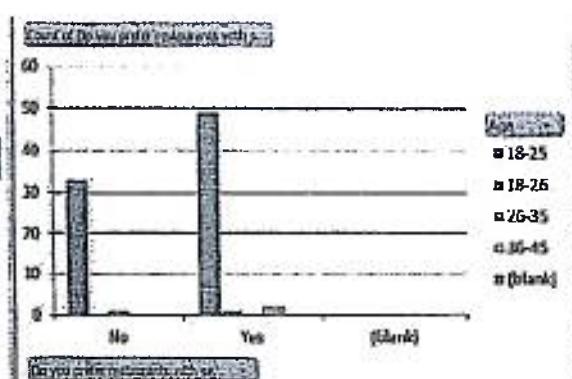
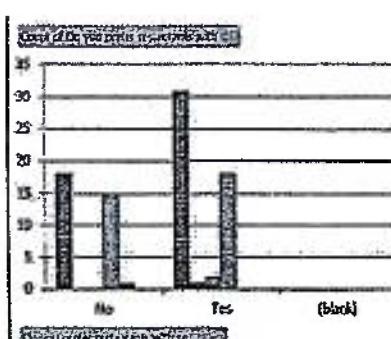
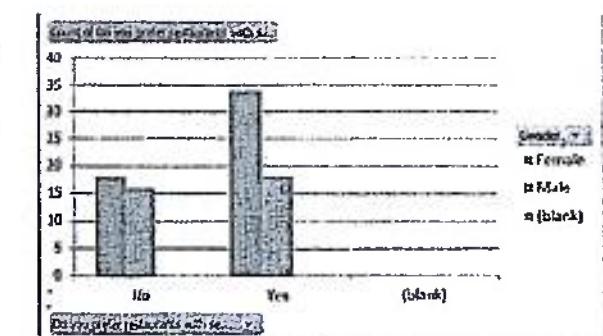


Figure 3: Preference of separate Shisha Zone

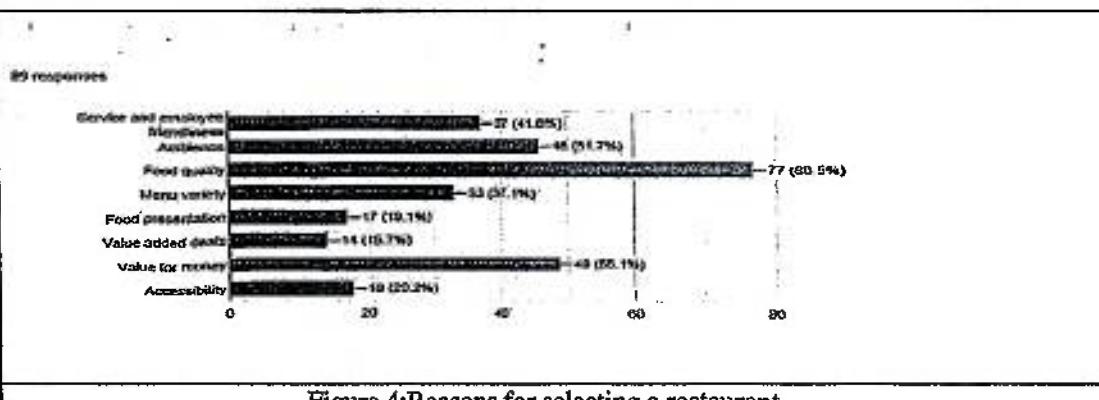


Figure 4: Reasons for selecting a restaurant

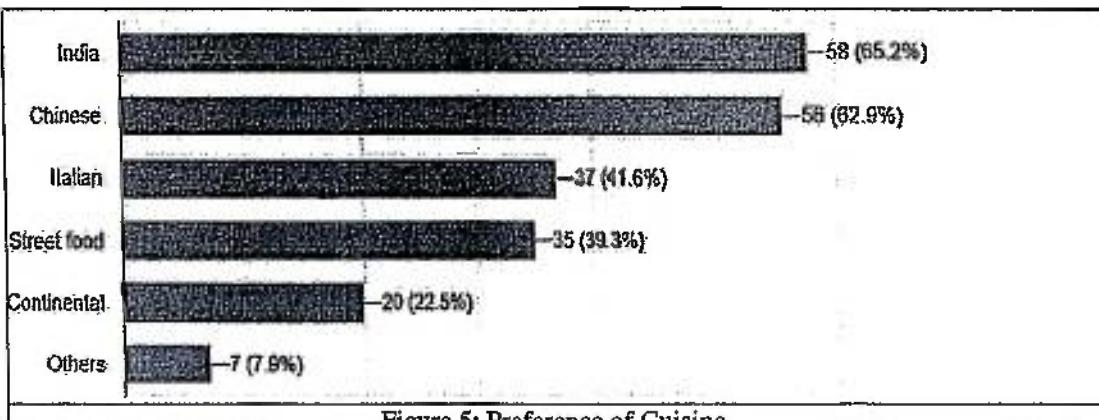


Figure 5: Preference of Cuisine

Interpretation: It is crystal clear from the research conducted that people's preference are more inclined towards Indian and Chinese cuisine and Continental cuisine is not that desirable as compared to various other cuisine.

Limitation

The study consisted of mostly students, middle aged individuals (18 - 46 age groups) as respondents and hence did not cover entire representation of the population. The data set also had cost representation of 36 - 46 age groups. This study period was only for a week while it should have been extended much further.

Scope of further Research

The study is only restricted in the field of demographical segmentation, which it could be further, extended in the field of psychographic as well as geographic segments to get a holistic view of the consumption pattern.

Significance of the Study

This study may help people running fast food restaurants improve their customer service and make it better. For restaurant managers, this study will help them improve the training of the present and future employees. They might get some ideas regarding on how to make the employees more motivated to serve people properly. For crews and servers (employee), this study will help them improve their service and satisfy customers even more. This will give them motivation so their company will have and maintain more quality customers. For customers, this study will help them know the proper service they deserve. High expectations are not bad if many Fast food restaurants can reach or even exceed them. Lastly for future researchers, this study will help as a reference for future similar studies

References

1. Andaleeb, S. S. & Conway C. (2006). Customer satisfaction in the restaurant industry: an examination of the transaction-specific model. *Journal of Services Marketing*, 20 (1), 3-11.
2. Kumar,M., Kee, F.T.,& Manshor, A.T Determining the relative importance of critical factors in delivering service quality of banks : An application of domainance analysis in SERVQUAL model, *Managing service quality*, 2009; 19 (2): 211-228.
3. Naeem, H., & Saif, I. (2009). Service Quality and Its Impact on Customer Satisfaction: An Empirical Evidence from the Pakistani Banking Sector, *The International Business and Economics Research Journal*, 8 (12), 99.
4. Oliver RL, 1980, A cognitive model of antecedents and consequences of satisfaction decisions, *Journal of marketing Research*, Volume 27, P. 460-469.
5. Wu, C. H. & Liang, R. (2009). Effect of experiential value on customer satisfaction with service encounters in luxury-hotels restaurants. *International Journal of Hospitality Management*, 28, 586-593.

BBA/MARK/6

A Study of Digital Food Delivery Apps and Consumers' Perception towards them

Nikita Sadavartia

¹ Student, Dept. of Management, J.D. Birla Institute**Introduction**

Indian Food Services, (Restaurants and Food Delivery) is a 50-billion-dollar industry as compared to US Food Services Industry which is about 600-billion-dollar industry. Macro trends like nuclear families, more women joining the workforce, and higher disposable incomes with digital India coming in are going to make food services grow at very high rate. Food delivery is going to grow exponentially with easy access to hygienic and affordable food with huge choices. With Zomato and Swiggy becoming unicorn successes and online food delivery orders crossing 1 million in daily deliveries, it is undeniable that the Indian food tech and service industry has been hot lately. Food is a necessity and a passion for many, and choices of both eating out and delivery have exploded in the last few years. Zomato and Swiggy are both doing around 0.5 million daily food deliveries each in India, where as the online food delivery market was almost non-existent around five years ago. Even in cities like Ludhiana and Jaipur, where online food delivery started just a few months ago the market has exploded to more than 10000 to 20000 deliveries daily.

What are DFAs?

They are applications which can be downloaded on your smart phone, be it android or IOS. The following are the reasons for these DFAs being so popular: -

- There is a popular display of the menus of the respective of restaurants giving the customers an opportunity to select from a wide range and variety of food options.
- These apps confirm the delivery of food to the customers' doorstep with speed and are mostly on time. They also offer real time in app tracking of the delivery.
- Mostly there is no limit on the number of times we can order or the quantity of food ordered with terms and conditions applied for the respective app.
- These DFAs also provide the customers with a variety of payment options like cash on delivery, mobile wallets, debit/ credit cards or net banking.
- DFAs generally have a customer helpline service where they adhere to their customers' complains and queries. The customers are given the option cancelling food orders in case they decide to change their minds with a small charge for doing so.

We study the four of the most popular DFAs: -

Zomato is the one of the most popular DFA worldwide. It was founded under the name "Foodiebay" in 2008 by Deepinder Goyal and Pankaj Chaddhah. It now provides services in over 25 countries including USA, India and Australia and is available both in IOS and Android.

Swiggy is the top rated DFA in India. Founded by Sriharsha Majety, Rahul Jainini and Nandan Reddy in 2014 in Bangalore. It is known for its convenience, minimum order value and delivery of food to customers within 40 minutes. Swiggy is the first DFA in India to start with

home-grown food delivery start up called Swiggy Daily⁽²⁾ in Gurugram. It includes meals from a mix of organised vendors like Homely, Lunchly, Fig, Idabba, Caloriesmart etc.

Uber Eats and Uber are two completely different apps. Uber Eats is an American DFA, launched in 2014 in San Francisco, California. It operates in 1000+ major cities of various parts of the world and is available in both Android and IOS systems. It operates in 30 cities in India and is soon to be a tough competitor to big DFAs like Swiggy and Zomato.

Food Panda is a German based DFA headquartered in Berlin. It was founded in 2012 and operates in more than 40 countries of the world. In a few places in the world they are known as Heelofood. It is available in both Android and IOS systems and operates in 100 cities across India.

India has approximately 400 FDAs. Major reasons for these FDAs to be popular are, fast online ordering of food with not having to wait on speaker phone. Less possibility of misinterpretation of words as the customer directly clicks on the menu for ordering food. A lot of discounts are made available to the customers along with them collecting loyalty reward points which can be redeemed later.

Food tech is the hot talk of the town. It is a vast market and DFAs are just a part of it. Food tech is the application of food science to selection, preservation, processing, packaging, distribution and use of safe food. New players are joining this segment with innovative business models such as delivering food to health conscious people, or home food delivery etc. There are a few food tech start-ups in India like Swiggy Daily (founded in 2019), Zomato is soon going to come up with something very similar, Curefit offers healthy food delivery platforms under Eatfit (founded in 2016), McDabbawala (Mast Kalandar Dabbawala) offers healthy fresh meals and dabbas in Pune, Delhi, Hyderabad and Chennai, here the menu is updated daily.

Review of Literature

Jyotishman Das, in his paper "Consumer perception towards online food ordering and delivery services: An empirical study" (2017 to 2019) has made an effort to study the data collected from 153 respondents on their experience of using DFAs based in Pune. It analyses the factors that influence their perceptions, needs, positioning of various attributes of different DFAs and their overall satisfaction from using such DFAs. According to his research Zomato is the most preferred DFA followed by Swiggy. Also, doorstep delivery followed by ease and convenience are the major factors contributing to the use of DFAs. Bad past experience along with influence from friends and family can be factors discouraging use of DFAs.

Neha Parashar and Sakina Ghadiyali in their paper "A Study on consumers' attitude and perception towards digital food app services" (June 2017) have studied the shift in consumers' behaviour with the introduction of technology and the different facilities offered by these DFAs which make consumers happy and satisfied. The paper also finds out the most popular DFA among consumers and also the role of technology in the restaurant business. The paper concludes that facilities play a major role in making a purchase from these DFAs, social media is the most desired tool for making these DFAs popular and cash on delivery is the most preferred payment option among customers.

Vincent Cheow Sern Yeo, See- Kwong Goh, Sajad Rezaei, in their paper "Consumer Experiences, attitude and behavioural intention toward online food delivery (OFD) services"

(December 2016) have proposed to examine the structural relationship between convenience motivation, post-usage usefulness, price saving orientation, time saving orientation, prior online purchase experience, consumer attitude and behavioural intention towards OFD services. The paper concluded that perceived usefulness and ease of use will determine attitudes towards a technology. Also a better perception of post-usage usefulness and convenience motivation will improve a consumers' attitude towards OFD services significantly.

Dr. Sonali Jadhav in her paper "Food Ordering Mobile Applications - A new wave in Food Entrepreneurship" (April 2018) has studied the concept of mobile food delivery applications and also the benefits and challenges faced by the food delivery apps for the restaurants and the customers. This paper concludes that the FDAs market in India is growing by leaps and bounds. Due to increasing urbanization, rapid use of smart phones and increasing working women, India will be dominating the delivery market of the world.

In their paper "Automated food ordering system with real-time customer feedback", Shweta Shashikant Tanpure, Priyanka R. Shidankar and Madhura M. Joshi (February 2013), have aimed at studying how the automated food ordering system in the restaurant improve the dining experience of the customers. The paper concluded that this system being convenient, effective, and easy improved not only the customer satisfaction but also the quality of food and the performance of the restaurants' staff.

In their paper, "Consumer Perception of Online Food Delivery Apps in Kochi" by Arji Mariam Jacob, N. V. Shreedharan and Sreena.K (May 2019), have focused on analysing the perception of consumers towards online food delivering services. The paper concludes that online food deliveries are most common among the youth. The ease and convenience of using these apps are a major factor for their popularity. As these apps require less human interaction they are also affecting the traditional ways of dining. Also, this study discloses that youngsters are more inclined to FDAs as compared to elders.

In the paper "A study on Impact of Online Food Delivery app on Restaurant Business special reference to Zomato and Swiggy" Dr. Mitali Gupta (March 2019) has studied the impact of food delivery startups like Zomato and Swiggy on restaurants business and also the strategies used by these apps. The paper concludes integration of web with food ordering system is a helping call for different eateries. Also fast urbanization along with increasing number of cell phones have turned FDAs into a major hit across India.

Objectives of the Study

There are three objectives of the following research project: -

- To acknowledge the most popular digital food delivery app.
- To study factors affecting the consumers' perception towards these digital food delivery apps.
- To understand consumers' attitude towards daily healthy food option offered by these digital apps.

Scope of the Study

The study is basically conducted to understand the perceptions of the consumers regarding FDAs, and also how these perceptions vary under different circumstances. The data collected under the domain of this study is mainly a sample survey comprising of 427 residents of the city, Kolkata. This study will help the service providers to work on different services and

facilities provided by them. It will also help them to understand how consumers perceive these DFAs and the options they prefer the most.

Methodology

The research is based on collection of primary data. A structured questionnaire was designed. It was designed to collect information about the attitude and perception of customers using food delivery apps. The survey was mostly conducted in Kolkata. The population was small and homogeneous. Descriptive analysis is used to study the qualitative data set.

Sample Size

A sample size of 427 respondents was collected. A major portion of the sample comprises of Gen Z i.e. people aged below 25 years of age. It consists of people involved in service and business, or who are students. The "others" category mostly includes people who are unemployed or are home makers.

Data Analysis and Interpretation

To understand the attitude and perception of the customers towards the food delivery apps a few economic characteristics of the customers were studied. These are important variables that decide the consumption pattern of the customers regarding these DFAs. The following table represents the socio economic pattern of the selected sample.

Table 1: Socio Economic Pattern of The Selected Sample

Attributes	Percentage (in %)	Frequency
Gender		
Male	37.50	267
Female	62.50	160
Total	100.00	427
Age		
Below 25	67.20	287
25 to 35	17.30	74
35 to 45	10.30	44
Above 45	5.20	22
Total	100.00	427
Profession		
Business	9.40	279
Service	9.40	40
Student	65.30	40
Others	15.90	68
Total	100.00	427

Source: - Author with the help of primary data

It is clear from the above table that a major share of the sample size belongs to Gen Z and also most of them are students.



■ Daily ■ Once or Twice in a week ■ Once or Twice in a month ■ Never

Figure 1: Frequency of Ordering food from Outside

With the above chart we try to analyze the frequency of usage of these DFAs, among our respondents. We see that a major share of the respondents, do order food online. There is also a small portion of 8.4% of the people who order food online on a daily basis. As the majority of the respondents are from Gen Z we can safely conclude that these DFAs are more popular among them. In a survey ⁽⁶⁾ done by Statista it has been found out that these DFAs are on a rise. The table below confirms this conclusion.

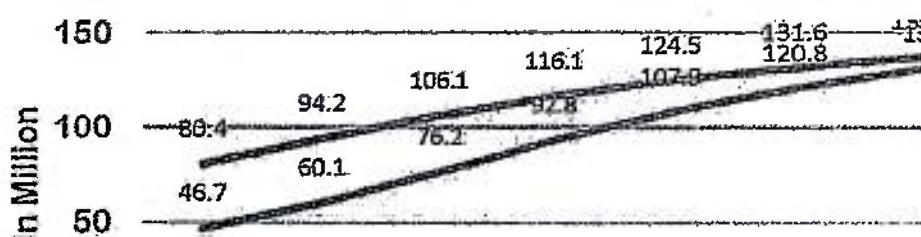


Figure 2: Users of DFAs in Core Country India

Source: - Statista June 2019

Here Restaurant-to-customer segment includes delivery of food carried out directly by the restaurants. The order may be via platform (for e.g. Zomato, Swiggy etc.) or by the restaurant website itself (for e.g. Dominos). Platform-to-customer market segment focuses on delivery of meals from partner restaurants that do not necessarily have to offer food delivery themselves.

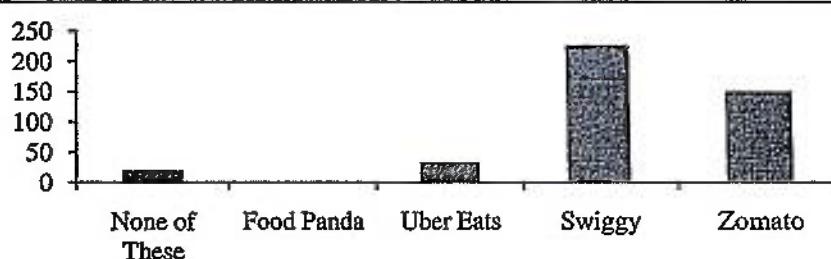


Figure 3: Most preferred DFA

The above chart shows usage of food delivery apps by the selected sample. It is very well evident from the above data that Swiggy is the most preferred DFA, followed by Zomato, Uber Eats and Food Panda. According to a survey ⁽³⁾ conducted, the most popular DFA in the world are Seamless, Grubhub, Doordash and Uber Eats, and for the four apps we are considering the ranking order is Zomato, Uber Eats, Food Panda and then Swiggy. However, according to

another survey ⁽¹⁾ (January 2019) the top four DFAs in India are, Swiggy, Zomato, Uber Eats and Food Panda (in the order of their ranking respectively). The result of our data analysis lies alongside the results of the survey done in India. Food Panda as a DFA is non-existent among the respondents of our survey.

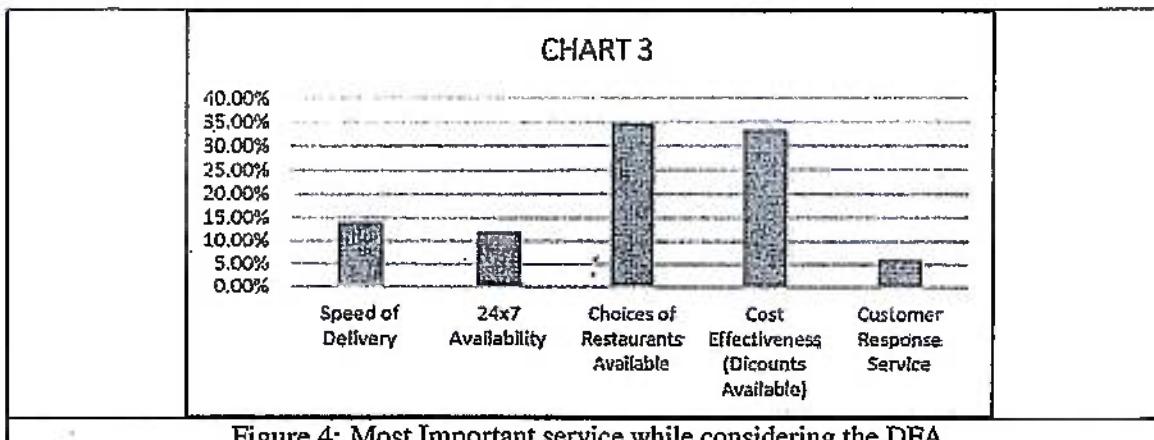
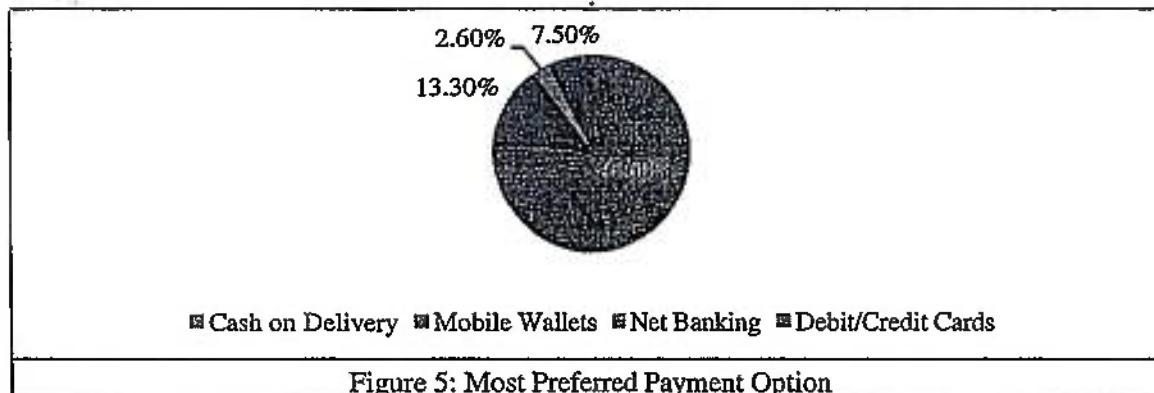


Figure 4: Most Important service while considering the DFA

We conclude from the above chart that choices of restaurants is the most important factor for the respondents while selecting the DFA to order food. The DFAs are concentrating on consolidating their business by increasing their operational efficiency and profit margins. Studying the literature review we understand that the highest challenge faced by these DFAs are delivering within time frame and optimization of technical skills of their employees. We also notice from the above table that the various discounts offered by these DFAs is one major reason for attracting more customers. However, on the flip side we see that competition for these DFAs is tough. Businesses that are unable to sustain, they close down while others struggle to beat competitions, keep their costs low, and reduce their burn rate in order to break even.



It is evident from the above data analysis that the most preferred payment option is cash on delivery. A very few people prefer to pay through online modes. According to a survey conducted by Statista, the revenue generated by these DFAs, in India is about 7730 million dollars in 2019. Here a major stake in the revenue is the restaurant-to-customer delivery with a market volume of 4334 million dollars. Revenue is supposed to grow at a compounded annual growth rate of 12.8%. Healthy Home food option offered by DFAs: -



■ Yes ■ No ■ Can't Say

Figure 6: Preference in ordering Healthy Food Online

From the above analysis we can safely conclude that the future of these DFAs is extremely good. A major share of the sample 71% will be interested in ordering healthy home food online on an everyday basis.

An average person consumes three meals a day i.e. approximately 90 meals a month. Out of this, in India, people eat out or get food delivered 3-4 times a month. An average person in India likes to spend between Rs50-200 for their average meal, and DFAs are trying to hit the sweet spot of this price range. Food delivery logistics are getting better and cheaper, with more daily orders and higher density of population in big cities.

Conclusion

We can safely conclude that the business of delivering restaurant meals to the home, is definitely on the rise as the DFAs race to capture markets and customers across the world. Hence, these DFAs are attracting huge valuation investments every day. The worldwide food delivery stands⁽⁴⁾ at 83 billion euros that is 1 percent of the total food market and 4 percent of the food are sold through restaurants. However, the Indian food delivery market⁽⁵⁾ is growing at a compounded annual growth rate of 16.2 percent and is going to touch 17.2 billion dollars by 2023.

Meanwhile, dine-in options like Dominos India - with more than 1000 outlets - is doing Rs3000 crore yearly, top line. Restaurants chains like Barbeque Nation, with their 100 outlets are doing more than Rs500 crores in business per year. Lots of these dine-in chins like Farzi Cafe, Mamagoto, Saravana Bhawan and Yellow Chilli have already started expanding outside India to scale faster and profitably.

A lot of innovative food business ideas are coming up every day. Delivery-only Kitchens also called (Cloud-Kitchens) are on the rise. Faasos, Box8, FreshMenu and Biryani By Kilo are expanding rapidly. Given the high rental and Capex required for dine-in restaurants, these delivery-only kitchens can give better quality meals at more affordable prices to the customers and all in convenience of customers' homes and offices.

A business model where a meal box with fresh ingredients is created and prepared to a degree which cuts on cooking time by 30 minutes and also provides its customers the satisfaction of cooking when they cannot dedicate requisite time to cook meals at home. Technology is used for ordering and delivering these "Happy Cook" meal boxes. A few examples are, Blue Apron (American meal-kit and food delivery company), Home Chef (Chicago based company), etc.

This study discloses that people do often opt to order food online as it is more convenient and offers much more options with greater discounts. Though we can say that FDAs have affected the traditional ways of dining together and it also requires less human interaction, they have definitely become a big hit across well informed people in India. The study also reveals that Swiggy is the most preferred FDA.

Reference

1. Das.J (2017-2019) "Consumer perception towards 'Online Food Ordering and Delivery Services' an Empirical Study".
2. Jadhav. S (2018) "Food Ordering Mobile Applications- A new wave in Food Entrepreneurship".
3. Gupta.M (2019) "A Study on Impact of Online Food Delivery app on Restaurant Business special reference to Zomato and Swiggy".
4. Parashar.N & Sakina Ghadiyali, (2017) "A Study on Customer's Attitude and Perception towards Digital Food App Services".
5. Preetha. S & S. Iswarya (2019) "An Analysis of User Convenience towards Food Online Order and Delivery Application (FOOD App via Platforms)".
6. Mariam Jacob, N. V. Sreedharan & Sreenu.K (2019) "Consumer Perception of Online Food Delivery Apps in Kochi".
7. Shashikant Tanpure, Priyanka R. Shidankar & Madhura M. Joshi "International Journal of Advanced Research in Computer Science and Software Engineering".
8. Yeo. V, See-Kwong Goh & Sajad Rezaei (2016) "Consumer experiences, attitude and behavioural intention toward online food delivery (OFD) service.
9. Singh Rathore. S & Mahik Chaudhary (2018) "Consumer's Perception on Online Food Ordering"
10. <https://www.digitaltrends.com/home/best-food-delivery-apps/>
11. <https://www.netsolutions.com/insights/top-10-successful-food-delivery-apps-in-the-world/>
12. <https://mobisoftinfotech.com/resources/blog/top-on-demand-food-delivery-platforms-across-globe/>
13. <https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/swiggy-launches-daily-app-for-homestyle-meals/articleshow/69631774.cms?from=mdr>
14. <https://tracxn.com/explore/FoodTech-Startups-in-India/>
15. <https://www.mckinsey.com/industries/high-tech/our-insights/the-changing-market-for-food-delivery>
16. <https://www.businessstoday.in/current/economy-politics/indian-online-food-ordering-market-set-to-grow-at-162-to-touch-1702-billion-by-2023/story/331156.html>
17. <https://www.statista.com/outlook/374/119/online-food-delivery/india#market-users>

BBA/MARK/7

Empowering Education to Produce Innovation – by instilling 4Cs

Suchita Mukherjee

Assistant Professor, St. Mary's Technical Campus, Barasat, Kolkata

Introduction

The paradigm shift in the field of technology by the way of innovation related to industries can be referred as the Industrial Revolution. The revolutions caused by mechanization (1st Industrial Revolution); use of electrical energy (2nd Industrial Revolutions) and electronics and automation (3rd industrial Revolution) [Lessi H. et al]. There are radical changes in the present industrial scenario which has brought by the introduction of digitization in the form of Robotics, Artificial Intelligence (AI), Machine Language etc. being referred as the Industrial Revolution 4.0(I4.0) on the platform of the 3rd revolution. The integration of AI and IoT has a disruptive impact on productivity which demands more integration and coordination between people, machines, equipments, logistic systems and products. The Cyber Physical Production System (CPPS) will control the production process in 'Smart factory' which are emerging by the collaboration of real and virtual world.

The situation is going to change from machine-operating system to prognostic-monitoring system.[Lee.J, Kao.H, Yang.S]. Huge amount of data to be analyzed to make the process flawless and flexible towards the demand of the customers about the products [Nelle.J, Kuz.S, Mertens A, Schlik C.M].So the requirement of up-skilled, knowledgeable and qualified workforce is the primary requirement for such highly innovative factory of I4.0 to run the show. In order to produce the products/services faster, more accessible in I 4.0, the employees of this generation require more updated skill sets to complement. Those skill sets include creativity, critical thinking, and collaboration and communication-4Cs skills. Since with automation, robotics replace the present workforce in the labor intensified industries, the situation has opened an opportunity in academic area to know how to solve complex problem, make rational decisions and present compelling argument for solutions.[Pink D.H, 2006,]

Industry 4.0 with its pivotal role in helping to develop the creative content, collaborate resources, communicate machine to machine and machine to human and being innovative by globally aware of the required high end relevant digital literacy to keep pace with the changes in this digital industrial world that offers vast opportunities for timely demand on crucial precision actions that are required to handle uncertainties. [Sackey .S.M, Bester. A, Adams. D, (2017)]. There will be multiple entry points for I 4.0 which are to be assessed by providing relevant education and training opportunities and expose them to the necessary adoption by instilling 4Cs for the future employment. [European Commission (2013)].

Industry 4.0 & Education 4.0

Digitization the present global trend where IoT, IoS, AI, ML, Big Data, ICT are used on the cyber physical platform integrating production system, logistic and other business processes by innovative technology – referred as Industry-4.0. The core vision of this industrial revolution is 'Smart Factory' by coordinating the relevant data both vertically and horizontally. In vertical integration concept this smart factory concepts work with

"intelligent machines", storage systems, equipments and products exchanging information in a disguise of data which is regarded Cyber Physical Production System (CPPS) [Dr. Bernhard Holtkamp and Anadi Iyer][7] Since the machine's intelligence is the primary criteria at each level, so direct communication and exchange of information trigger and control actions. A standardized data storing procedure should be there to interface with the machines and information. In horizontal integration, an enterprise with various sizes and situated at various locations exchange the same data base of their uses without losing their identity. [Decan Herald (2017)]. Exchanging of secure data is a perquisite for smart factory to provide products or services. For the availability of such data in a secure way and also to use and analyze as and when required, the respective organization needs proper planning and managing of those data strategically from the very initial stage of operation. Cyber security factor is also to be taken care of to prevent the leakage of data as these data may contain some classified information.

The involvement of human factors has only changed its pattern where more thoughtful process is required. Though the smart machine will work of their own but ultimately it is knowledge and skills which will control the overall show. The skills and qualifications of the workforce will become the key to success of a highly innovative factory. [Gehrke.L, Kuhn A T, Rule. D, Moore. P, Beleman. C, Siemens S, et al.]. Workforce to be hired with updated skill and knowledge in technology with a combination of methodological, social and personal competencies which can make them compatible with the work culture of 21st century. So the present workforce to be upgraded and the future workforce to be educated to meet up the smart industry requirement , which can be referred as a Education 4.0 by combining the virtual world with the reality. [Harkins A.M.].

Though I 4.0 have developed a complete automation concept with machineries capable of decision making capacity but involvement of human skill and knowledge is equally important. The fusion of the physical and virtual world provides an opportunity of gathering more and more data resulting in a new quality information transparency. The deployment of cyber physical systems require human decisions which are made using aggregated and visualized information, on the other hand technical progress in robotics provide physical assistance to human workers [Dr. Bernhard Holtkamp and Anadi Iyer].

Talent, Knowledge and Skill

The globalization and technical innovation are fuelling the rapid changes of the paradigm of the business. Technology's exponential growth marked by automation has turned the wheel of work culture by 360 degree. Naturally the educational curve is not in a position to keep pace with the technological progress. It has come up as a challenge to upgrade the skill, knowledge and talent to work for I 4.0. So a holistic approach by redesigning the present academic curriculum by offering a complete framework to boost up those traits should be approached to bring the balance in combining capabilities. Best Nappier, the president of FedEX Express Europe and CEO of TNT has expressed his views: "Robotics and Automation will create even more demand for service oriented employment, meaning the softer skills such as adaptability, communication, agility, intelligence and judgment will be important for future generation."

The unfortunate fact is the speed at which the education system is changing is not matching with that of the industry. This widening disparity between the industry and the talent has to be filled up by acquiring knowledge from the modified and updated

education system. Without knowledgeable workforce in substantial amount no industry operates. The organizations need not only to invest in technology to grow, compete and disrupt in I 4.0, but for computing right data, driving AI and manoeuvring global connectivity – cultivating talent with knowledge and capabilities are also essential.

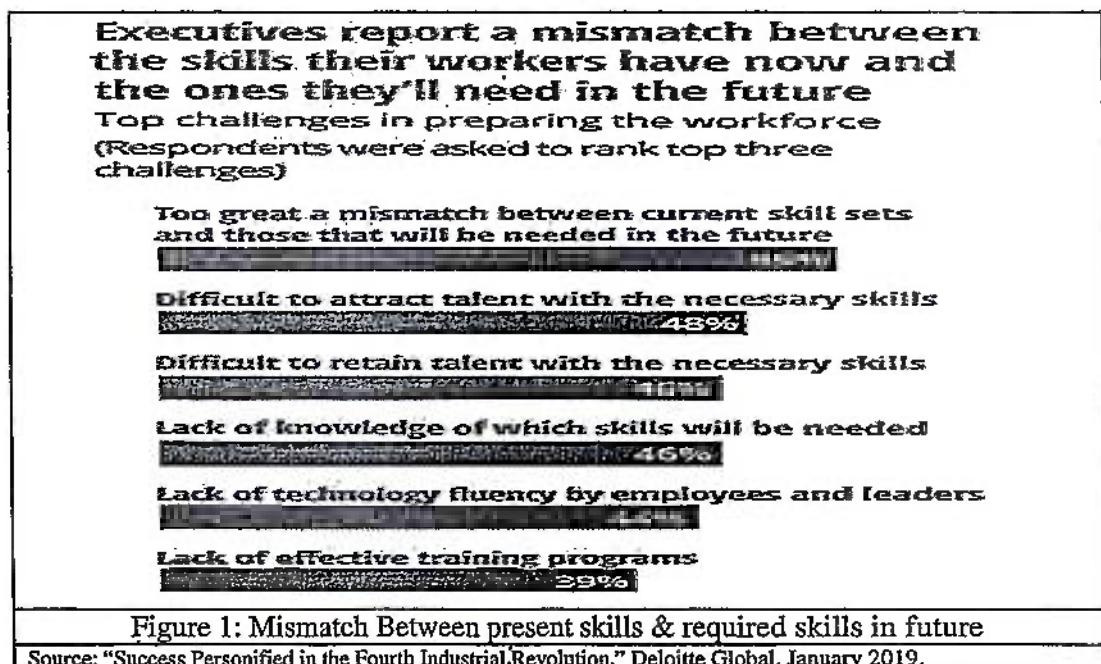


Figure 1: Mismatch Between present skills & required skills in future

Source: "Success Personified in the Fourth Industrial Revolution," Deloitte Global, January 2019.

Since the most expected and demanded outcome of pursuing education is employment and at the same time workforce is required to operate the 'smart factory' of I 4.0, so the present system of education should be changed and developed in such a way to fulfill the knowledge and skill requirement for the same. From a recruitment stand point Yoky Matsukura, Nest Lab chief technology officer agrees –“ there are not too many people whom we can take straight out of University who have everything we need”.

Mismatching the Skills

Accelerated growth of technology has become a challenge to find out the right competencies for I 4.0. The mismatching between the need of the organization and the talent of the workforce is affecting the productivity which ultimately resulting in the loss of the competition. Due to incorporation of AI, IoT, IoS, Robotics, AI,ML etc the job is changing its face. So up gradation of skills and value addition to it is highly essential for the present workforce and the future workforce will be expected to be already equipped with programming, planning and trouble shooting by interconnecting machines at the time of employment in factories of 21st century by going through the standardized education system of geared up for the present industry. Moreover many more technologies are expected to be developed which cannot be foreseen. Nevertheless by 2030, 20 to 30 million new jobs are expected to be created world wide [McKinsey Global Institute]. So the exact industry-specific and occupation-specific competencies are the need as I4.0 progresses.

Instilling of 4C's

The importance of qualification and skill development is consistently high. More intense interdisciplinary thinking and actions and a higher level of IT skills are on demand. The

competencies of humans will be in the field of strategy making to compete globally by monitoring and handling the data or information. "In an industry the employees will determine the overall production strategy, monitor the implementation of this strategy and if need be intervene in the CPPS"- [Gorecky 2014]. Cultivating the four Cs which are widely touted as fundamental 21st-century skills, could go some way towards preparing the youth to deal with complexity and ambiguity.

This is an increasing realization in this digitalized global economy that the education must be designed to equip the graduates with new skills to make them industry perfect for 21st century. Keys among those skills are the 4C's along with the technical knowledge which can be labeled as a new paradigm in the learning process. The four Cs are:

1. Critical Thinking to solve problem
2. Creativity to think out of the box
3. Collaboration to work together
4. Communication to convey the ideas

The information and technological ideas required for the 21st century is far beyond the basic knowledge sufficient for past and even to some extent of present day. Workforce issues related to skills and talents have changed dramatically in the last 15 to 20 years. The employment demands non routine, analytic, interactive communication skills, competencies in the critical and interconnectivity of people from various cultural and linguistic backgrounds. At this kind of situation the future workforce will find them more empowered with 4Cs while entering in the industry. "Proficiency in Reading, Writing and Arithmetic (3Rs) is not sufficient if employees are unable to think critically, solve problems in collaborate or communicate effectively"["Communication and Collaboration."].

Critical Thinking To Solve Problems

"Habits of minds such as analysis, interpretation, precision and accuracy, problem solving and reasoning can be as or more important than the content knowledge in determining success".-Professor David T Conley, University Oregon in research conducted for the Bill and Mirinda Gates Foundation. Higher level of concentration, deeper analytical ability and improved thought processing are the skills required for I4.0 which will help to find better strategic decision. Critical thinking should be the priority for employees' development, talent management and succession planning. [<http://www.p21.org/our-work/resources/for-educators#SkillsMaps>].

In any organization there is always certain challenge which may be easily solved or big and complicated. Whatever may be the case those have to be dealt in constructive and fair way so that the issues get resolved quite effectively in the best possible way. Having the necessary skills to identify solutions to problems in a unique manner is one of the skills that employers look for in employees. The uniqueness of its solution lies in the critical way of thinking process lead to success. The ability to develop a well thought out solution within a reasonable time frame, however, is a skill that employers value greatly.

In a recent study critical thinking is identified as one of the most important skills needed for job success and one that is lacking in the new workforce. Critical thinking is the three sided mirror of the workforce letting to look at all angles to make the best possible choice. As Albert Einstein stated "Education is not the learning of facts but the training

of the mind to think", so through the process of education the innovative way of thinking can be geared up which is one of the core process of I 4.0.

The most prominent 21st-century competency is a critical thinking skill. Critical thinking skill refers to one of the learning and innovation skills because the world makes progress in global paradigm. There is a massive change in the framing of references about the ways of life, work, and society and how every individual is viewed and organized. So to be more competitive and intellectual in facing every problem in industry required the simple or complex solutions obtained by using critical thinking as a higher order thinking process.

To Rudinqw and Barry (1994), critical thinking refers to a process of rational and logical thought providing a set of standards and procedures for analysing, testing, and evaluating them (Piaw, 2004).

Visualization and representation of new ideas for betterment of the product/service is the prime factor for I 4.0 generation. Out of the box thinking and willingness to take risk can find out the solutions. Economist Frank Levy and Richard Mundane have described the new world of work in which the most desirable jobs—that least likely to be automated or outsourced are those that require expert thinking and complex communication foundation, 2 According to AMA 2010 Critical Skill Survey, 73.3% of Business Executives polled identified critical thinking as a priority to employee development, talent management and succession planning [AMA , 2010 CSS Executive Summary].

Without active critical thinking skills, problems go unresolved; decisions are made based on limited information; and risks and opportunities are ignored. Critical thinkers can remove uncertainty when the path ahead is unclear and establish priorities for effective action. They move from observing the effect of a problem to analyzing and understanding its cause. A foundation of critical thinking establishes the thinking patterns needed to set the best course of action and evaluate any threats or opportunities that could lie ahead. A structured approach to critical thinking helps organizations to measurably lower costs, improve IT stability and provide a better customer experience.[Critical Thinking Skill for the 21st Century-Kepner Tregoe].

Creativity to think out of the Box

In today's professional world, where global competition and automation are changing the scenario of industry very rapidly, innovative capacity and creative spirit are fast becoming the most essential requirement for both professional and personal success. Author Daniel Pink remarked "The future belongs to a very different kind of mind – creator and empathizers, pattern recognizers and meaning makers. These people will reap society's richest rewards and share it's greatest joys." Creativity is closely linked with innovation, which will be in high demand in differentiating objects of mass production. Recently creative thinking has been shown to be integral to a wide range of skills, including scientific thinking, entrepreneurship, design thinking and mathematics.[Dunbar, K. (1997)]. A 2010 IBM study interviewed over 15000 CEOs from 60 countries and 33 industries and found that creativity is the most important leadership challenge of increasing complexity and uncertainty in the world – [Capitalizing on Complexity: Insights from the Global Chief Executive Officer Study (2010)]. .

By creativity the ability to come out with a noble concept and/or modify an existing one to a more acceptable status-is the desirable quality for 21st century industries which cannot be ignored, "With the rise in automation and outsourcing of jobs, creativity is one leverage point that all human can rely on for job security [Payne, DeVol, & Smith, 2001].

Creative design skill is highly deserved in the workforce. Howard Gardener cites that "To cultivate such creative mind we need an education that features exploration, challenging problems and the tolerance, if not active encouragement of productive mistakes"[Gardener Howard]. Similarly author Richard Florida stated "I call the age we are entering the creative age because the key factor propelling us forward is the rise of creativity as the primary mover of our economy"[Florida Richard ,L].

New wide range of worthwhile ideas and creation technique will improve and maximize the efforts of workforce. Innovative thought process has become a social component also which requires adaptability, leadership, teamwork and interpersonal skills. These radical changes in concept have to be adopted for batter management in I 4.0.

Collaboration to work together

In any organization collaboration at both horizontal and vertical field simply demonstrates how people work together and can come out with valuable resources. The importance of creativity and innovation lies in the thought process that team activity produces effective work culture with high quality ideas and job satisfaction. Since people work as an interactive team, so the problem detection, solution, implementation come from several talents involved and generally happens to be the best one according to the situation. Collaborative work practicing is not an exclusive term because virtually all most all work is done with the help of other people as small as it may be. In case of I 4.0 this collaborative work is done on the global platform with the development of IoT, cloud computing etc. To work with this view exchanging process result in more output than the input. Due to revolutionary changes in industry, the knowledge, talent also updated, so the outcome is also the meaningful and effective result which is the basic necessity of I 4.0. "A large group of diverse individuals will come up with better and more robust forecasts and make more intelligent decision than even the most skilled decision maker." [James Surowiecki,]. Since multiple talents come closer due to collaboration so the effort creates more holistic result than individual efforts. So in I 4.0 it is of assuming shared responsibility for collaborative work to achieve a common goal by giving value to individual contribution.

Communication to Convey Ideas

In I 4.0 communication does not mean passing out information only but it means to convey the idea, thoughts, emotion etc. in such a systematic manner so that others can understand them. It is only the effective communication which can integrate the management both vertically upward and downward and horizontally too. According to a study conducted by American Society of Training and Development (2011) in context to the present situation "These collaborative and communicative skills are insufficient to meet the market demands "Critical Thinking and Problem Solving." P21.org. Partnership for 21st Century Skills.]. Communication creates an interactive activity oriented platform for planning, decision making by exchanging of views. In this revolutionary status of industry it is the "global team" that works together though there is a lot of linguistic and cultural differences. "Because complex communication involves explanation, negotiation and other forms of intense human interaction, jobs that require

these skills are not as likely to automated".[Levy Frank and Richard J. Murand]. In 21st century communication process is done by collaborative activities. Articulation of ideas verbally or by writing is related with skills of various teams by making necessary compromises to attain the objective. Most importantly communication cannot be effective unless it is received and understood properly. John Selley Brown and Paul Duguid describe effective work team as those in which "the talk and the work, the communication and practice are inseparable"[B.J.Selley, Paul Duguid,]. For Daniel Pink, collaborative, empathetic and social skills what he calls "high touch" aptitudes represent the "whole mind" that the future will prize.[Communication and Collaboraton]. Communication is also being affected by the technology like other activities. So the communication skills should be intertwined with message information, media network and technical skills. In order to be part of successful, competent global workforce, adaptation of the skills of communication has to be embraced according to the up gradation of the technology as demanded for I 4.0.

Conclusion

Being strong in 4 Cs along with sound technological knowledge can empower the 21st century workforce to deliver their task. The I 4.0 is a globalised phenomenon, so the professionals are also considered as a globalised workforce. Their thoughts, talents, skills can be exchanged by 4 C's. Real world problems and issues can be evaluated by analyze, synthesize, arguments, compare, contrasts and evidence. This thought process become elevated by technological facilities when the globalised talents get involved in the optimized solution, the connectivity can be done by 4 C's. Creativity and innovation are the two prime factors to sustain in the global market. Critical thought process generates the ideas which can be exchanged by collaboration and communication. To think critically by scaffolding higher levels of thinking to pose problems, encouraging creativity and innovation by exploring ideas and communicating the ideas for more issue specific development should be the part of the education, so that in real life the workforces become industry ready. Our education system is at the cross points. It is time to embrace the technological pace the 21st century skills that students need in order to be a successful and competent global citizen.

Information and communication technology supports to generate business and thus helps in economic growth. The core idea of this technology is to enhance the connectivity and to change the process of communication and interaction for information processing purposes. The most critical and valuable assets of an organization is the human capital who will make the conversion from source to resource in this competitive global market. ICT used by the organizations increase revenue growth, workplace productivity and competitiveness while fostering innovation and employment throughout the economy. As a result digital skills are not only vital to participate but they have also become an important key element for facilitating employment opportunities.

References

1. Lessi H, Fettke P, Kemper H G, Fold T & Hoffman M, Industry 4.0, Business and Systems Engineering- 2014, 6:239-242
2. Lee.J, Kao.H, Yang.S- Service Innovation and Smart Analytics for Industry 4.0 and Big-data environment. Procedia, (IRP 2014, 6:3-8)
3. Nelle.J, Kuz.S, Mertens A, Schlik C.M- Human-centered designs and assistance systems for production planning and control, IEEE International Conference on industrial Technology (ICIT) Taipei, 2016, ICIT2016/7475093.
4. Pink D.H, 2006, A whole new mind: Why the right brainer will rule the future, New York, NY: Riverhead Books.
5. Sackey .S.M, Bester. A, Adams. D, (2017) Industry 4.0 learning factory didactic design parameters for industrial engineering education in South Africa, South African Journal of Industrial Engineering, Vol. 28 (1) PP -114-124.
6. European Commission (2013), Factories of the future- Multi annual road map for the contractual PPP under Horizon 2020, <https://www.scribd.com/document/271903700/factories-of-the-future-2020-roadmap>
7. Industrie 4.0 –The Future of Indo German Industrial Collaboration: Dr. Bernhard Holtkamp and Anadi Iyer
8. Decan Herald (2017) Karnataka signs MOU with GOI for Machine Tool park. <http://www.decanherald.com/content/596334/karnataka-signs-mou-goi-machine.html>
9. Gehrke.L, Kuhn A T, Rule. D, Moore. P, Beleman. C, Siemens S, et al. A Dimension of Qualifications and skills in the factory of the future: A German and American Perspective, Dusseldorf 2015.
10. Harkins A.M. :"Leapfrog Principles and Practices: Core Components of Education 3.0 and 4.0, Futures Research Quarterly draft VIII , 2008.1-5.
11. Industrie 4.0 –The Future of Indo German Industrial Collaboration:[Dr. Bernhard Holtkamp and Anadi Iyer
12. Source: "Success Personified in the Fourth Industrial Revolution," Deloitte Global, January 2019. Copyright © 2019 Deloitte Development LLC. All rights reserved. Member of Deloitte Touche Tohmatsu Limited
13. Jobs lost, jobs gained: Workforce transitions in a time of automation, [McKinsey Global Institute
14. Gorecky 2014 IBID, P 527, Institute of Technology Assessment – Effects of I 4.0 on Vocational Education and Training ; MANU:SCRIPT, Vienna, November 2015/TTA-15-04, ISSN-1681-9187.
15. "Communication and Collaboration." P21.org. Partnership for 21st Century Skills. Web. 16 May 2011. http://www.p21.org/index.php?option=com_content&task=view&id=261&Itemid=120.
16. <http://www.p21.org/our-work/resources/for-educators#SkillsMaps>
17. AMA , 2010 CSS Executive Summary
18. Critical Thinking Skill for the 21st Century-Kepner Tregoe][18]. <https://www.kepner-tregoe.com>critical-thinking-skills-for-the-21st-century>
19. Dunbar, K. (1997) How scientists think: On-line creativity and conceptual change in science. Creative thought: An investigation of conceptual structures and processes, In T.B. Ward, S.M. Smith & J. Vaid (Eds.) *Conceptual structures and processes: Emergence, discovery , and change*. Washington D.C: American Psychological Association Press][Sarri, K., Bakouros, I., & Petridou, E. (2010). Entrepreneur training for creativity and innovation. *Journal of European Industrial Training*, 34(3), 270-288.][19 Dorst, K., & Cross, N. (2001). Creativity in the design process: co-evolution of problem-solution. *Design Studies*, 22(5), 425-437][20 Sheffield, L. (2013). Creativity and school mathematics: some modest observations. *ZDM*, 45(2), 325–332.
20. Capitalizing on Complexity: Insights from the Global Chief Executive Officer Study (2010)
21. <http://public.dhe.ibm.com/common/ssi/ecm/gb/en/gbe03297usen/GBE03297USEN.PDF>.

22. An inadequate education can ultimately lead to a lifetime of poverty, which tends to perpetuate itself in a multi-generational cycle of underserved or under-achieving students[Payne, DeVol, & Smith, 2001].
23. Gardner Howard Five Minds for the Future, MA Howard Business School, 2007, Print.
24. Florida Richard L, The Flight of the Creative Class, New York : Harper Business, 2005, Print.
25. James Surowiecki,][24] The Wisdom of Crowds, New York, Archer, 2005, Print.
26. Critical Thinking and Problem Solving." P21.org. Partnership for 21st Century Skills. Web. 16 May 2011. http://www.p21.org/index.php?option=com_content&task=view&id=260&Itemid=120.
27. B.J.Selley, Paul Duguid, The social Life of Information, Boston: Harvard Business school, 2000,Prin.
28. Communication and Collaboraton-P12.org., Partnership for 21st Century Skills. Web 16th May 2011.

BBA/MARK/8

A Study on Consumer Perception- Bigbasket Versus Grofers

Shubham Saraogi¹, Tushar Pareek², Bhumiika Bothra³ & Sejal Kajaria⁴

^{1,2,3,&4} Student, J.D. Birla Institute, Dept of Management

Introduction

Consumers are an integral, and in fact, the most important part of the market. the way consumers perceive a particular brand impacts its sales to a very large extent in India, with the emergence of economy and various development projects being undertaken, the variety of jobs has grown. Every person, whether employed or unemployed is a consumer for some or the other market. Each and every one of these consumers have their own perspectives to look at the market and their perspectives have a direct impact on their brand and product preferences. It also has an impact on how willing they are to try out new products from the same or another competitor brand.

The e-commerce sector in India is growing at a very quick pace. there are innovations and inventions at every wink and the frequency is only increasing. this relentless growth of e-commerce is changing the way people assume, search, perform and bring up a yield. Most consumers are adopting new technologies in shopping and with many of them being liberal thinkers, want fast and efficient shopping while also considering other shopping attributes. Majority of companies in the small scale, medium scale and large-scale sectors own a website in order to improve their business and they do so by employing online advertisements, online promotional events/activities thus taking a "digital" leap in their business cycles. Online market for all goods, including basic household needs like groceries, is increasing manifold with brands like bigbasket and grofers taking the front seat. these brands, ever since their manifestation, have bought commendable reforms to the market for groceries and also the e-commerce sector.

Review of Literature

Profound reading of existing materials and documents brings a lot of clarity not only about the topic, but also about how the research needs to be carried out. For this purpose, we read through the studies of various people on consumer perception theory, e-commerce, groceries and fmcgs, etc. Some of the literature reviews are mentioned below.

The review of literature by Nicky Lamarco published on 5th November 2018 conducted on consumer perception theory highlights that everything affects customer perception, from the way you position your product vertically and horizontally on a shelf, to the colours and shapes you use in creating your logo. Even things outside of your control, which may seem innocuous, such as the time of the day when your customer interacts with your brand - even this will affect consumer perception.

Jane Smith on his research on consumer perception (published 12th October 2018) said that when you take action to improve the self-perception of local residents and the consumer perception of your business and location to locals and tourists alike, your company's bottom line can't help but reflect your efforts.

Even for the e-commerce sector, consumer perception is very important, especially because they have a global ground of service and for them, each region has their own beliefs and ideas. They therefore have to bring constant reforms in their finance, marketing and PR ideas to cater to the market. Mugdha Vriyar in his article in the ET, published on 27th April 2017 threw light upon the reforms that bigbasket is planning to bring in its business model for potential growth of the company.

Sayan Chakraborty in his article published on Forbes India (26th October 2018) wrote about the strategies that bigbasket and grofers are undertaking to scale the online market for groceries.

Some researchers also highlight the fact that something as basic as grocery has a lot of importance in the households. People are becoming more and more health conscious and with this development, they are laying stress on hygienic stores, products and healthy alternatives to chemically synthesized veggies and edible products. They thus wish to make sure that they are buying the right quality of groceries. Due to these reasons, people still prefer to buy groceries and FMCGS from their nearby stores personally.

Methodology

Through questionnaire the primary data of 209 sample size is collected to analyze the consumer attitude towards online grocery shopping. Frequency test are carried out to study the demographic profile of consumers. The following are the key aspects of the research.

Demographic Profile

In this research, as a part of demographic study the consumer's gender, age, occupation and educational qualification has been analysed to identify who are the online grocery shoppers. Their annual income was also analysed followed by which the consumers were grouped according to the similarity of their occupation and considering subsequent characteristics for further grouping. After grouping them under a specific consumer type, their responses were noted and recorded for further studies.

Attitude towards online shopping

The attitude of these consumers towards the whole idea of online shopping and E-Commerce was analyzed by their responses. The fact that how open they are of shopping online is important for these brands and how consumers perceive their sector can give them an edge over their competitors. Also, the very fact that something as basic as household FMCGs, is of utmost importance to the people in the India, gives these companies an idea about how consumers react to their business models.

Perception about Online Market for FMCGs

The consumers in the Indian household pay a lot of attention to the food and the quality of it. They are extremely cautious of the impact that the quality of these FMCGs have on their lifestyle. With the education about the importance of good health and well-being reaching the masses, the brands must make sure that their quality is best compared to their competitors and that their marketing strategies reaches its target consumers.

Perception about BigBasket and Grofers

In any sector, the competitors have to be aware of their competitors and make sure that the playing field is levelled at all instances. Also, the first-mover advantage works a lot

of time, but with the recent developments, it may not always prove to work for the brands. It therefore is important to note how the consumers perceive a particular brand and its competitors also.

Results & Discussion



Figure 1: Occupation



Fig 2: Age Group



Figure 3: Gender



Figure 4: Marital Status



- <10 lakhs
- 10-50 lakhs
- 50 lakhs -1 crore
- 1-5 Crores
- > 5 crores

Figure 5: Annual Family Income



- Class 12 Pass
- underGraduate
- Post-Graduate
- Doctorate

Figure 6: Level of Education



- Two-Wheeler
- Four-Wheeler
- Both
- None

Figure 7: Nature of Motor Possession

From the data mentioned above, it was observed that housewives form majority of the consumer base for these brands and that students are placed next. The housewives are the ones who are responsible for all the household activities and purchases. They are responsible for ensuring the good health and well-being of their family members. But, at the same time, they look to spare time for other household work and also wish to take leisure time out for themselves. With the introduction of these new methods of shopping for FMCGs, they no more need to go to their nearby stores to look for the best product out of several choices and carry the weight back home. With online shopping, they can do all the comparison they need to because all the products of a particular category are grouped together. Apart from this, there is no hustle of carrying their purchases back home since it is delivered to the doorstep. This has attracted large attention from them. The students on the other hand are well versed with the technological advancements and are looking to discover new methods of not only shopping, but everything that they engage in. Hence, for them, online shopping acts as a bait to try out something new. For students staying alone and away from the family, it is not always possible to go to the groceries store and select best quality veggies. For them, the best option is to order them online and rely on the brand goodwill that the products will be of good quality. Businessmen are always looking at cost effective products and for them, the competitive

prices of these brands serve as a bait. The service sector has a very tight schedule and for them to visit the stores is often impractical. They therefore switch to 'on-the-go' method of shopping which they can use in-transit from their residence to their workplace or vice versa.

Majority of the consumers belong the age group of 'young adults' or adults. The older segment of the population refrains from these methods due to the following possible reasons

- i) Complications involved
- ii) Orthodox mindset
- iii) Non-acceptance of technology or change
- iv) Trust the conventional methods

The young adults, as mentioned earlier, are looking to discover new methodologies of almost everything they engage into. The adults are however now able to recognize and acknowledge the power of technology and its potential. They are willing to adjust their methodology with the changing technology and are able to adapt to newer methods of shopping. The working population also belongs to this age group and therefore finds it convenient to buy FMCGs on-the-go. They wish to spare every minute of their day, either to engage in leisure activities or use the time productively.

Majority of the families in India belong to the middle class. They always look to save that extra penny whenever they go to shop. The incentives and discounts provided by these brands attract their attention widely and they switch to these unconventional methods for their daily requirements. Memberships offered by these brands add on to the incentives and are successful in holding on to their consumers. The members of the middle-class families are also one of the most hardworking people and for them, these methods can cut down the 'illegal' wastage of time.

Education and knowledge give us a better understanding of the world altogether. The educated people belonging to the age barrier of 25-50 are more open towards the online mode of shopping. However, people who are educated till 12th standard or the undergraduate level still believe in conventional methods. The students however are open to these innovations as they are acquainted to these and have been made to believe that 'this is just the beginning'. They wish to make use of and improve these technologies for the future. The conventional mentality is still in favour of offline purchase of something as sensitive as grocery and FMCGs.

Motor possession may not seem to, but definitely has an impact on the market for brands like BigBasket and Grofers. The owners of only two-wheeler vehicles cannot go to the store and buy lumpsum of groceries because for them, carrying it home is a tough task. They therefore switch to online mode because the goods are delivered to their doorstep in such a situation. Those who do not possess any vehicle also face the same issues and therefore, they also prefer online shopping.

Factors that influence purchase decision

We do realize, by mere observation and evaluation that people are shifting towards online markets, but the underlying reason has to be acknowledged. Often, newbies in a particular sector do not find it necessary to educate consumers about their business model and the latter form misinterpretations about the former that have to be cleared in order to avoid discrepancy or low consumer turnout. To make sure that all these factors

are taken note of, the consumers were asked about their take on the online market for groceries. They were asked whether the online market for FMCGs is taking the front seat and establishing itself superior to the conventional offline mode. To this, almost 66% people said that the E-Commerce sector has emerged and thus, online markets have now scaled unparalleled growths compared to local vendors and supermarkets. 20% are still not satisfied about whether or not, is this sector the face of change, due to the lack of knowledge about their business model and misinterpretations about its failures.

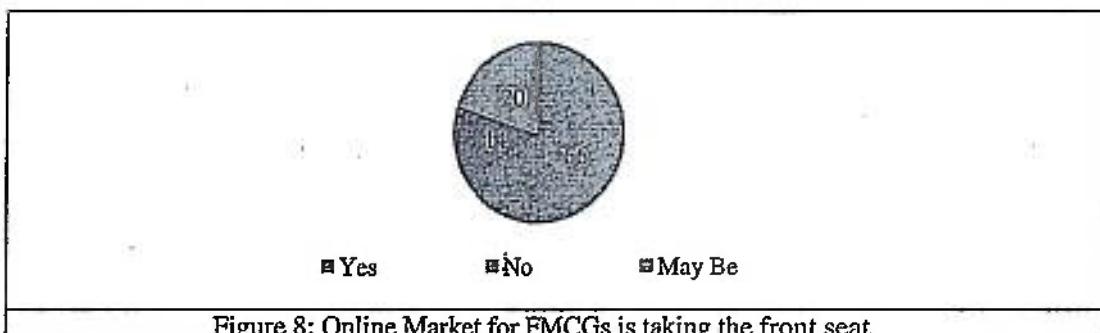


Figure 8: Online Market for FMCGs is taking the front seat

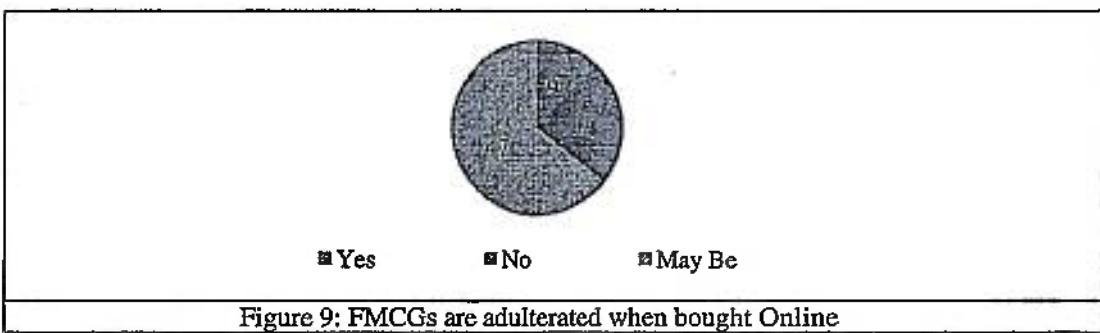


Figure 9: FMCGs are adulterated when bought Online

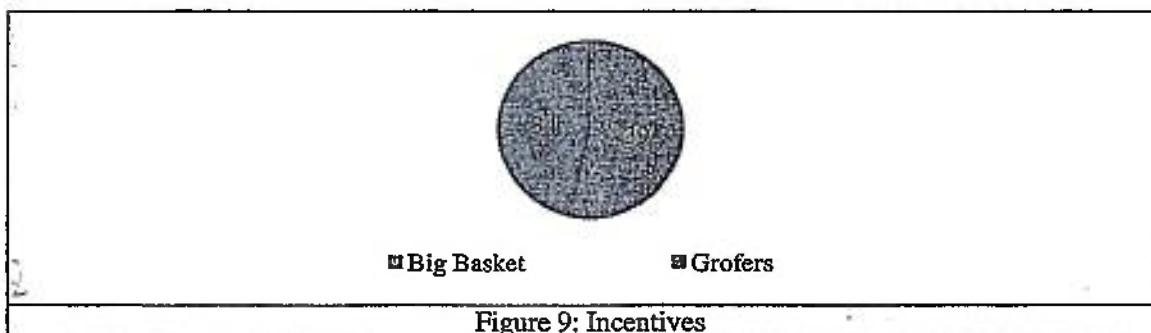
The consumers were also asked about their take on the quality of groceries and FMCGs when bought online and whether they feel that these are adulterated. About 65% are not really convinced about their quality, but at the same time do not feel that it is completely bad and highly adulterated. Once again, we notice a scenario of lack of knowledge, this time about the functioning and production of these goods by the brands, which leads to dissonance about its quality. They feel that since consumers are not physically present to verify the quality, the companies do not find it necessary to make the quality best suited for the consumers' health. This is a problem that companies must treat seriously and must educate people about their business model and the methods production, assembly and packaging of goods. The consumers must be allowed to visit factories and store houses where the goods are produced or stored, respectively. A very less portion is convinced that the quality is tampered with, which works to the company's benefit as most of the consumers do not perceive their goods as 'bad'.

Analysis of promotional appeals and incentives

People in India are many a times influenced by incentives and discount offers. They are tricked into spending more money by a delusional offer claiming to help them save money. They often buy what is not required just to meet the terms and condition of the discount offers so that they can be applied. This way, incentives works positively for a lot of brands. The number and frequency of these incentives attracts a large audience and they eventually emerge as market leaders.

The consumers here feel that BigBasket offers a greater number of incentives and thus, the sales of BigBasket is much higher than Grofers. This can also be inferred from the financial records and the company valuation. Advertisements indeed have the maximum potential to reach the audience and make an image of the brand. A successful advertisement can many a times work positively for the company. The advertisement projects the qualities of the brand, its USP and how it is better from its competitors. This also helps consumer sort out their preferences. Careful selection of brand ambassadors is also very essential because the love for an eminent public figure can often instigate consumers to prefer one particular brand over another. They usually connect to the people they look up to or admire and often end up buying from a particular brand due to this reason.

BigBasket had signed leading actor Shah Rukh Khan and actress Ratna Pathak Shah as its brand ambassador in its initial stages which worked in favour of them. They also showed how the consumers could now shop online for goods that they needed to visit the local vendor for. It also focused on the benefits that housewives can draw out of their new venture, which once again formed a market for them. Hence, we see how each aspect of brand positioning is connected with the sales, consumer perception and goodwill of the brand.



To understand the reason of purchase

The consumers are looking for something new and innovative and all the brands in the market are competing to cater to this need. In the quest to meet these demands, brands like BigBasket and Grofers are required to house a large number of brands by partnering with them. At the same time, they must also make sure that these products live up to their business objectives and can successfully cater to the needs of the target consumers. The consumers are inclined towards the venture that can provide them with a wider range of products and brands to select from.

The data collected shows that the people find more brand partnerships with BigBasket compared to Grofers. This has a large impact on the sales of BigBasket because for all these partnerships, BigBasket is earning a sum agreed upon by the brand and their venture. They earn a share of profit and it is beneficial for them. Not only this, the consumers many a times come to these online ventures rather than the official website of the brand to buy its products. It increases the goodwill of these ventures and also of the brand. Apart from this, the consumers also build a perception that the venture is strong enough to attract brands to partner with it and thus serves as a positive point in the sales of the venture.

The fact that consumers have chosen BigBasket for higher number of brand partnerships was also verified by the researchers to make sure that the data was not misleading the research. BigBasket does house a larger number of brands when compared to Grofers and other competitors.



Figure 11: Brand Partnerships

To understand the brand preference of consumers



Figure 12: Brand Recommendation



Figure 13: Membership Preference

The above data stands testimony to the fact that people prefer BigBasket over Grofers. If the consumer recommends a particular brand to their acquaintances, it is clear that they themselves are satisfied with the brand and in this race to fetching recommendation, BigBasket overtakes Grofers. They have, with their brand partnerships, incentives, consumer satisfaction policies, regular benefits and persuasive advertisement, built an image in the minds of people and established itself as the top brand in its sector. Also, the membership trial preferences clearly show that BigBasket is leading the industry at present. This may be due to the following reasons:

- i) First-mover advantage
- ii) More incentives
- iii) Various innovations like BB Daily and BB Instant
- iv) Successful operations and expansion
- v) Faith of the investors

First Mover Advantage



Figure 14: Which of the two brands did people hear first about

From all the above data, it is very clear that BigBasket does have an edge over Grofers. The question now is to attribute all this to the fact that it entered the market before anyone else. BigBasket launched the idea of online sales of FMCGs and groceries when the world was still accepting the likes of Amazon and Flipkart. This bold move did fetch them a lot of fortune. This can be noticed from the following points:

- i) Preferred brand by consumers
- ii) Easy to find investors
- iii) Easy Brand partnerships
- iv) New innovations like BB Instant and BB Daily readily accepted by the market
- v) Reached out to local vendors and established private labels
- vi) Copyright of ideas

Conclusion

The study focused on the consumers' attitude towards online grocery and FMCGs shopping. The factors that were considered were such as demographics, lifestyle of the consumers, their perception about E-Commerce, the incentives, brand partnership and first-mover advantage. The very question of whether the market is receptive towards such innovations was tackled with to conclude that quite a number of people are interested in these ventures and would like to buy groceries online. Though the consumers feel that online market for groceries is taking the front seat, they are not sure about the quality of these groceries and believe that they are often adulterated. Among a number of market players emerging in this sector, BigBasket does have an advantage

over its contemporaries due to its earlier inception. In a growing economy like ours, market leaders keep changing and thus, consumers are open to trying out new options amidst the existing ones. The relative number of promotional offers serves as a bait to attract consumers and they are more likely to prefer brands that run these offers more frequently. A large part of sales is impacted by the advertising strategy of the brand, and thus consumers are inclined towards brands who have a more convincing TVC or advertisement. The study revealed that, it is the females who are shopping for groceries online in majority and those who are under the age category of 39-45 years, undergraduates and employed professionals. Thus, it can be said that, the online grocery shopping in India is in rapid growth and huge acceptability by the consumers and that there is also much wider scope for it to acquire even more consumers in future.

Limitations of the study

- The limitation during the research was searching for women respondents who shop grocery products along with the experience of online shopping.
- Sample size is not a complete representation of the population.
- Majority of the responses came from the region of and around Kolkata.
- The rural influence of these markets could not be studied.
- Majority of the responses coming either from students and housewives.

Scope for Future Research

- Suggest reforms that these brands can bring to their business model for growth
- Plan out the marketing strategies to curb problems and counter loopholes
- Study the growth of E-Commerce sector
- Study the impact that these sectors have on the consumers

References

1. <https://economictimes.indiatimes.com/small-biz/startups/bigbasket-looks-to-scale-b2b-business-with-snapbizz-partnership/articleshow/58391285.cms>
2. <http://www.forbesindia.com/article/big-bet/grofers-vs-bigbasket-tale-of-two-strategies/51645/1>
3. <https://www.mbaskool.com/marketing-mix/services/17270-grofers.html>
4. <https://yourstory.com/2019/06/startup-bigbasket-online-grocery-hari-menon-plans-2020>
5. <https://www.youtube.com/watch?v=5UbPPCKXPG0>
6. <https://www.mbaskool.com/marketing-mix/services/17382-big-basket.html>
7. <https://www.youtube.com/watch?v=Fk09gYIKC7g>
8. http://www.censusindia.gov.in/DigitalLibrary/Archive_home.aspx
9. <https://bizfluent.com/about-6561090-consumer-perception-theory.html>
10. <https://risemedia.net/2019/07/11/fmcg-market-2019-industry-global-trends-size-applications-share-sale-growth-insight-new-development-and-forecast-to-2025/>

BBA/GEN/1

Implications of Industry 4.0 vis-à-vis Lean Six-Sigma: A Multi-Criteria Group Decision Approach
Sanjib Biswas

Assistant Professor, Decision Sciences, Operations Management & Information Systems Area,
Calcutta Business School, Kolkata; sanjibbiswas1981@gmail.com;
sanjibb@calcuttabusinessschool.org

Introduction

Beyond 2000 significant advancement is taken place in the field of Information and Communication Technology (ICT). But, a real change in the game has happened with the advent of Internet of Things (IoT) and Internet of Services (IoS). The present decade has started with a major change in the landscape of manufacturing contributed by the development of cyber-physical interaction based operations supported by IoT and IoS(Drath&Horch, 2014; Kang *et al.*, 2016).This has led the present decade to experience a new revolution (aka the Fourth Industrial Revolution or Industry 4.0) which was initiated in Germany in 2011 as an integral part of long term technology strategy for 2020 and beyond (Zhou *et al.*, 2016).Industry 4.0 is featured as a combination of:

- Intelligent technologies and equipment: such as smart devices and sensors; High-speed processors; Robotics; Additive Manufacturing (such as 3D printing); Cloud Manufacturing; Augmented and Virtual Reality; Cloud Storage and Communication etc.
- Advanced algorithms and computational methods: Such as Artificial Intelligence & Machine Learning; Quantum Computing; Distributed and Parallel Computing etc.

While the first three industrial revolutions are characterized by the use of steam engine, electricity and application of computer-controlled automated machines for improving productivity; enhancing efficiency through well-defined industrial processes, Industry 4.0 tends to disrupt the end-to-end operations across the supply chains through data driven real time decisions; integration of the processes; networking and virtual control. In fact, Industry 4.0 embarks a new way of doing business with the help of massive developments in ICT and entails new business models (Foidl & Felderer, 2015).

Wang *et al.* (2016) and Wang (2016) advocated that Industry 4.0 enables the organizations to provide high quality products and services at lower cost through flexible, efficient and environment friendly operations; and three level integration: a) horizontal level (between the firms belonging to the same value network); b) vertical level (within the organization and among different processes and machines); c) end-to-end level (among different stages of the end-to-end value creation process). Real-time information sharing and improved communication shall act as a distinctive benefit of Industry 4.0 which would stand as an order winner in the coming decade and beyond (Erolet *et al.*, 2016).

In effect, embracing the advanced features of Industry 4.0, future organizations will be smart, agile, fast, well-connected, informed and economic in their operations; able to envisage and cope up with changes and uncertainties and build dynamic capabilities to work beyond

organizational boundaries, optimize resource utilization and provide customized products and services (Posada *et al.*, 2015; Qin *et al.*, 2016; Laugsand, 2017; Liao *et al.*, 2018).

After the Second World War, Lean Thinking (LT) had emerged as one of the dominant philosophies that allowed the organizations to operate with limited resources (Womack *et al.*, 1990; Holweg, 2007). The tools and techniques based on LT enabled the manufacturing organizations to identify and eliminate waste ('non-value added contribution') from the system and subsequently, result into reduction in operating cost; faster operation; enhanced flexibility and improvement in quality (James-Moore & Gibbons 1997; Chauhan & Singh 2012; Bhamu&Sangwan 2014). Later on, the concept of LT got extended into the service sector and became a generalized way to ensure operational efficiency for both manufacturing and service industries. However, despite its wide range of benefits, it has been observed that many organizations could not implement or sustain the practices of LT because of understanding, realization, improper adoption and poor decision making (Azadeganet *et al.*, 2013; Jadhavet *et al.*, 2014; Pal & Biswas, 2014; Kolberg&Zühlke 2015; Netland, 2016; Srivastava *et al.*, 2016). Research findings suggest that lack of coordination; sharing of information; integration of the activities and lack of analytical abilities have imposed major challenges to the organizations (Riezeboset *et al.*, 2009; Cottynet *et al.*, 2011). With the increasing competition and ever changing customer needs, it has become quite a daunting task for the firms to surpass the expectations by providing innovative solutions at affordable price. In effect, managing processes with supreme precision has become a call for the day. The success lies in discovering and anticipating the problems and taking appropriate corrective and proactive decisions based on evidence based root cause analysis on time (Blakeslee, 1999; Schroederet *et al.*, 2008). In other words, there is a need to increase process capabilities by controlling the variability factor. The concept of Six-Sigma attempts to analyze business processes using data driven statistical methods for reducing the variability which in effect improve the quality of products and services being offered to the customers (Hannet *et al.*, 2000). As a result the bottom line performance of the firms get improved in terms of revenue increase and enriched customer experience (Harry & Schroeder, 2000). The business value of applying the concepts and practices of Six-Sigma methodology is appreciated in the work of Fiedler (2004) wherein the author presented some success stories (for example, 3M Corporation). Recognizing the observations and arguments as presented by the above studies, it is quite reasonable to remark that the thrust area for the organizations is not only reduction of waste but also there is a need to limit the process variability. This sets the basic rationale behind integration of two paradigms namely LT and Six-Sigma which defines the framework of Lean Six-Sigma (LSS). Hence, successful implementation of LSS concepts and practices requires a holistic approach involving all the members across the value chain for anticipation and identification of the problems, analysis of the causes based on supportive evidences, formulation of prudent solution and implementation of the solution through effective coordination among different functions. The firms are nowadays operating in a highly volatile, uncertain, complex and ambiguous (VUCA) environment. Time and availability of resources are two dominant constraints that limit the performance and decide the success or failure of the organizations. It is therefore quite understandable that Industry 4.0 has notable implications for successful implementation of LSS.

In this context, the present paper intends to figure out key implications of Industry 4.0 for practicing LSS in organizations based on expert opinions in a Multi-Criteria Group Decision Making (MAGDM) environment. Since, opinions are subjective in nature and provide imprecise information, fuzzy numbers are used. Further, since an expert represents a large group of respondents, significant difference in opinions could result into improper conclusion.

Hence, concordance of the opinions are also investigated. The rest of this paper is organized as follows. In section 2, a theoretical understanding is presented for pointing out the implications of Industry 4.0 for LSS while in section 3, methodological steps are explained. Section 4 presents the findings and summarizes the inferences. Section 5 highlights some managerial implications of this study. Finally, section 6 concludes the paper mentioning some of the future scopes of this research thereof.

Lean Six-Sigma and Industry 4.0

LT stands on five principles which aim to continuously improve processes in pursuit of achieving business excellence (Ohno, 1988; Womack *et al.*, 1990). In essence, the principles are described as follows.

- Principle 1: Understanding customer value as they perceive.
- Principle 2: Analysis of the value stream for identification and possible elimination of the non-value added work contents.
- Principle 3: Ensure an uninterrupted continuous flow of products and services, and information throughout the value chain.
- Principle 4: Ensure a customer driven demand chain which pulls the products and services from the point of origination to the point of consumption.
- Principle 5: Strive for continuous improvement of the system through elimination of the wastes following proactive approaches. It is said "There is no end to reducing time, cost, space, mistakes, and effort" (McCurry & McIvor, 2002).

Basically, a lean system attempts to remove three M's such as: Muda(waste of time and materials), Mura (unevenness/variation); and Muri (the overburdening of workers or systems). Six-Sigma methodology on the other hand works on controlling variability. Hence, Lean and Six-Sigma frameworks are having some common objectives which have led to the concept of LSS. Originated in Motorola in 1985 by Bill Smith, Six-Sigma methodology (SSM) has allured researchers and practitioners for working on it. SSM intends to reduce variation and eliminate defects using statistical data driven tools and techniques derived from the broad framework of Statistical Quality Control (SQC). SSM stands on the framework featured by Define, Measure, Analyze, Improve, Control (DMAIC) principles. The underlying objective of DMAIC is to balance quality and cost of non-quality related to the processes to deliver value to end customers and thereby to maximize profitability.

Hence, it is inferred that combination of LT and SSM, i.e., LSS enable the organizations to ensure both efficiency in terms of reduction of waste from the entire system; optimization of resources; faster operation with precision and accuracy at a lower cost and defect level while maintaining a stability in the system and effectiveness in terms of understanding and meeting the requirements of customers as per their affordability and convenience. In fact, within the broader scope of LT, SSM provides necessary control over the processes to support the growth of the organizations (Pyzdek, 2003; Magnusson *et al.*, 2003; George *et al.*, 2004; Goldsby&Martichenko, 2005; Arnheiter&Maleyeff, 2005; Andersson *et al.*, 2006; Laureaniet *et al.*, 2010). In this context, Snee (2010) remarked on the importance of LSS in terms of integration of human and process aspects for improvements.

Having understood the relevance and importance of LSS, it is equally important to look into the changing scenario as started with globalization and rapid developments of ICT. In this digital age, customers are more informed and knowledgeable. As a result, the needs and

preferences of the customers are also changing significantly which impose greater challenges for the strategic decision makers to understand the consumer behavior in true sense and subsequently define the value based on the ‘voice of the customers’. Often it is required to understand the unstated perceptions and opinions of the consumers to translate the same into product and service requirements for winning the orders in the marketplace. Exploration of the informal and semi-structured or unstructured information stands as an important competitive priority for every organizations. The highly varying nature of demand makes the design of the processes quite difficult as they need to deliver customized products and services within shortest possible lead time and with maximum possible precision and accuracy level. The things are happening on a real-time basis from design to delivery. It is required to operate with a network of competent partners to address the requirements of demanding customers. Therefore, Industry 4.0 supports the organizations in three aspects (Wagner *et al.*, 2017)

- Data mining
- Data processing using advanced cognitive algorithms
- Real-time Machine to Machine and Machine to Human communication

This in turn enables the organizations to understand the customers in a better way; infuse flexibility in the system to provide customized solution; derive actionable insight for formulating strategies to control the variability and generation of waste and foster real-time communication among different members of the value chain. Therefore, the implications of Industry 4.0 for LSS can be summarized as exhibited in table 1.

Table 1. Implications of Industry 4.0 for LSS

Implications of Industry 4.0	Code
Real-time Monitoring	IM 1
Multi-nodal Real-time Connectivity	IM 2
End-to-End Visibility	IM 3
End-to-End Information Flow	IM 4
Data Mining and Analytics	IM 5
Lead Time	IM 6
Cost	IM 7
Flexibility	IM 8

Methodology

In the present study, for understanding the relative priorities of the implications of Industry 4.0 for LSS (as mentioned in table 1) an expert survey based MAGDM framework has been applied. For this purpose, a group of seven experts were consulted which satisfies the condition mentioned by Kendall (1948). Table 2 exhibits brief profile of the respondents.

Table 2: Profile of the experts

Years of Experience	Nature of work	Sectors served
20+ Years : 02	Consultancy : 02	Manufacturing : 03
15 – 20 Years : 03	Trainer : 01	Service : 01
10 – 15 years : 02	Practitioners : 04	Both : 03
Total : 07	Total : 07	Total : 07

Accordingly, the experts were requested to rate each of the implications of Industry 4.0 (see table 1) on a fuzzy 7-point scale as used by Bansal *et al.* (2016). The scale is described in table 3 as given below. This fuzzy 7-point scale is used to investigate relative importance of the implications of Industry 4.0 based on experts' opinions. In this study, triangular fuzzy number (TFN) is considered for quantifying the subjective opinions.

Table 3. Description of the Fuzzy 7-Point Scale

Linguistic Term	Code	Corresponding Triangular Fuzzy Number
Extremely More Important	EMI	(1,1,1)
Very More Important	VMI	(0.8,0.9,1)
More Important	MI	(0.6,0.7,0.8)
Important	I	(0.4,0.5,0.6)
Less Important	LI	(0.2,0.3,0.4)
Very Less Important	VLI	(0.0, 0.1, 0.2)
Extremely Less Important	ELI	(0,0,0)

Accordingly, the responses obtained from the experts are summarized in Table 4. For each implication (hereafter is called as 'object'), there are 7 responses in linguistic term as depicted in the table 3. Each such linguistic term has a corresponding TFN. Hence, in order to arrive at a group decision, for each object a fuzzy average value (i.e., mean of TFNs) is calculated and subsequently after defuzzification, corresponding crisp value is derived. This crisp value eventually represents the relative importance for the respective object as perceived by the experts. The object which is assigned with highest crisp value is considered to be the most important implication of Industry 4.0 for LSS. Accordingly, the other objects are ranked depending on the obtained crisp values. In the following sub-section (see sub-section 3.1), the definition of Fuzzy Set (FS) and TFN along with some basic operations are briefly mentioned.

Table 4: Experts' opinions for rating of objects based on importance

Implications of Industry 4.0	Code	Expert Opinions						
		E1	E2	E3	E4	E5	E6	E7
Real-time Monitoring	IM 1	EMI	MI	VMI	VMI	VMI	VMI	VMI
Multi-nodal Real-time Connectivity	IM 2	EMI	VMI	EMI	EMI	EMI	EMI	EMI
End-to-End Visibility	IM 3	I	I	I	LI	MI	I	VLI
End-to-End Information Flow	IM 4	VMI	EMI	EMI	MI	EMI	VMI	VMI
Data Mining and Analytics	IM 5	MI	I	VMI	MI	I	MI	I
Lead Time Reduction	IM 6	MI	MI	MI	I	VMI	MI	MI
Cost Efficiency	IM 7	I	I	LI	I	LI	I	LI
Flexibility	IM 8	LI	LI	VLI	LI	I	LI	I

Preliminaries: Fuzzy Sets, Triangular Fuzzy Numbers and its basic operations

Fuzzy numbers represents imprecise information or vagueness associated with the data. In line with the concept of FS as given by Zadeh (1965) in his seminal work, a Fuzzy Set (FS) \tilde{A} in X, where X is a collection of objects x , is defined (Zimmermann, 2011) as a set of ordered pairs as given below.

$$\tilde{A} = \{(x, \mu_{\tilde{A}}(x)) \mid x \in X\} \quad (1)$$

Here, $\mu_{\tilde{A}}(x)$ is the membership function of x in \tilde{A} such that $X \rightarrow [0,1]$ (membership space). A Triangular Fuzzy Number (TFN) $\tilde{T} = (a, b, c)$ is defined as:

$$\tilde{T} = \{(x, \mu_{\tilde{T}}(x)) \mid x \in X\} \text{ where, } x: X \rightarrow [0,1] \quad (2)$$

$$\mu_{\tilde{T}}(x) = \begin{cases} 0 & x < a \\ \frac{x-a}{b-a} & a \leq x \leq b \\ \frac{c-x}{c-b} & b \leq x \leq c \\ 0 & x > c \end{cases} : \quad (3)$$

The above nature of the membership function $\mu_{\tilde{T}}(x)$ is represented in the following figure 1. Now, if $\tilde{T}_1 = (a_1, b_1, c_1)$ and $\tilde{T}_2 = (a_2, b_2, c_2)$ are the two TFNs, then the addition and subtraction values can be calculated as:

$$\tilde{T}_1 + \tilde{T}_2 = (a_1 + a_2, b_1 + b_2, c_1 + c_2) \quad (4)$$

$$\tilde{T}_1 - \tilde{T}_2 = (a_1 - a_2, b_1 - b_2, c_1 - c_2) \quad (5)$$

The average of \tilde{T}_1 and \tilde{T}_2 is given by:

$$\tilde{T}_{avg} = \left(\frac{a_1+a_2}{2}, \frac{b_1+b_2}{2}, \frac{c_1+c_2}{2} \right) \quad (6)$$

Defuzzified value of a general TFN $\tilde{T} = (a, b, c)$ is given by:

$$t = \frac{a+b+c}{3} : \quad (7)$$

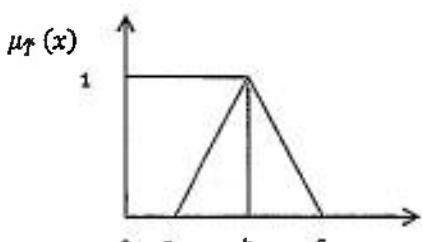


Figure 1: Triangular Fuzzy Number Membership Function

However, it is important to ensure the responses are in harmony. To verify this, in the next step, Kendall's Concordance Coefficient (Kendall, 1948) is calculated. Each expert was requested to rank the objects according to their relative priorities. The object at rank 1 is assumed to have highest priority than others as perceived by the corresponding expert. Here, it is assumed that there is no repetition in ranks. Table 5 represents the ordering of all the implications of Industry 4.0 as ranked by the experts.

Table 5: Experts' opinion based ranking of the implications

Implications of Industry 4.0	Code	Experts' opinion based ordering						
		E1	E2	E3	E4	E5	E6	E7
Real-time Monitoring	IM 1	2	3	3	2	3	2	2
Multi-nodal Real-time Connectivity	IM 2	1	2	1	1	2	1	1
End-to-End Visibility	IM 3	6	6	6	7	5	7	8
End-to-End Information Flow	IM 4	3	1	2	3	1	3	3
Data Mining and Analytics	IM 5	4	5	4	4	6	4	5
Lead Time Reduction	IM 6	5	4	5	5	4	6	4
Cost Efficiency	IM 7	7	7	7	6	8	5	7
Flexibility	IM 8	8	8	8	8	7	8	6

The methodological steps to calculate Kendall's Concordance Coefficient (W) is explained in the following sub-section (see 3.2).

Steps for calculating Kendall's Concordance Coefficient and validation

Suppose,

n = Number of objects to be compared. In this study, there are 8 implications of Industry 4.0 for comparison.

m = Number of experts participated in the survey. In this case, 7 experts have participated.

The steps (Ivlevet al., 2015; Turskiset al., 2019) are given below.

Step 1: Determination of mean rank (based on the rating)

The mean rank is given by:

$$\bar{r} = \frac{\sum_{j=1}^m r_{ij}}{m} \quad (8)$$

Where, r_{ij} is the opinion (i.e., rank assigned) by the j^{th} expert on i^{th} object.

Step 2: Determination of the importance of the objects (i.e., implications of Industry 4.0 as used in this study)

Significance of the i^{th} object is given by:

$$q_i = \frac{\bar{r}}{\sum_{l=1}^m \bar{r}} \quad (9)$$

Step3: Calculation of Kendall's concordance coefficient (W) for finding out the coherence of expert judgment (No repetition in rank is assumed)

$$W = \frac{12S}{m^2(n^2-n)} \quad (10)$$

Where, $W \in [0,1]$

$$S = \sum_{i=1}^n \left(\sum_{k=1}^m r_{ik} - \frac{1}{n} \sum_{i=1}^n \sum_{k=1}^m r_{ik} \right)^2 \quad (11)$$

Here, S is the sum of the squares of the deviation of the rank sums obtained by each object from the mean sum of ranks.

More is the closeness of W to the value 1, more harmonious is the group decision.

Step 4: Verification of the significance of the concordance factor (W)

In this study, the number of objects (n) = 8, which is greater than 7. Hence, the verification is done by using the significance of Pearson's Chi-Square Test as suggested by Kapetanopoulou & Tagaras (2011) and Legendre (2005).

Accordingly at a particular significance level α and degrees of freedom $df = n-1$; first the χ^2 is calculated as:

$$\chi^2_{calc} = m(n-1)W \quad (12)$$

If $\chi^2_{calc} > \chi^2_{\alpha,table}(n-1)$ then a compatibility of the expert opinions is supported.

Results and Discussions

Table 6 exhibits the relative weight age of the implications of Industry 4.0 based on the opinions of the experts. The weights here represent relative importance of the implications as perceived by the experts. It is evident that Multi-nodal Real-time Connectivity stands as most important implication of Industry 4.0 for LSS whereas, Flexibility is given lowest importance. The result resembles the arguments made by the researchers in favor of Industry 4.0 as evident in the literature. In the relative importance list, End-to-End Information Flow holds the second position which is justified as connectivity ensures uninterrupted information flow. If a system consists of well-connected nodal points and gets operated with information assimilation and dissemination on a real-time basis, monitoring is made easy for identification and elimination of waste and controlling of variability to ensure defect free and value added operation. Hence, the third position of Real-time Monitoring as an important implication of Industry 4.0 is acceptable. Therefore, from the analysis it can be inferred that Multi-nodal Real-time Connectivity, End-to-End Information Flow, and Real-time Monitoring are the key implications of Industry 4.0 for effective implementation of LSS in this digital age.

Table 6: Relative importance of the implications of Industry 4.0

Implications of Industry 4.0	Code	Fuzzy Average	Crisp value	Weight	Rank
Real-time Monitoring	IM 1	(0.8, 0.8857, 0.9714)	0.88570	0.16666144	3
Multi-nodal Real-time Connectivity	IM 2	(0.9714, 0.9857, 1)	0.98570	0.185478357	1
End-to-End Visibility	IM 3	(0.3429, 0.4429, 0.5429)	0.44290	0.083340128	6
End-to-End Information Flow	IM 4	(0.8571, 0.9143, 0.9714)	0.91427	0.172036806	2
Data Mining and Analytics	IM 5	(0.5429, 0.6429, 0.7429)	0.64290	0.120973964	5
Lead Time Reduction	IM 6	(0.6, 0.7, 0.8)	0.70000	0.131718424	4
Cost Efficiency	IM 7	(0.3143, 0.4143, 0.5143)	0.41430	0.07795849	7
Flexibility	IM 8	(0.2286, 0.3286, 0.4286)	0.32860	0.061832391	8

Proceeding further the consistency of the opinions of the experts are checked. Table 7 and 8 highlight the findings of the consistency test using Kendall's Concordance Coefficient (W) as a measurement parameter. The coefficient value comes out to be 0.896016 which is close to 1 and therefore, it is posited that the group of experts might be in consensus. The validity of this understanding is obtained through further analysis which shows that χ^2_{calc} value (43.90476) is greater than that of the table value at $\alpha = 0.05$ and $df=n-1=7$.

Table 7: Relative priorities (in terms of ranks) of the implications

Implications of Industry 4.0	Code	Summary of Experts' opinions for relative priorities		
		Mean Rank	Sum of Ranks	Square Deviation
Real-time Monitoring	IM 1	2.37957	17	210.25
Multi-nodal Real-time Connectivity	IM 2	1.21901	9	506.25
End-to-End Visibility	IM 3	6.36525	45	182.25
End-to-End Information Flow	IM 4	2.06845	16	240.25
Data Mining and Analytics	IM 5	4.51757	32	0.25
Lead Time Reduction	IM 6	4.66389	33	2.25
Cost Efficiency	IM 7	6.65186	47	240.25
Flexibility	IM 8	7.53281	53	462.25

Table 8: Consistency Test of the experts' opinions

Mean Sum of Ranks	31.5
Sum of SqDev (S)	1844
W	0.896016
$\chi^2_{calc} = m(n-1)W$	43.90476
df	7
$\chi^2_{\alpha,table}(n - 1)$ at 95% ci; i.e., alpha = 0.05	14.067

Managerial Implications

Lean Six-Sigma (LSS) enables the organizations to excel on two dimensions: resource consolidation (by identification and elimination of waste) and standardization (by limiting the variations in the processes). However, for successful implementation of LSS, it is essential to ensure: seamless integration of all the stakeholders and processes; on-time evidence based problem analysis for faster decision making. With the rapid expansion of Internet-of-Things (IoT) driven Industry 4.0, it is imperative for the decision makers to understand its implications for every aspect of business operations. However, it is evident in the literature that there have been a limited number of attempts made to connect these two essential drivers of modern business operations (LSS and Industry 4.0). In this regard, the present study has made an attempt to put forth an understanding of a group of experts in the stated field about the extent to which Industry 4.0 would aid effective implementation and usefulness of LSS.

Conclusion and Future Scope

In the present study, the nature of Industry 4.0 and its implications are highlighted. In this context, a theoretical understanding of basic principles and objectives of LSS are mentioned. An effort is put into to investigate which aspects of Industry 4.0 may imply a considerable bearing on practicing LSS. In order to find out key implications of Industry 4.0 for LSS, an opinion based expert survey is carried out and a fuzzy MAGDM framework is used for analysis purpose. Since, only a small number of experts has taken part in the study, harmony in their opinions is also ascertained. This paper is therefore presenting results of a top level pilot study which may further be extended to a large-scale empirical research wherein the causal nexus between the implications of Industry 4.0 and critical success factors for sustainable implementation of LSS along with possible business results could be investigated.

References

1. Arnheiter, E. D., & Maleyeff, J. (2005). The integration of lean management and Six Sigma. *The TQM magazine*, 17(1), 5-18.
2. Andersson, R., Eriksson, H., & Torstensson, H. (2006). Similarities and differences between TQM, six sigma and lean. *The TQM Magazine*, 18(3), 282-296.
3. Azadegan, A., Patel, P. C., Zanganeinezhad, A., & Linderman, K. (2013). The effect of environmental complexity and environmental dynamism on lean practices. *Journal of Operations Management*, 31(4), 193-212.
4. Bansal, A., Kumar, B., & Garg, R. (2017). Multi-criteria decision making approach for the selection of software effort estimation model. *Management Science Letters*, 7(6), 285-296.
5. Bhamu, J., & Singh Sangwan, K. (2014). Lean manufacturing: literature review and research issues. *International Journal of Operations & Production Management*, 34(7), 876-940.
6. Blakeslee Jr, J. A. (1999). Implementing the six sigma solution. *Quality progress*, 32(7), 77-85.
7. Chauhan, G., & Singh, T. P. (2012). Measuring parameters of lean manufacturing realization. *Measuring Business Excellence*, 16(3), 57-71.
8. Cottyn, J., Van Landeghem, H., Stockman, K., & Derammelaere, S. (2011). A method to align a manufacturing execution system with Lean objectives. *International Journal of Production Research*, 49(14), 4397-4413.
9. Drath, R., & Horch, A. (2014). Industrie 4.0: Hit or hype? [industry forum]. *IEEE industrial electronics magazine*, 8(2), 56-58.
10. Erol, S., Jäger, A., Hold, P., Ott, K., & Sihl, W. (2016). Tangible Industry 4.0: a scenario-based approach to learning for the future of production. *ProcediaCIRP*, 54, 13-18.
11. Fiedler, T. (2004, May). Mopping up profits: With 3M sitting on solid earnings. In CEO James McNerney handled his fourth annual meeting like a contented company veteran, *Star Tribune*, Metro ed, Minneapolis, MN (Vol. 12).
12. Föidl, H., & Felderer, M. (2015, November). Research challenges of industry 4.0 for quality management. In *International Conference on Enterprise Resource Planning Systems* (pp. 121-137). Springer, Cham.
13. George, M., Rowlands, D. and Kastle, B. (2004). What is Lean Six Sigma?, McGraw-Hill Companies, New York, NY.
14. Goldsby, T. J., & Martichenko, R. (2005). Lean six sigma logistics: Strategic development to operational success. J. Ross Publishing.
15. Hann, G.J.; Doganaksoy, N., & Hoerl, R. (2000). The Evolution of Six Sigma. *Quality Engineering*, 12(3), 317-326.
16. Harry, M. and Schroeder, R. (2000). *Six Sigma: The Breakthrough Management Strategy Revolutionizing the World's Top Corporations*. Doubleday, New York.
17. Holweg, M. (2007). The genealogy of lean production. *Journal of operations management*, 25(2), 420-437.

18. Ivlev, I., Vacek, J., & Kneppo, P. (2015). Multi-criteria decision analysis for supporting the selection of medical devices under uncertainty. *European Journal of Operational Research*, 247(1), 216-228.
19. Jadhav, J.R., Mantha, S.S., S., & Rane, S.B. (2014). Exploring barriers in lean implementation. *International Journal of Lean Six Sigma*, 5(2), 122-148.
20. James-Moore, S. M., & Gibbons, A. (1997). Is lean manufacture universally relevant? An investigative methodology. *International Journal of Operations & Production Management*, 17(9), 899-911.
21. Kang, H. S., Lee, J. Y., Choi, S., Kim, H., Park, J. H., Son, J. Y., ... & Do Noh, S. (2016). Smart manufacturing: Past research, present findings, and future directions. *International Journal of Precision Engineering and Manufacturing-Green Technology*, 3(1), 111-128.
22. Kapetanopoulou, P., & Tagaras, G. (2011). Drivers and obstacles of product recovery activities in the Greek industry. *International Journal of Operations & Production Management*, 31(2), 148-166. doi:10.1108/01443571111104746.
23. Kendall, M. G. (1948). Rank correlation methods. Hafner Publishing House: New York, NY, USA
24. Kolberg, D., & Zühlke, D. (2015). Lean automation enabled by industry 4.0 technologies. *IFAC-PapersOnLine*, 48(3), 1870-1875.
25. Legendre, P. (2005). Species associations: The Kendall coefficient of concordance revisited. *Journal of Agricultural, Biological, and Environmental Statistics*, 10(2), 226-245. doi:10.1198/108571105X46642
26. Laugsand, E. E. (2017). Industry 4.0: New Technologies and Potential for Increased Value Creation (Master's thesis, NTNU).
27. Laureani, A., Antony, J., & Douglas, A. (2010). Lean six sigma in a call centre: a case study. *International journal of productivity and performance management*, 59(8), 757-768.
28. Liao, Y., Loures, E. R., Deschamps, F., Brezinski, G.; & Venâncio, A. (2018). The impact of the fourth industrial revolution: a cross-country/region comparison. *Production*, 28, e20180061, DOI: 10.1590/0103-6513.20180061
29. Magnusson, K., Kroslid, D., & Bergman, B. (2003). *Six Sigma – The Pragmatic Approach*, Lund, Studentlitteratur.
30. McCurry, L., & McIvor, R. (2002). Agile manufacturing: 21st century strategy for manufacturing on the periphery?. *Irish Journal of Management*, 23(2), 75-93.
31. Netland, T. H. (2016). Critical success factors for implementing lean production: the effect of contingencies. *International Journal of Production Research*, 54(8), 2433-2448.
32. Ohno, T. (1988). *Toyota production system: beyond large-scale production*. CRC Press.
33. Pal, G., & Biswas, S. (2014). A Review of the Critical Factors Affecting the Success of Lean Implementation in Indian Manufacturing Organizations – Challenges & Way Forward. 1st National Conference on "Advances in Business Research and Management Practices" conducted by Calcutta Business School on 5-6 December, 2014.
34. Posada, J., Toro, C., Barandiaran, I., Oyarzun, D., Stricker, D., de Amicis, R., ... & Vallarino, I. (2015). Visual computing as a key enabling technology for industrie 4.0 and industrial internet. *IEEE computer graphics and applications*, 35(2), 26-40.
35. Pyzdek, T. (2003). *The Six Sigma Handbook*, McGraw-Hill, New York, NY.
36. Qin, J., Liu, Y., & Grosvenor, R. (2016). A categorical framework of manufacturing for industry 4.0 and beyond. *ProcediaCIRP*, 52, 173-178.
37. Riezebos, J., Klingenberg, W., & Hicks, C. (2009). Lean production and information technology: connection or contradiction?. *Computers in industry*, 60(4), 237-247.
38. Schroeder, R. G., Linderman, K., Liedtke, C., & Choo, A. S. (2008). Six Sigma: Definition and underlying theory. *Journal of operations Management*, 26(4), 536-554.
39. Snee, R. D. (2010). Lean Six Sigma—getting better all the time. *International Journal of Lean Six Sigma*, 1(1), 9-29.
40. Shrivastava, K., Bose, A., & Biswas, S. (2016). Assessment of Implementation of Lean Manufacturing Practices in Indian Plywood Industries – A Case Study. 2nd National

Conference on “Advances in Business Research and Management Practices” conducted by Calcutta Business School on 8-9 January, 2016.

41. Turskis, Z., Antuchevičienė, J., Keršulienė, V., & Gaidukas, G. (2019). Hybrid Group MCDM Model to Select the Most Effective Alternative of the Second Runway of the Airport. *Symmetry*, 11(6), 792.
42. Wagner, T., Herrmann, C., & Thiede, S. (2017). Industry 4.0 impacts on lean production systems. *Procedia CIRP*, 63, 125-131.
43. Wang, B., Zhao, J. Y., Wan ZG, H. L., & Jian, M. A. (2016). Lean intelligent production system and value stream practice. *Trans EconomManag (ICEM 2016)*, 442-447.
44. Wang, K. (2016). Intelligent predictive maintenance (IPdM) system—Industry 4.0 scenario. *WIT Transactions on Engineering Sciences*, 113, 259-268.
45. Womack, J. P., Jones, D. T., & Roos, D. (1990). Machine that changed the world. Simon and Schuster.
46. Zadeh, L. A. (1965). Fuzzy sets. *Information and Control*, 8, 338–353.
47. Zimmermann, H. J. (2011). Fuzzy set theory—and its applications. Springer Science & Business Media.
48. Zhou, K., Liu, T., & Zhou, L. (2016). Industry 4.0: Towards Future Industrial Opportunities and Challenges, in International Conference on Fuzzy Systems and Knowledge Discovery, 2147–2152.

ABSTRACTS



BBA/FIN/AB1

Restructuring and Strengthening PSU Banks

Bhargav Majumdar

Assistant Professor, Department of Management, J. D. Birla Institute, Kolkata

Abstract

The Indian banking sector has been witnessing continued deterioration in asset quality, leading to pressures on profitability and bank capital. Gross NPA as a proportion of gross advance of SCBs deteriorated to 11.2% as on March 2018 from 9.3% in the corresponding previous. As on March 2018, the NPAs in the banking sector stood at 10.36 trillion. Though PSU banks account for around 66% of the total banking assets in India (Rs.153 trillion), they are responsible for 86% of the banking sector's NPAs (Rs.10.36 trillion). Since the PSU's are largely owned by the government, they have not differentiated themselves much in terms of the services they offer. The government is hence considering the merger of these banks, which is likely to improve the prospects of the Indian banking sector in the long term, given the economies of scale and cost synergies gained from mergers. In this paper we have considered the following merger strategies:

1. Form two mega banks, excluding SBI, by merging all east-based banks and west-based banks, and north-based banks and south-based banks
2. Merger of six banks with four stronger banks (referred to as anchor banks)

Keywords: Banking, Merger, NPA, PSU Banks.

BBA/FIN/AB2

Determinants of Profitability in Indian Banking Scenario: An Empirical Study

Shreyans Sekhsaria¹ & Arindam Banerjee²

¹Student, Department of Management, J. D. Birla Institute, Kolkata

²Assistant Professor, Department of Management, J. D. Birla Institute, Kolkata

Abstract

The purpose of this study is to examine the overall performance of Indian Banks with a bank specific variables and macroeconomic variables that impact the profitability Banks. The data obtained from the annual report and publishing of RBI from the period starting from 2009 to 2018. Data was analyzed via regression analysis tool pack of excel. The regression analysis show that the deposits which measured by logarithm of the total customer deposits have the highest impact on the profitability on the banking sector.

Keywords: Banking Sector, Profitability, Regression, Risk.

BBA/FIN/AB3

A Study of Crude Oil Price Fluctuation & Its Impact on Indian Economy

Santanu Mallick

Assistant Professor, Department of Management International Institute of Management Sciences & Visiting Faculty, Annex College of Management Studies, AIMA, Kolkata; santanu.mallick7@gmail.com

Abstract

Petroleum is the most traded product and also the most essential commodity which influences Indian economy. Petroleum known as "liquid gold" is an extract of crude oil and is compared to gold because it is an exhaustible resource and also of its economic value. The study is an attempt to analyses the causes for rise in petroleum prices and the responsible factors that influence it and its impact Indian economy especially on increase of inflation of our country. India is heavily dependent on crude oil and liquefied natural gas (LNG) imports with 82.8% import dependence for crude oil and 45.3% for natural gas. India is now the third biggest oil importer after US and China in 2018 and expected to occupy second place surpassing the US in 2019. In India the changes in the price of crude oil has been a major cause for the rise in inflation rate as it greatly affects the prices of essential commodities and adversely affecting the CPI. A recent study by the central bank showed that a \$10 rise from \$65 a barrel will lead to a 49 basis points increase in headline inflation, while a similar increase from \$55 a barrel would give around a 58 basis-point boost to heading inflation upwards. Even just 10 per cent spike in crude oil prices can result in a 0.40 per cent widening of the current account deficit (CAD), which can consequently play out into 3-4 per cent depreciation in the Rupee and also push up inflation by 0.24 per cent, as per report by a ratings agency. In this paper we have tried to analyze the significant relationship between crude oil price fluctuation and its import how effected on hike Inflation, Exchange rate and CPI as well as the trend of consumption of petroleum products by various industries.

Keywords: Consumer Price Index, Current Account Deficit, Liquefied Natural Gas, Wholesale Price Index.

BBA/FIN/AB4

Bank – Led Financial Inclusion and Socio-Economic Development – A Case Study in Diamond Harbor Block of South 24 Parganas District in West Bengal

Anusri Mallik¹ & CMA Sudarshan Maity²

¹ Assistant Professor, Narula Institute of Technology (Under JIS Group);
anusri.mallik@gmail.com

² Deputy Director, The Institute of Cost Accountants of India;
sudarshan.maity@gmail.com

Abstract

Financial Inclusion is both a challenge and an opportunity to financial system. Financial inclusion is nothing but the inclusion of hitherto excluded poor and deprived section of society into the mainstream economy. Inclusive growth and Participatory development is the policy priority of the Government of India (GOI). GOI and Reserve Bank of India (RBI) make coordinated efforts to meet this challenge. RBI adopted bank- led financial inclusion model to attend the issue. The present study is an attempt to assess the changes in banking sector growth according to different population groups. Branch expansion, deposit mobilization and credit penetration are the three parameters to assess the changes. To check the difference before and after implementation of Revised Financial Inclusion Plan (FIP) two periods are considered. From April 2002 to March 2010 and from April 2010 to March 2018 are considered as period I and Period II respectively. The financial year 2010-11 is considered as reference period as all banks including public and private adopted, approved Financial Inclusion Plan for next three years which started from April 2010 to March 2013. To test the efficacy of financial inclusion plan the study attempts to find out the impact of Financial Inclusion Plan on BSBD account holders in Diamond Harbor Block of South 24 Parganas district in West Bengal. To measure the impact of social and economic changes after the inclusion of Financial Inclusion Plan 100 samples were selected in the study region, at random during the period between October 2018 and March 2019. The chi – square test has been employed to draw suitable inference. The test reveals that there is a significant change after the financial inclusion. Therefore considering the positive changes in population wise banking sector growth and its impact on economic and social conditions of new account holders, Government should take further efficient steps to reach out the unreachd effectively.

Keywords: Branch Expansion, Credit Penetration, Deposit Mobilization, Financial Inclusion, Scheduled Commercial Banks, Socio-Economic Development.

BBA/FIN/AB5

A Study on Financial Performance of Jute Textile Companies in India

Barnasree Chatterjee¹ & Nivedita Mandal²

¹ Doctoral Research Scholar, School of Economics and Commerce, Adamas University, Barasat, Kolkata

² Associate Professor, Department of Economics, School of Economics & Commerce, Adamas University, Barasat, Kolkata

Abstract

In this present situation of incredibly innovative fashion, textile industry holds a significant role in Indian economy in terms of generating employment and foreign exchange. The importance of textile industry in India is due to contribution in the industrial production, employment and also earns foreign exchange by way of exports. Textile industries have captured the whole world in a unique way as it offers a great variety of fabric which is to be used on a daily basis, garments being the prominent one. India is now the second largest textile fibre producer and has manufacturing capacity in the world as well as largest cotton and jute producer in the world, contributing to over 50 percent raw jute and 40 percent jute goods of global production. This sector plays an important role in the growth of GDP of the economy as it creates employment opportunities at low capital cost. India is using the latest technologies for jute production and is holding the maximum market share in terms of production, consumption and export in the world. The major jute producing states in India are West Bengal, Assam, Bihar and Orissa. Out of these West Bengal produces more than 50% of the total production in India. But due to several factors many jute companies have closed down their operation in recent past. For this jute industry in West Bengal is often called the 'sunset industry' and is claimed to be a dying industry as it has lost its glory in terms of earning foreign exchange and declining employment opportunities. It is also said that this industry is unprofitable and there lies excess workers with decreased production per worker. With the backdrop of huge growth in textile industry in India and the immense potential for jute textile in international market, this paper makes an enquiry into the financial health of the jute textile sector in India. This paper closely analyses the financial performance of some select jute companies in India to find out whether the financial performance is the reason for jute industry to be referred to as the sunset industry of West Bengal. The analysis is carried out on the listed (BSE or NSE) companies of West Bengal for a period of 10 years based on the secondary data. The study reveals detail findings on the capital structure, solvency, working capital management, credit policy, funds flow, investment and profitability of these selected companies.

Keywords: Entrepreneur and Economic Development, Financial Performance, Jute Textile Industry, Technological Innovation.

BBA/FIN/AB6

Dynamic Pricing in Airline Companies

Shivangi Sarda¹ & Madan Mohan Dutta²

¹ Student, Department of Management, J. D. Birla Institute, Kolkata;
shivangisarda98@gmail.com

² Assistant Professor, Department of Management, J. D. Birla Institute, Kolkata;
mmd_248@yahoo.co.in

Abstract

Airlines sector has been playing a vital role by providing mobility, revenues, employment, business solutions and tourism. The development of industry technology and revenue-management has led the aviation industry to implement dynamic pricing on their ticket searches. In dynamic pricing, the price is not firmly set, instead it changes based on changing circumstances such as increase in demand at certain times, type of customer being targeted or changing market conditions. The paper provides an understanding on the dynamic pricing mechanism used by the airline sector. It aims at revenue optimization by the use of analytical techniques derived from operations research and management science.

Keywords: Airline Industry, Pricing.

BBA/FIN/AB7

FinTech: Unleash a New Era of Competition

Bristi Bose¹ & Sumanta Dutta²

¹ Student, Post Graduate Department of Commerce, St. Xavier's College (Autonomous), Kolkata; boseofficial97@gmail.com

² Assistant Professor, Post Graduate Department of Commerce, St. Xavier's College (Autonomous), Kolkata; sumantadu@gmail.com

Abstract

The Micro, Small and Medium Enterprises' landscape has seen a stark increase in its number in the recent past. In most of the South Asian countries, SMEs contribute a large share to their GDPs. This has, obviously, led to the increase in significance of these enterprises in the economy and now, needless to say, these enterprises have been successful in participating in modern day capitalism. The debate around technology, of it being a disruptor or an enabler has been doing the rounds in the business world often leading us to the similar conclusion that perhaps it is both. If an economy has to embrace the changes as brought in by the wave of technology and reap its benefits, it has to ensure that these budding or small enterprises are not left out. On doing a review of literature, we understand that technology has almost replaced the necessity of physicality in between the processes, causing a paradigm shift in the treatment of financial procedures like payments, banking, investing, and etc. FinTech has created a change in the banking and borrowing habits of both the banks and the customers and it has been found that the future of banking and investment depends on FinTech.

Keywords: Enterprise, GDP, SME

BBA/FIN/AB8

Evaluation of Corporate Governance Practices in Indian Banking Sector and Its Different Dimensions

Sujoy Kumar Dhar

Faculty Member, ICFAI Business School, Kolkata

Abstract

Corporate Governance provides major emphasis on transparency and adequate disclosure. Banking sector in India are as much required to be governed under corporate governance norms as other firms and has also been covered under the internationally followed Basel Committee norms. Banking and financial institutions stand to benefit only if corporate governance is accepted universally by industry and business that banks and financial institutions have to interact and deal with. With the help of issues mentioned in financial and non-financial disclosure, the annual reports of the public and private sector banks have been examined for the period of five years from 2011-12 to 2015-16. The banks listed in the BANKEK of Bombay Stock Exchange as on 31st March, 2016 have been considered for the study. The research work also incorporates 12 (twelve) variables such as corporate governance disclosure index, average income, average domestic ownership, average board size, average number of independent directors in the board, average return on asset, average net non-performing asset, average capital adequacy ratio, average return on equity, average number of members in internal audit committee, average earnings per share and average number of board meetings of bank. Pearson's Correlation Coefficient and Multiple Regression have been used to identify the relationship among the Corporate Governance Disclosure Index and eleven independent variables. Apart from this, the purpose of the research paper is also to measure the relationship among financial performances of bank and few selected variables such as average board size, average board independence, average capital adequacy ratio, average audit committee size as well as average number of board meetings in a year. The financial performance of bank is measured by return on asset, earnings per share and return on equity. Pearson's Correlation Coefficient and Multiple Regression have been used for the same. The research work is expected to add a new dimension in the literature of corporate governance practices of Indian Banking Sector. The key objectives of the study are to analyse the evolution of corporate governance practices in Indian Banking Sector, to perform a comparative study of selected Public and Private sector banks of India with respect to their corporate governance practices as well as to suggest appropriate measures for better implementation of corporate governance practices in Indian Banking Sector.

Keywords: Audit Committee, Board Meeting, Capital Adequacy Ratio, Corporate Governance, Independent Director, Local ownership, Income, Net Performing Assets (NPA).

BBA/HR/AB9

An Analytical Appraisal of Emotional Intelligence in Academic Administration

Swati Banerjee¹ & Dipa Mitra²

¹PhD Scholar, Indian Institute of Social Welfare & Business Management, Kolkata;
swatibanerji78@gmail.com

²Associate Professor & Coordinator, M.Phil & PhD Programme, Indian Institute of Social Welfare & Business Management, Kolkata; askdipa@gmail.com

Abstract

Emotional intelligence (EI) is the expression of emotions and interpersonal relationship in a most judicious way possible. Stys et al. (2004) performed a survey in a correctional survey in Canada to implement EI for correctional ways. They studied the three important models of EI and concluded that the Correctional Service of Canada could be benefitted from hiring individuals who have a high level of EI. Hultin Maria (2011) studied the three major theories (Mayer and Salovey's, Goleman's and Bar-On) of the same. The researchers experienced that Emotional intelligence often act as a vital skill for academic administrator for creating an environment of learning and teaching; it led to excellent performance in academic field; may improve greater levels of openness and agreeableness, as well as occupational success towards all attributes that can increase one's administrative effectiveness. A focus group interview in the pilot study suggests that introducing emotional intelligence among academicians may benefit not only themselves, but also their students; EI in educational institutions may help to develop a student friendly atmosphere by improving the student teacher relationship with effective communication skills; it may further enhance the positivity in academicians and to maintain a better understanding and to inspire the future student community. The previous studies depicts that EI affects many areas of administration but none of these studies reveal the effect of it in academic field. In this regard the present research is undertaken to understand the impact of EI quotient of academic administrators and their effect on their administrative ability. To appraise the same, a structured questionnaire (Mayer Salovey & Caruso, 2002) is used. The respondents of this study are in the administrative position for at least five years in some of the renowned educational institutes of Kolkata. Both qualitative and quantitative methods have been applied to analyze the data such as multivariate analyses, CFA and Structural Equation Modeling with the help of SPSS, AMOS and R Programming.

Keywords: Academic Administrators, Administrative Ability, Analysis, Emotional Intelligence.

BBA/HR/AB10

Role of Leadership in Developing Safety Culture of an Organization

Madhabi Guha

Research Scholar, Maulana Abul Kalam Azad University, Kolkata

Abstract

Leadership plays an important role in developing the safety culture of an organization. The safety culture of an organization is human behavior-centric. The behavior of the employees is influenced by the management's leadership roles, in ensuring a preventive approach towards hazards and risks. Management leading with integrity, and encompassing all the occupational health and safety rules in its leadership roles, will act as a beacon for positive reinforcement of safety culture in an organization. The safety culture of an organization depends on safety goals and objectives. To align safety objectives with safety goals, it is imperative for the managers and supervisors to communicate effectively with the employees. Effective communication through leadership roles in discussing and formulating behavior-centric safety goals reconfirms the management's commitment to safety. Safety should always be a priority in any organization. Instruction, inspection, incident analysis and hazard correction by managers and supervisors, ensure consistency in safety and positive reinforcement of safety practices. The management can also incorporate a Disciplinary System, for serious implementation of rules and goals of a safety management system. A Disciplinary System would make the employees aware of the expectations of their actions, in relation to the safety goals and rules. When management philosophies are integrated into hazards and risks prevention, employees are found to have been influenced to act and behave as directed by the management. Leadership that deals constructively with different people, effectively communicate safety issues, provides needed support for safety compliance and practices, conducts periodic safety training, does not compromise safety overproduction and maintains safety as a priority; such a leadership develops and strengthens the safety culture of an organization. This study aims to interpret the crucial role of leadership skills of an individual to nurture, develop and improve the safety culture of an organization. An organization that gives priority to safety culture depends on the management and its leadership, to induce operational health and safety as a core value of the organization.

Keywords: Human Behavior, Leadership, Safety, Safety Culture.

BBA/HR/AB11

Industry 4.0 and Change Management: A Study of Benefits and Suggestions for Challenges
Surabita Roy

Former HR Faculty, Dinabandhu Andrews Institute of Technology and Management, Patuli, Kolkata; surabita19@gmail.com

Abstract

'Change is the only constant' is yet again proven with the Fourth Industrial Revolution ,Industry4.0 applications – Smart Factory, Cloud Computing, Robotics, Artificial Intelligence etc. The price of this is also directly challenging the HR Departments. The potential challenges of Job Cut, fear of Joblessness can be solved with Skilling and Digital Training. In this new era of evolving Artificial Intelligence ,our Business Environment is also transforming. This paper will study and try to give suitable suggestions, measures and precautions for Industry 4.0 when it comes to the application of Artificial Intelligence

Keywords: Artificial Intelligence, Change Management, Industry 4.0, Skilling.

BBA/MARK/AB12

A Study on the Purchase Pattern of Consumers of Kolkata with respect to Social Learning Theory

Debarati Roy Chowdhury (Banerjee)¹ & Dr. Sudipta Majumdar²

¹Ph.D. Scholar & Faculty of Management Studies, ICFAI University Jharkhand,
E3 debarati .rc18@iuj harkhand.edu.in

²Assistant Professor, Faculty of Management Studies, ICFAI University Jharkhand,
E3 sudiptam 16@iuj harkhand.edu.in

Abstract

Shopping is a necessity in everyone's life. Mostly shopping is need based and sometimes it is a leisure activity in the form of entertainment. However when the condition leads to extreme buying situation resulting into destructive and harmful activity, then this is the result of Compulsive Buying Behavior (CBB). While studying the consumer buying behavior and process, the external stimuli is not the sufficient reason, to generate a response, rather the consumers' characteristics significantly influence the way they perceive the stimuli, utilize their internal processes and result in a specific buying behavior. Hull (1951) developed a model as a behavioral model to explain the social learning theory: Stimulus - Response Model (S - R Model). Few of psychologist and marketing researchers tried to find out the characteristics of consumers within "black box" and analyze the impact of both factors to determine specific buying behavior. In this research project we have tried to analyze Social Learning Theory with respect to the purchase pattern of the consumer in Kolkata. The respondents are mostly the parents who are influenced by their children to exert Compulsive Buying Behavior. The collected responses will be analyzed using one way ANNOVA to find out which of the factors significantly influence purchase behavior. The findings of the study will help the organization to decide their marketing strategies.

Keywords: Compulsive Buying Behavior, Psychographic Variables, Purchase Pattern, One-Way ANOVA, Shopping Behavior, Social Learning Theory.

BBA/MARK/AB13

Marketing Standardization Strategies and Adaptation of International Marketing Mix and Performance: Evidences from the Past

Abhijit Pandit¹ & Jayjit Chakraborty²

¹Assistant Professor, Amity University, Kolkata

²Full Time Lecturer, The Bhawanipur Education Society College, University of Calcutta

Abstract

This research article analyzes the relationship between strategies of standardization and adaptation of the marketing mix and performance in an international context. The Researcher carried out a meta-analysis on a sample of 23 studies published between 1992 and 2010. The sample was analyzed based on measures of the effect size (ES) - or the strength of the relation (Wolf, 1986) - between standardization/adaptation and performance. The results suggest the existence of a medium strength (ES ranging from .133 to .209) for the relationship considered. The results support the existence of a positive impact of both marketing mix adaptation and standardization on performance. However, results suggest that companies should slightly emphasize the marketing mix adaptation (ES mean = .168) instead of standardizing it (ES mean = .134) when entering in a new international market. Results also indicate that, among the adaptation choices, price (ES = .209) should be the first element of the marketing mix to be adapted, followed by promotion (ES = .155), product (ES = .154), and distribution (ES = .141). Finally, the Researcher suggested some new research paths, such as the use of quantitative methods to compare degrees of adaptation to be applied to different segments, regions, and sectors, among other suggestions.

Keywords: Adaptation, Marketing, Meta-Analysis, Performance, Standardization.

BBA/MARK/AB14

Service Quality Gap Analysis for Online and Offline Household Service Provider Business using SERVQUAL Approach

Kushal Dey¹ & Pinaki Ranjan Bhattacharyya²

¹Research Scholar, Calcutta Business School, Kolkata;
kushalphdscholar@gmail.com

²Associate Professor, Calcutta Business School, Kolkata; pinakirb@gmail.com

Abstract

With increase in the e-commerce business in India, a new arena has opened for Indian consumers in almost all verticals - from online shopping to ticket booking. Even daily chores and need have fallen prey to this in view of this new technological evolution. Single point e-household service providers has very efficiently utilized the e-commerce platform for the online household services review and ordering business. These service providers has evolved out of the need of the potential consumers bridging the gap between the expected service in terms of online business and the actual service received or generated. Earlier the household service demand in terms of delivery was met typically by the respective service providers, vis-a-vis individual unorganized sector: - such as electrician, plumber, carpenter, fitness or yoga instructor, home cleaner, beauticians, massage provider and many more. Common practice was to employ individuals from local market without professional certification and delivery of services on long-term basis from a single person. But, currently the change in socio economic scenario has led to hiring of individuals with professional skill sets without ascertaining the quality of service delivered or generated. This has created a gap in the services delivered and services expected for the present day consumer. The identified day to day household services where both online and offline services can be obtained are listed below: - a) Health & Wellness, b) Appliance & Electronic Repair c) Home Cleaning d) Electrician, Plumber & Carpenter. In this paper, we are using an approach to study the service quality gaps between Online & Offline household service providers using SERVQUAL scale on the respondents from different segments of Kolkata region.

BBA/MARK/AB15

Factors Influencing Impulse Purchase while Shopping Online

Sohini Majumdar

Abstract

Internet today has slowly become the most important source of collecting market data and is a critical tool used by the organizations to obtain a competitive edge over others. Internet plays a vital role in being one step ahead of competition by predicting their next move. Owing to its market nature, Indian market is a key and lucrative market for many new companies. India has the third largest internet user base and smart phone users in India are almost nearing 300 million by end of 2019. E-retailing thus is one of the most flourishing segments of business for Indian market and leveraging this huge opportunity to increase market share has become the go-to mantra for multiple global brands. The probability of impulsive purchase among customers is expected to increase further because of convenience of online shopping and the attractive deals and promotional offers which are exclusive on e-commerce sites and not available on offline mode. Impulse purchase comprises 40% spending on the e-commerce sites. To be able to lure more and more customers to buy impulsively on their portal is a key agenda of every marketer. This study reveals the factors that influence impulse purchase online of the gen-z consumer and thereby focus on those factors which will help the global brands to grow their online business faster.

Keywords: E-Commerce, E-Retailing, Gen-Z, Impulse Purchase.

BBA/MARK/AB16 :

An Investigation of Indian Restaurant Industry

Ayushi Bhuwalka¹, Aayushi Mittal² and Oindrila Chakraborty³

Abstract

The Indian restaurant industry is worth Rs. 75000 crores and is growing at an annual rate of 7%. The industry is highly fragmented with 1.5 million eating outlets, of which a little more than 3,000 outlets form the organized segment. However, the organized segment is rapidly growing at an annual rate of 16%. Quick service segment is the clear winner in the eating out market with a growing rate of 21%. The study relates to service industry and focuses on the impact of ambience, taste, quality of product and service, pricing strategy, brand, variety, consumption pattern and income status. "Indians on an average eat out lesser than 2 times a month, compared to 40 times in Singapore. Even a small increase in this number provides a huge market opportunity for restaurants in India".

Keywords: Brand, Consumption, Food, Organized Retail, Restaurant, Service Industry.

BBA/MARK/AB17

A Study of Digital Food Delivery Apps and consumers' perception towards them

Nikita Sadavartia

Abstract

The mobile application era has been a revolutionary experience in the 21st century. It has changed a lot, the way of living, thinking and behaving of everyone around. This paper will look directly into how digital food delivery apps have altered our lives. The purpose of this study is to understand the consumers' perception towards digital food delivery apps (DFA). And to find out the most popular DFA among people. To study this, a survey was conducted, with 427 respondents from Kolkata. Mostly data collected and analyzed in this project is primary data from respondents who are using smart phones with availability of online DFAs. There is also an effort to study, a new concept, wherein we understand what consumers feel about the provision of healthy home food options by these DFAs.

Keywords: Digital Food App Delivery.

BBA/ MARK/ AB18

Empowering Education to Produce Innovation – by instilling 4Cs

Suchita Mukherjee

Assistant Professor, St. Mary's Technical Campus, Barasat, Kolkata

Abstract

Industry 4.0 (I4.0) is an incremental innovation over the earlier industrial revolutions with the integration of computing, IT, robotics, Internet, big data and AI based machineries which can take corrective decisions while manufacturing. In I 4.0 time frame people, technology and equipments communicate and cooperate directly. So the knowledge base of the people must be compatible with the industry requirement as I 4.0 is the outcome of the integration of innovative technologies of productivity and creativity. Right combination of knowledge with talent empowered by the education at every level of the industry will yield the desired result. To effectively navigate any organization, adequate up dated talent is required at strategic level so that there will be no dearth of knowledge while taking decisions. The education system should produce such talents with innovative ideas to compete globally. As the rising tendency of Machine Intelligence, the education curriculum should be updated in a proportionate manner to drive that intelligence. The required competencies for the 21st century are the ability to learning, processing and realizing where adaptability, flexibility and creativity are the main factors. The 4Cs Communication, Collaboration, Critical Thinking and Creativity should be instilled into the students in the process of developing educational contents in collaboration with the industry. To keep the pace with the technological evolution as a part of industrial revolution, a gradual paradigm shift in education system is the ultimate step to equip the human talents for management decisive areas and floor areas of workshops. This re-engineering process of academic and industry will help the integration of technology and human talent in a better way to yield the best result.

Keywords: Education System, Industry-4.0, Innovation, Knowledge, Revolution, Talent, Technological.

BBA/MARK/AB19

A Fastidious and Contemporary Investigation of Indian Media and Entertainment Industry

Bhawna Pagaria¹, & Oindrila Chakraborty²

¹Student, Dept. of Management, J.D. Birla Institute

² Assistant Professor, Dept. of Management, J.D. Birla Institute

Abstract

Indian media and entertainment (M&E) industry grew at a CAGR of 10.90 per cent from FY17-18; and is expected to grow at a CAGR of 13.10 per cent to touch Rs 2,660.20 billion (US\$ 39.68 billion) by FY23 from Rs 1,436.00 billion (US\$ 22.28 billion) in FY18. Video OTT market in India - which primarily comprises content streaming services - is likely to be ranked among the top 10 markets globally with a market size of USD 823 million (about Rs 5,363 crores by 2020).. India's media consumption has grown at a CAGR of 9 per cent during 2012-18, almost nine times that of US and two times that of China. The future of VOD or OTT is very bright in India. This study intends to find out what is the current scenario in Indian media and entertainment ,has the OTT industry started negatively impacting the multiplex industry.

Keywords: Entertainment, India, Media, Multiplex, OTT.

BBA/MARK/AB20

A Study on the Consumer Preferences on Retail Stores Vs. Kirana Stores

Pratyush Bazaz¹ & Manjishtha Sur Roy Chowdhury²

¹ Student, Department of Management, J. D. Birla Institute, Kolkata;
pbazaz@gmail.com

² Assistant Professor, Department of Management, J. D. Birla Institute, Kolkata;
manjishtha@gmail.com

Abstract

The present research is an attempt to find out the weaknesses of kirana stores as compared to the big retail players and to find out the solutions for the betterment of these stores. The research is conducted on various kirana stores and retail stores in Kolkata. The study identifies the problems being faced by kirana merchants such as recovery of credit, inventory management, goodwill in terms of quality, low space, and lack of variety etc. But during the research it has been found out that there are certain areas where these kirana stores have an edge over the market such as emotional attachment with the customer, to fulfil the timely need of credit of the customer, easy availability etc. It is concluded that both kirana stores and big retail outlets are important to the Indian economy. FDI is important for the growth of the economy but it should come for the rescue of the existing business and not as a threat. Secondly government intervention is sought to make improvements in the functioning of the kirana stores. If kirana stores starts using their strategic advantages to the optimum level, they can make can make their existence strong in the market.

Keywords: Consumer Behaviour, Consumer Perceptions, Customer loyalty, Kiranas, Organised Retailing.

BBA/MARK/AB21

The Impact of Mobile Technology on Rural India : An Exploratory Study on The Socio-Economic Scenario of Rural Society

Samiran Chowdhury¹ & Moumita Poddar²

¹ Research Scholar, JIS University, Kolkata; samiranchowdhury2008@gmail.com

² Associate Professor, JIS University, Kolkata; pmoumita@jisuniversity.ac.in

Abstract

The past decade and specially the recent few years has created a revolutionary transformation in the mobile technology industry. The mobile phone has become an integral part of human existence and has invaded all social and economic barriers to reach out to every part of the society. Today India is witnessing a dramatic usage of Information and Communication Technology (ICT) in all spheres of life and rural society has been the foremost contributor of this ICT revolution. The communication sector is now so important that it is considered to be the basic infrastructure for individual and business requirements. This is because of network externalities due to which the value of the services increases with more number of users (Kateja & Jha, 2008). ICT today has not only helped social equality but also has provided social inclusion of non-users. The mobile technology has not only got social impacts but also economic impacts in the development of rural society especially in developing countries like India where there are various infrastructural hindrances in the rural areas of the country. The mobile technology is going to have a long lasting impact and consequence in the rural society in the days to come and this advancement in technology may modify some of the traditional economic activities together with the social environment in the near future. This study will focus on the impact of mobile technology on social and economic scenario of the Indian rural society and also indicate the impact on economic development.

Keywords: Communication Sector, Economic Development, Information and Communication Technology (ICT), Mobile Technology, Rural Society.

BBA/MARK/AB22

Identity Development for a Brand: TATA TISCON Case Study at WUNDERMAN THOMPSON

Megha Poddar

Student, Department of Management, J. D. Birla Institute, Kolkata

Abstract

Brand identity fuels recognition, amplifies differentiation and is the face to your company or product. When you create a brand identity, you're essentially applying your brand values to any visual elements that will be used to promote your business. This means that a brand identity is more than just a logo. This paper aimed to explore the art of culturally-driven brand thinking. The present study also analyzed semiotics and its importance to make a brand relevant to its consumers in today's dynamic environment. A case study on TATA TISCON has been undertaken where the key elements of TISCON identity (words/emotions/color/touch/voice/smell/gender) has been discovered, understood and a set of comprehensive TISCON research stimulus has been created. The aim was to establish principles of future communication for TATA TISCON. The research methodology is primary data backed with my own understanding and insights of the brand and its identity. The results of this study confirmed that the brand has been successful in establishing a strong identity and instilling loyalty for itself in the minds of its stakeholders.

Keywords: Brand Cutting, Brand Identity, Brand Loyalty, Brand Relevance, Semiotics.

BBA/MARK/AB23

A Study on Customer Satisfaction in E-Retailing with Special Reference to Consumer Electronics and Appliances: An Analytical Research on Indian Perspective

Shantanu. P. Chakraborty¹ & Sachin Gupta²

¹ Full Time Lecturer, The Techno India University, Salt Lake & Adjunct Professor Data Analytics, IISWBM, Kolkata

² Assistant Professor, Department of Business Administration, Mohanlal Sukhadia University, Udaipur (Rajasthan); sachinguptabusadm@gmail.com

Abstract

The e-retailing is accelerating towards excellence with ever-evolving trends and an escalating number of e-shoppers every year. About 67% of the people with utmost buying power in our society prefer e-shopping. In this regard a comprehensive research has been executed on two e-commerce giant operating in India starting with their sales-assets and income trends followed by, a time series forecasting. Further the study has been performed to identify the most significant factor in online retailing of electronics appliances with respect to their Customer Satisfaction in E-Tailing and to check whether there is any association between these independent variable with the dependent variable. Then a comparison has been made between those two companies on the basis of those important factors; and lastly on the basis of the impact of the aforementioned independent variables on the customer satisfaction a model is established. For this purpose secondary data has been collected from CMIE Prowess. On the other hand 213 respondents are surveyed with a questionnaire containing 15 parameters. Time Series Forecasting followed by Reliability test, Factor Analysis, Pearson Chi-Square test, Rank Analysis and Multiple Regression Analysis has been performed to analyze the data set. From the findings of the study a model has been established for enhancing to Customer Satisfaction in E-Tailing of electronics appliances. From the management perspective the research is significant, as it suggests those components of E-Customer Satisfaction to the marketers, where they should concentrate upon to thrive in service perception.

Keywords: Customer Satisfaction, E-Customer-Shopper, E-Tailing, Service Perception.

BBA/GEN/AB24

Implications of Industry 4.0 vis-à-vis Lean Six-Sigma: A Multi-Criteria Group Decision Approach

Sanjib Biswas

Assistant Professor, Decision Sciences, Operations Management & Information Systems Area, Calcutta Business School, Kolkata; sanjibbiswas1981@gmail.com; sanjibb@calcuttabusinessschool.org

Abstract

The present decade has witnessed a disruptive change in the business operations with the advent of Industry 4.0 or the Fourth Industrial Revolution. Industry 4.0 has warranted connectivity; knowledge acquisition and sharing; flexibility; operational efficiency through rapid developments in hardware and robust intelligent algorithms. On the other hand, Lean Six-Sigma (LSS) has been an evolving practice allowing organizations to reap benefits out of economies of scale and economies of scope while utilizing time and resources optimally. The present study attempts to highlight some of the consequences of Industry 4.0 for Lean Six-Sigma (LSS) driven business process management using the views of the experts in the stated field. An expert-opinion driven fuzzy aggregation based Multi-Criteria Group Decision Making (MAGDM) framework is used for analysis purpose. To check whether the opinions are in harmony, Kendall's Concordance Coefficient is calculated. It is found that Multi-nodal Real-time Connectivity, End-to-End Information Flow and Real-time Monitoring stand as key implications of Industry 4.0 to foster LSS as perceived by the experts. The Kendall's Concordance Coefficient value at a significant value of χ suggests harmonious nature of group decision.

Keywords: Fuzzy Group Decision, Industry 4.0, Kendall's Concordance Coefficient, Lean Six Sigma.

BBA/GEN/AB25

Factors influencing Sustainable Performance and Business Growth in Indian SMEs

Matriyee Das

Abstract

Corporate Sustainability reporting forms a part of the annual report for most of the large corporate houses these days. Influence of sustainability practices in driving their business growth is evident from these reports. Also, there has been a plethora of research relating their sustainability performance to their financial performance. However, in the case of small and medium enterprises, very limited research work has been done so far considering the social and environmental aspects of their business operations. SMEs, especially those in the emerging economies have grossly neglected their responsibilities and obligations towards the environment and society. SMEs contribute immensely to the economic progress of a country and are considered as growth engine both for the developing as well as the developed nations. But literature has shown that a large percentage of the SMEs across the world fail within a few years of incorporation. In our paper we have tried to develop a model taking a sample of 200 SMEs from Indian leather and chemical sectors and find out how the factors like collaborative operation at industry level and government intervention at policy level impact the sustainability performance of small and medium firms and how in turn, their improved social and environmental performance helps them to drive sustainable business growth. Empirical results of our study reveal that both government intervention and collaborative operation positively influence the firm's sustainability performance and in turn, the company's business performance is positively impacted by their enhanced sustainability performance. Company size was found to have a moderating effect on this relationship

Keywords: Business Performance, Government Intervention, Collaborative Operation, Corporate Sustainability, SME, Sustainability Practices.

BBA/GEN/AB26

Electronic Waste Management: A Growing Concern in Environment Sustainability and Opportunities in Recycling Business

Gargi Guha Niyogi¹ & Divyesh Shah²

¹ College Whole Time Lecturer, Department of Commerce, The Bhawanipur Education Society College, Kolkata; gargonly21@gmail.com

² Co-ordinator, Department of Commerce (Morning), The Bhawanipur Education Society College, Kolkata

Abstract

Electronic waste or e-waste describes discarded electrical or electronic devices. Used electronics which are destined for reuse, resale, salvage, recycling or disposal are also considered e-waste. Society today revolves around technology and by the constant need for the newest and highest tech products we are contributing to mass creation of e-waste. The processes of dismantling and disposing of electronic waste in developing countries lead to a number of environmental impacts. One of the major challenges is Recycling. Environmental issues and trade issues associated with e-waste has driven many countries to introduce interventions. The study reveals the present situation of e-waste management globally as well as in India. This paper is based on secondary data which cover the e-waste composition, Global and Indian E-waste scenarios and different hazardous materials found in the E-waste, the best available practice, Guidelines for the manufacturer and public awareness about the proper disposal of e-waste. This study demonstrates that the electronics recycling business is becoming increasingly important as volumes of e-waste continue to grow, setting the stage for the growth of that industry.

Keywords: Electronic Scraps, E-Waste, E-Waste Management, Hazardous Substance.

BBA/GEN/AB27

The Role of Access Convenience of Common Service Centres (CSCs) in the Continued use of E-Government

Kriti Priya Gupta¹ & Rishi Manrai²

¹ Professor, Symbiosis Centre for Management Studies, Symbiosis International (Deemed) University, Noida Campus

² Assistant Professor, Symbiosis Centre for Management Studies, Symbiosis International (Deemed) University, Noida Campus

Abstract

The present study attempts to understand the role of access convenience of common service centres (CSCs) in determining the e-government continuance intention from the perspective of citizens who are dependent on these centres for using e-government services, in developing countries like India. The study uses the DeLone and McLean's Information Systems (IS) success model as a theoretical basis and analyzes the effect of access convenience of CSCs, on the three quality dimensions (viz. information quality; system quality; and service quality), and the e-government continuance intention. The effects of the three quality dimensions on continuance intention are also analyzed. The primary data were collected from the field surveys conducted at various CSCs in the Uttar Pradesh (UP) state of India using convenience sampling technique. The study sample included 358 respondents who use e-government services through CSCs. Structural equation modelling was used to test the hypothesized relationships in the proposed model. The findings of the study suggest that CSCs' access convenience has a significant positive impact on the e-government continuance intention. The findings also confirm the significant positive impact on all the three quality dimensions of e-government i.e. information quality, system quality and service quality. Though the findings don't provide support for the impact of information quality and system quality on the e-government continuance intention but the impact of service quality on the e-government continuance intention is found to be significantly positive. The study combines the quality constructs from the IS success model with access convenience of CSCs, for predicting the e-government continuance intention. The joint use of these constructs has provided a model with high explanatory power, which is able to explain 76.6% variation in the continued usage of e-government services. The study also contributes to the existing literature by presenting access convenience of CSCs as a strong determinant of the e-government quality dimensions.

Keywords: Access Convenience, Common Service Centres, E-Government, E-Government Quality, Intention to Continue.

BBA/GEN/AB28

ITC- Case Study

Ahona Mitra¹, Sanskar Jaiswal² & Adnan Ahmed Mullick³

Abstract

This case study presents a study of ITC, with focus on the extension carried out by it – both brand and product extension. The study focuses on when, where and how ITC started its extension and the sectors which it covers in recent days. The company was established in the British Era , 1910 and since then it has ventured successfully into food, hospitality, personal care, lifestyle and stationery product sector apart from its original tobacco business. The study also puts forward the BRR- Business Responsibility Report of the company, from where we can derive basic information related to its performance and processes. We see the nine principles ITC follows. The study also highlights the works ITC has done under CSR- Corporate Social Responsibility and Rural Development Programme.

Keywords: Brand Extension, Business Responsibility Report, Corporate Social Responsibility, ITC, Rural Development.



