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ABOUT US

- Year of establishment: 2011, Approved by AICTE , DTE & Affiliated to Mumbai University.
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To provide students with an excellent quality of education that kindles creativity, encourages innovation and makes them suitable for the business world, to provide faculty members with facilities to research, experiment and implement contemporary learning tools.

From the Director's Desk

Welcome to the Volume 5 Issue 1 of our Journal ,“Shodhaditya”. The focus of this issue is the International Research Conference on “Strategy in a Digital World” held at AIMSIR on February 16, 2018. There were a number of Papers presented at the Conference including papers from outside India.

As our name suggests, the Aditya Institute of Management Studies & Research has a strong emphasis on Research in the field of Management. In this issue, we have published a selected number of Papers from the Conference. I invite you to contribute your papers to our Journal and share your knowledge with the Academic fraternity and industry experts.

The theme of our next issue is the continuation of the above theme on “Strategy in a Digital World”. I look forward to your suggestions and inputs.

Regards,

Dr. Nilay Yajnik
Director

From the Editor's Desk

Dear Reader,

It is my privilege to present the Volume 5 Issue 1 of SHODHADITYA to the research fraternity. This issue contains selected papers from the International Research Conference on “Strategy in a Digital World”.

The articles in this Journal reflects the latest researches across various management disciplines. They are a reflection of mingling of academic and practical perspectives in the field of research. This issue will give a new insight in the field of Research and will immensely benefit the readers.

Happy Reading!

I look forward to your views and valuable contributions!

Dr. Baisakhi Mitra Mustaphi

About the Conference

INTERNATIONAL RESEARCH CONFERENCE ON “STRATEGY IN A DIGITAL WORLD” ON FEBRUARY 16, 2018

The 6th Innovation Summit & International Research Conference on “Strategy in a Digital World” in collaboration with Department of Commerce, University of Mumbai was held on February 16, 2018. Prof. Mohan Tanniru, Professor of MIS, Oakland University, Michigan USA delivered his Key Note Speech via skype. Mr. Gregory R. Garrett, of CGS Advisors, USA also delivered his Key Note Speech via skype. The Chief Guest for the Event was Dr. Lalit Kanodia, President-IMC Chamber of Commerce & Industry & Chairman Datamatics Group. The Guest of Honour was Mr. Vishal Kanvaty, Senior Vice President - Products and Innovation Technology and Services, National Payments Corporation Of India (NPCI). The other Guest of Honour was Dr. Pankaj Gupta, Professor & Executive Director (CESS), O P Jindal Global University.

The Speakers for the plenary Session were, Dr. Vivek Deolankar, Professor & Head, Department of Commerce, Ex-Dean, Faculty of Commerce, University of Mumbai, Mr. Gaurav Johri, Senior Vice President and Head, Platforms Business, Asia Pacific and Corporate Strategy, Mindtree Bangalore, Mr. Harish Prabhu, Ex- Chief Operating Officer, Electronic Payment & Services Private Ltd & Founder FinEssence Advisors, Prof. Shishir Jha, Professor, IIT Bombay-Shailesh J Mehta School of Management. The Valedictory session was presided by Ms. Bharati Lele Executive Vice President and Global Head, kWatt, Mr. Shriram K H, Senior Vice President-Business Development- Chella Software, and Dr. Krishna Sudhir- Physician and Cardiologist Divisional Vice President, Abbott Vascular, California via Video.

There were approximately 70 entries for Paper presentations. Papers were received from different countries like USA, Germany, Africa, Sri Lanka and Pan India. The Papers were presented by Academician, Corporates and Students. The specializations were varied ranging from Marketing, HR, Finance, IT, General Management and Operations. The topics ranged from Supply Chain Management and Digitization to E-Commerce and Business and also to Future of Digital Business. The speakers emphasized on importance of digitization on the strategic orientation of any organization and also suggested ways to implement and measure the impact of digital strategies that may benefit today’s customers.

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Aditya Institute of Management Studies & Research
Aditya Educational Campus, R. M. Bhattad Road, Ram Nagar,
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Rural Digitization - When and How?

Prof. Vaibhav Laxman Patil

Ph. D. Research Scholar, University of Mumbai,
SAP FI Certified Consultant, Mumbai.
E-mail: vaibhavemails@gmail.com

Dr. Sunil Kulkarni

Associate Professor and Mumbai University's Ph. D. Guide
(Management) Vivekanand Education Society's Institute of
Management Studies and Research
E-mail: sunilkulkarni65@yahoo.com

This study aims to provide an overview of how digitization is happening at a rapid pace in urban areas of India, but it does not seem the same level of momentum of digitization in rural areas. As far as Urban Digitization is concerned, we can safely say that, it has created its impact and the urban consumers are using it in many areas of their life.

Urban Digitization is growing, but 70% of population lives in rural India which accounts for 56% of the national income and 64% of the total expenditure. One-third of the savings of the country are from rural India. The rural economy is not just an agrarian economy. Several other occupations are also visible including the service sector. Today this segment is witnessing increased incomes, growing demand for education and the advent of technology and global brands. Marketers are increasingly looking at tapping the rural consumers as this is one major market opportunity which no firm can afford to ignore. Rural consumers require durable products at affordable prices. These consumers have cash flow and cash management problem, because cash with rural consumers is a function of their crop cycle and supporting businesses. This group of consumers are heterogeneous. They are highly fragmented. Advertisements, TV serials and films are today changing the aspirations of not just the urban consumers but also the rural consumers. Although rural youths have adopted to the use of Mobile phones, but since the companies have not yet started the online supplies because of their non-preparedness of logistics and warehousing facilities, the youth is not buying things online. It is now the companies to decide to cater to rural markets in digital platforms and the rural youth will respond positively to it. If as a country we are going for digital India, then we need to pay attention to the rural digitization, so that the digitization gap between Bharat and India does not

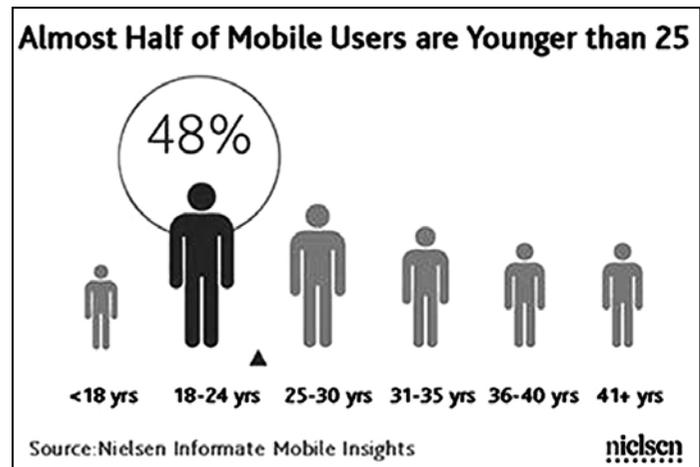
widen, as it is present now various areas.

KEYWORDS: Rural Digitization, E-commerce, 21st Century Rural India, Digital Bharat

I. INTRODUCTION

Digitization is happening at a rapid pace in India. Starting from the Government of India itself, the Aadhar card is going to be the main document for every citizen, meaning, government want each citizen to become familiar in using technology even in day to day life, so the message is obvious, adopt digitization. India is today the world's third largest internet population. The total number of internet users in India has grown considerably and is expected to overtake Japan to become the second largest country in respect to internet population in Asia Pacific. A large number of internet users today are using mobile phones rather than PC. Majority of the smartphone users access data via Wi-Fi. Further BCG consulting estimates that, there would be 375 million internet users in India by 2018. This rise in internet penetration will have a bearing on consumer's purchase decision.

II. INTERNET USAGE AND DIGITAL INDIA



The highest number of internet users are young in the age group of 18-24(48%) and the lowest are among the older consumers of age 55 plus. The next biggest internet user category is the Teenagers, who are today far more Tech-savvy. The teenager in India is the most active group as compared to all other groups on social networks. It is fact that, 32% of urban Indian users are Men as opposed to only 12% Women. Men are likely to be 3 times more digitally influenced than women. The internet users are principally higher income level individuals but 18% of the lower income individuals also have internet access and of these 6% are engaged in commercial activities online. Convenience for shopping from home is the most important motivation for 37%of the internet shoppers. The next important motivation is the product range and the prices offered online, compared to what is available in a Brick and Mortar store. The internet shoppers still rely on company websites for detailed product information compared to third party portals.

Given such a rapid growth across different market segment, it is not uncommon to see that almost all

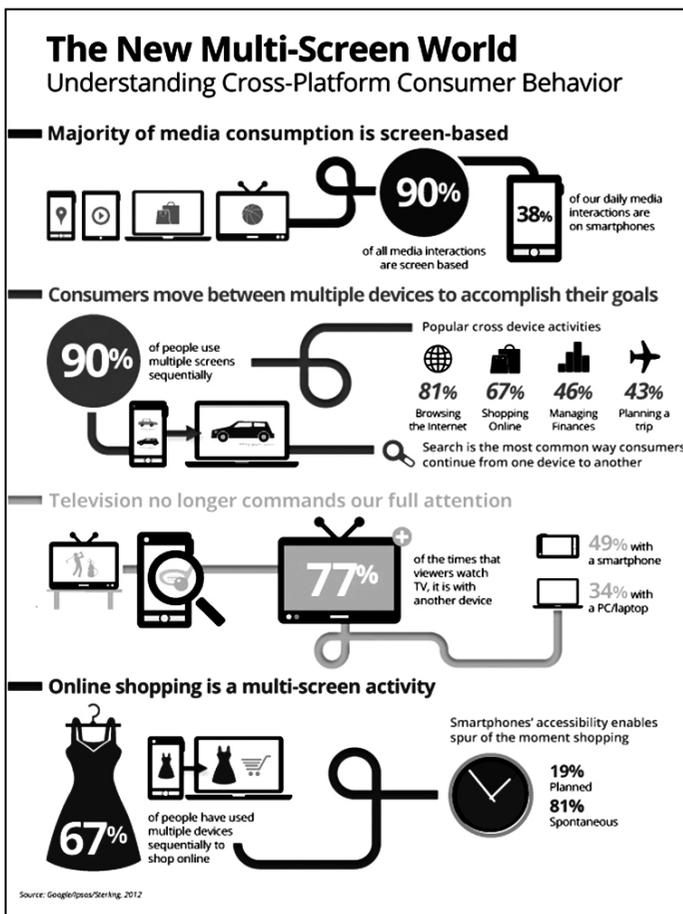
companies provide access of their website to all consumers. Companies encourage consumers to visit their website for information and thus offer shopping opportunity to the consumers. These days even service organizations like Airlines, Banks and Insurance companies also offer their product and services on the Internet. Besides, there is a significant growth in the Indian Online Retail market (Apparel and Food) although it is not as developed as in Developed countries. While worldwide the penetration of web-enabled retail stood at 75%, in India, it was only 61%, while China is @ 84%. Among the major E-commerce companies in India is Fashion and Lifestyle portals like Myntra, Flipkart, Amazon, and Jabong.com are another major online stores that has the largest number of users, who have spent maximum time on the site, comparing and buying. Apparel continued to be the single largest category of the product bought by the consumers online.

Next major category most commonly visited are the travel sites. Average time spent by Indian consumers on Travel site is 27.7 minutes. IRCTC is the largest and the most heavily visited portal site with 13.6 million unique users, each of whom spends a maximum time of 25.2 minutes on IRCTC and India Rail Info sites. However, more recently there has been a significant growth in number of users using portals like MakeMyTrip.com. Surprisingly, in some cases bookings through these portals works out cheaper.

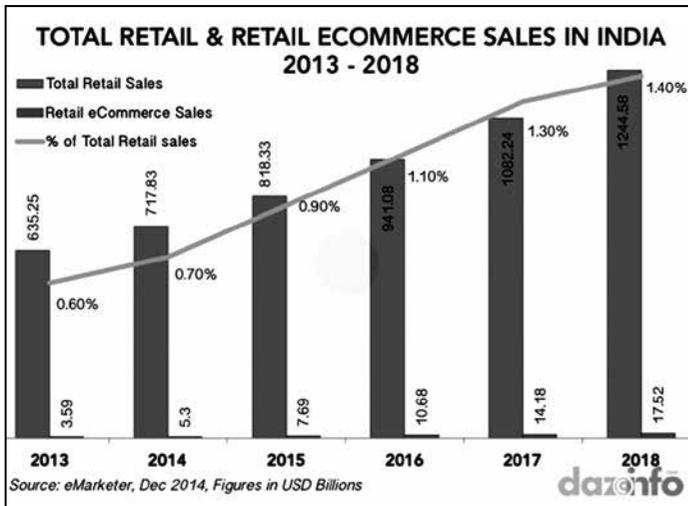
The next major activity on internet today is Blogging which has grown by 48%. 36 million urban customers were active on blogs in 2014. 26% of the total blog traffic originates from mobile and tablet users. Another major activity of the consumers on the internet is watching online videos. 54 million Indians today watch videos online.

Because of this digital exposure, although an average Indian customer continues to be price sensitive, he is increasingly moving away from his basic expectation of low-priced products to quality products and services, at lower prices. In other words, the internet has created awareness among the Indian consumers about global quality and performance parameters that they can get at an affordable price.

In banking sector, HDFC was the first to offer Net



banking and several other services on the Net. This made banking convenient for consumers. Increasingly, information and ownership of products and services is no more concentrated at the top end of the Indian market. The Internet has made it possible for all market segments to have access to the same information and thus provide equal opportunity to all to buy products and services.



Retail was the first industry to encourage digitization in India, so they could be called the pioneers. Whether Retail industry had any strategy behind this one we may not know, since Retail as a format is a western concept and when it came to India, it came along with its accessory of modern buying (on line). Our people may have decided to bring the format and also its buying selling platforms as it is. Fortunately, the online buying technique was tried by the Millennials and it picked up its pace, although retail as a model is not very profitable in India.

From the retail industry, there are some product categories, which are still bought by the Brick and Mortar way, particularly the high involvement products. But for low involvement products like Clothing and Grocery, there is a big shift and majority of customers/consumers have opted online buying. The need here is to make both the buying situations, comfortable for the consumers (seamless). If this happens smoothly, then naturally consumers/customers will try other products also and perhaps in future we may reach in a situation where everything an Indian citizen needs is bought by him online, thus making his life comfortable and also contributing in the national process of digitization. The

government on its part has already upped its sleeves, it is the turn of the industry and non-millennial customers turn now to co-operate.

At the same time, facilities like Online chats have increasingly created customer communities which have, in a way, become pressure groups. A company can no more hide poor performance or complaints in one market from its customers in another. Thus internet has become great leveler and facilitator that builds relationships between buyers and sellers. These social informal chats online also spread the word of mouth, and many times customers make their buying decisions based on these chats.

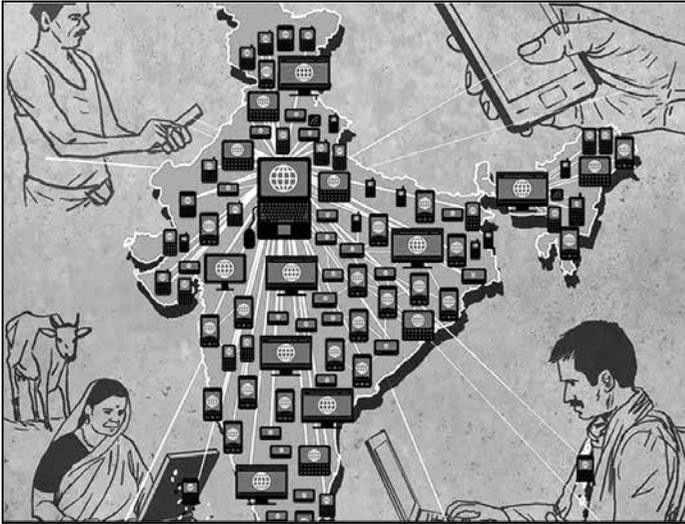
In line with the global trends, social networking today is one of the rapidly growing activities on the internet. It is perhaps seen as un-cool to not have a Facebook account or someone who is not active on professional networks like LinkedIn.

III. CHANGE IN BEHAVIOUR – FILL YOUTHFULL



This paradigm shift could become possible because, today Indian demographics constitutes majorly the youth. e.g. The median age of India today is 24 years, so whatever the 24-year-old buys in terms of product categories, the chances of he using a digital platform for buying are high. Besides youth, surprisingly, there is a growing trend of 50 plus citizens trying to look youthful, so there is a growing demand for lifestyle products and products offering youthful imagery. Naturally, once they want to feel youthful, they would not like to lag behind in the buying process of youth which is online, hence one can have sizeable number of these types of consumers buying online.

IV : PROBLEM STATEMENT AND OBJECTIVE



On the other hand, though Urban Digitization is growing, still 70% of population lives in rural India which accounts for 56% of the national income and 64% of the total expenditure. One-third of the savings of the country are from rural India. The rural economy is not just an agrarian economy. Several other occupations are also visible including the service sector. Today this segment is witnessing increased incomes, growing demand for education and the advent of technology and global brands. Marketers are increasingly looking at tapping the rural consumers as this is one major market opportunity which no firm can afford to ignore. The size of the rural economy has been estimated at Rs.16,000 billion (2012-13). This market therefore has been extensively studied. Rural consumers require customized products at affordable prices. These consumers have cash flow problem, since, cash with rural consumers is a function of their crop cycle. This group of consumers is not homogeneous. They are highly fragmented. Despite such fragmentation, rural market accounts for a very large market for two wheelers. The reach of satellite television is today far and wide having reached an average household even in rural markets. Advertisements, TV serials and films are today changing the aspirations of not just the urban consumers but also the rural consumers. These rural consumers are today the buyers of Cosmetics, Cell phones, Garments including Denim jeans, Reebok or Nike foot ware. Rural digitization is a slightly complex issue between rural consumers, the government (for infrastructure) and the corporates. Although rural youths have adopted to the

use of Mobile phones, but since the companies have not yet started the online supplies because of their non-preparedness of logistics and warehousing facilities, the youth is not buying things online. It is now the companies to decide to cater to rural markets in digital platforms and the rural youth will respond positively to it. The recent thrust of the Indian government to build infrastructure, particularly roads will help Corporates in planning their digital rural foray

As far as Urban Digitization is concerned, we can safely say that, it has created its impact and the urban consumers are using it in many areas of their life. However, as of now, there does not seem the same level of momentum of digitization in rural areas.

V: CHALLENGES FOR DIGITISATION IN RURAL AREAS

- Inadequate Infrastructure: Smart phone penetration, internet connectivity, electricity, banking services are not adequate in rural India. Lack of accessibility because of limited internet penetration and inadequate Information and communication infrastructure i.e. Point of sale, ATM, Cards etc. Low Internet connectivity and less service providers and actual users in villages makes internet costlier.
- Digital illiteracy: People (except for teenagers) are less aware of digital world and computer/smart phone. Digital literacy and dearer internet and appliances are major hurdles in rural areas because weaker economic conditions make them unaffordable.
- Trust deficit: People do not trust digital transaction as they do on cash. Informal nature of rural economy provides sense of security among people in cash transaction.
- Nature of Rural economy: Rural economy is mostly informal, so cash suits better than digital transaction. Lack of exposure, financial illiteracy and illiteracy restrict them to trust on virtual transactions because of insecurity of payment and cyber loot which is widely prevalent.
- Language barrier: It is one of the most important challenge too which we cannot ignore. Most of the mobile apps and websites have English as their language.

VI : RECENT NEWS

THE ECONOMIC TIMES

Rural India still poor when it comes to Internet penetration: Deloitte India

BY IANS | JAN 17, 2018, 02:36 PM IST

NEW DELHI: With only 17 per cent Internet penetration, rural India is lagging behind in connectivity owing to challenges in deployment of fixed broadband networks, a Deloitte India report said on Wednesday.

Wireless networks will drive Internet adoption for nearly 750 million users in India who still do not use Internet, said the Technology, Media and Telecommunications (TMT) report.

"In future, demand for fixed broadband services would be limited to consumers with higher bandwidth/CoS requirements for accessing services like gaming, HD video, etc.," the report added.

Newer technologies like LTE, LTE-A, LTE-A Pro and 5G will make wireless internet commercially more viable due to decreasing cost per bit.

When it comes to mobile devices, the smartphones will consolidate its position as the primary access to digital service and content.



Newer technologies like LTE, LTE-A, LTE-A Pro and 5G will make wireless internet commercially more viable due to decreasing cost per bit.

Rural India still poor when it comes to Internet penetration: Deloitte India

The Economic Times

By IANS | Jan 17, 2018, 02.36 PM IST

NEW DELHI: With only 17 per cent Internet penetration, rural India is lagging behind in connectivity owing to challenges in deployment of fixed broadband networks, a Deloitte India report said on Wednesday. Wireless networks will drive Internet adoption for nearly 750 million users in India who still do not use Internet, said the Technology, Media and Telecommunications (TMT) report. "Mobile wallets with their ease of use and convenience will see an upward trend. However, it will be extremely important for the wallet providers to innovate to reach out to the non-internet user base of rural India," it added.

Internet penetration in rural India abysmal: Report

IANSI | Updated: Sep 29, 2017, 01.36 PM IST

NEW DELHI: While the overall Internet penetration in India is 33 per cent, it is only 16 per cent in the rural areas, a report released at the 'India Mobile Congress 2017' here said on Friday.

According to the Cellular Operators' Association of India (COAI) IMC-Deloitte report, India currently ranks 36th, globally, in Internet inclusion based on availability, affordability, relevance and readiness. India lags behind many countries in broadband penetration with only 23 per cent, which comes to around 310 million subscribers as of August, 2017.

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IANS | September 29, 2017, 17:56 IST

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India lags behind many countries in broadband penetration with only 23 per cent, which comes to around 310 million subscribers as of August, 2017.

The rise in broadband penetration, which is considered a key element in achieving a country's socio-economic objectives, to 60 per cent could translate into a 5-6 per cent increase in the GDP.

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This Month

Reliance Jio reports Rs 504 crore profit in Q3, ARPU at Rs 154



Reliance Jio said that it has continued its strong subscriber growth trend with gross adds during

Some of the key recommendations in the report for building connectivity-infrastructure for billions included 'setting aspirational goals', 'increasing planned budgetary allocation and effective usage of Universal Service Obligation Fund, 'implementing policies and guidelines to standardise deployment of infrastructure'. The report also noted Net Neutrality as a continuous area of debate. It also underlined the need to define the regulatory guidelines towards new emerging tec.

Only 5.7% of Jio users from rural areas: Trai

Kiran Rathee | New Delhi Last Updated at July 5, 2017 02:51 IST

Reliance Jio, which launched its fourth-generation technology (4G) telecom services on September 5 last year, has been mostly an urban phenomenon. Of its 72.16

Business Standard

Only 5.7% of Jio users from rural areas: Trai

Idea has 54.8%, followed by Vodafone with 53.7%

Kiran Rathee | New Delhi July 05, 2017 Last Updated at 02:48 IST

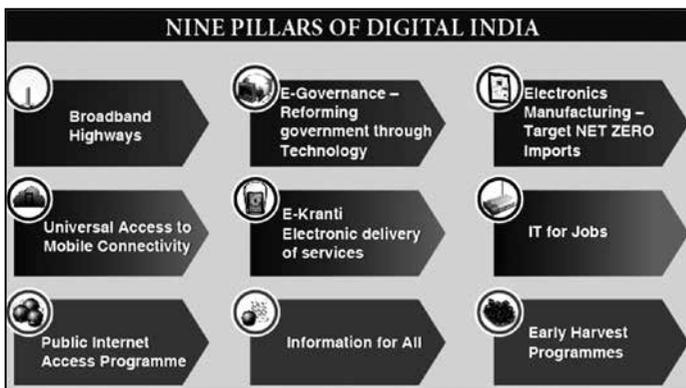


Reliance Jio, which launched its fourth-generation technology (4G) telecom services on September 5 last year, has been mostly an urban phenomenon. Of its 72.16 million subscribers by end-December 2016, only 4.12 mn or 5.72 per cent were from rural areas, in contrast to incumbent operators. Telecom Regulatory Authority of India (Trai) data for 2016 show Idea Cellular with the highest proportion of rural subscribers at 54.77 per cent followed by Vodafone with 53.68 per cent and Bharti Airtel at 48.42 per cent. At the end of December, Idea had a subscriber base of ...

million subscribers by end-December 2016, only 4.12 mn or 5.72 per cent were from rural areas, in contrast to incumbent operators.

The incumbent operators have said their subscribers in rural areas mostly use feature phones and are reliant on the 2G network. In overall wireless subscriber base, Jio's market share was 6.4 per cent by end-December 2016. The share of incumbent operators had shrunk, with that of Reliance down to 7.68 per cent, from 9.98 per cent a year before; that of Tata Teleservices fell to 4.7 per cent, from 6.01 per cent.

VII. GOVERNMENT INITIATIVES



Digital India is an umbrella programme that covers multiple Govt. Ministries and Departments. Digital India aims to provide the much needed thrust to the nine pillars of growth areas

- Broadband for all (Rural): 2.5 lakh village panchayats would be covered under the Bharat Net by December 2016. [Nodal department: Department of Telecommunications (DoT)]
- Second pillar focuses on network penetration and filling the gaps in connectivity/ network coverage in the country. Around 55,669 villages in India do not have mobile coverage yet. As part of the comprehensive development plan for the North East, work has been initiated to provide mobile coverage to such villages in the North East.
- The two components of the Public Internet Access Programme are Common Service Centers (CSCs) and Post Offices as multi-service centers. CSCs would be strengthened and their number would be increased from approximately 1,37,000 operational at present to

2,50,000 i.e. one CSC for each Gram Panchayat.

- Government Process Re-engineering (GPR) using IT to simplify and make the government processes more efficient is critical for transformation to make the delivery of government services more effective across various government domains, and therefore needs to be implemented by all ministries and departments.
- A programme on digital literacy would be taken up at the national level. Massive Online Open Courses (MOOCs) shall be developed and leveraged for e-education.
- Providing training to the youth in the skills required for availing employment opportunities in the IT/ ITES sector.

VIII. CONCLUSION AND STEPS TO OVERCOME CHALLENGES

Rural digitization is a slightly complex issue between rural consumers, the government (for infrastructure) and the corporates. If as a country we are going for digital India, then we need to pay attention to the rural digitization, so that the digitization gap between “Bharat”(Rural India) and “India”(Urban India). does not widen, as it is present now in various sectors. The recent initiatives and actions have nudged entire country towards cash-less or at least less cash economy. As there is huge disparity between Bharat and India. Hence it will remain as a question when can we expect rural digitization and how we can simplify the entire digital process for rural areas because complex process will take away the interest of rural people. The Govt. should try to make availability of good infrastructure to service providers for deployment of high-speed data networks then companies to decide to cater to rural markets in digital platforms and the rural youth will respond positively to it.

Given below are some steps that can help to overcome the challenges to improve rural digitization.

- Improvement in infrastructure: Need of Low cost Smartphone especially designed for rural areas with regional languages. Swift implementation of Bharat Net, ensured supply of electricity, better and cheap internet connectivity by creating hotspots and rationing of free data as proposed by TRAI on monthly basis.
- Digital Literacy: Digital literacy is one of the biggest

hurdle in transition towards cashless economy. Common Service Centre (CSC) under the aegis Digital India programme should be fast tracked, computer education in schools promoted, Self Help Groups(SHG) should be trained and encouraged to spread digital literacy.

- Trust building: Though trust building takes time, suitable advertisement strategies and promotion of cashless economy can help. Incentives like “Lucky Grahak Yojana” and “Digi-Dhan Vyapar Yojana” are steps in right direction.

- Payment Banks: Making availability of payment banks within reach of rural people will help them to do the cashless transactions.

We all support Digital India but we should be aware of the dangers and setbacks, so that we can prepare ourselves for the upcoming challenge. We should be mentally prepared for the changes and challenges in implementing the policy, only then it would be possible to change it to reality.

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A Study on Changing Consumer Behaviour - less market, more 'recrearket'

Prof. Preeti Kaushik

Atharva Institute of Management Studies

Mumbai, Maharashtra

E-mail: preeti.kaushik@atharvaims.edu.in

ABSTRACT

This study aims to throw light on the paradigm shift in traditional Indian consumer behavior. It also gives an insight into a new emerging segment of "Recrearket" (Recreation + Supermarket). Consumers across the world are steadily shifting away from 'Need-based' shopping to 'Recreation-based' shopping, enticing marketers to differentiate themselves from not just the Brick & Mortar stores but beyond Shopping rationale. This study attempts to capture the factors which shall bring about the next stage in retail in less than a decade due to change in Consumer Buying Behaviour. Across the world, the developed and developing countries are experiencing and observing the phenomenon despite having cultural and other differences. The study is based on the perceptions, observed buying behavior and changing rationale of the consumers in Indian market. The study involves personal observation and questionnaire.

KEYWORDS : Consumer behavior, Retail, Entertainment, Digitalization

INTRODUCTION

It has been long believed that a visit to a supermarket is quite often than not associated with the genuine need to buy groceries and provisions. A traditional rationale would imply the frequency of such visits as about once a month and that too about one or two days around when the monthly salary gets credited into the account. But a new trend is on the rise that is making marketers visit the drawing board again; to re-think and reconsider their marketing strategies with a fresh perspective. The change in shoppers' buying pattern is subtle yet hard to miss. Thus, it comes less than a surprise that we are

seeing more footfalls in supermarkets every prominent holiday.

One of the most pertinent challenges faced as a marketer is what shall be done to incite frequent purchase. This is more prominent in a market plagued by competition and second copies. One alternative is to keep coming up with new promotional schemes or discounts. The other is to play around with merchandise but there is a direct relation of the depth of range any player can offer to the intensity of risks associated with it.

The most recent option, ofcourse, was to associate promotions with events, be it Independence Day, festivals, end of year clearance etc. But there is tremendous competition in such promotions to the extent that the customers' minds are cluttered; one finds it difficult to recollect or associate the right brand to the right promotional offer conveyed or advertised.

Nevertheless, it is observed that most events fall on holidays or weekends. And people have now subconsciously or consciously started going to supermarkets not just for shopping but also for recreation.

The Objective of the Study

The purpose of this research paper is

- a) To study, identify and confirm the change in consumer shopping behaviour and reasoning
- b) To recognize the need for changes required in the marketing policies.

Scope of the Study

The study covered a sample of thirty-four shoppers in D Mart, Big Bazaar and Hypercity in Mumbai. The

study sought to determine and confirm the key factors that invited frequent customer footfalls in supermarkets as also to determine the factors, reasoning and rationale behind the increase in frequency. The study would benefit marketers by way of providing information and isolating factors that are contributing to the change thus identified.

Methodology

For this study, the data collection was done by convenience sampling. Based on the retail format, the researcher decided to conduct the survey of three types of retailer which include supermarkets, departmental Stores and hypermarket. Researcher used questionnaire and personal interview method for collecting data. The questions were framed keeping in mind the objectives of research. The questionnaire was given to the customers and the data was collected by personal interview in the form of written responses of the questionnaire. Total sample size for the customers is 34. The project consisted of confirming and exploring factors which are contributing to increasing footsteps in supermarkets the most. The most appropriate means to ascertain such information was to conduct a consumer survey. The research undertaken was a descriptive research as it sought to describe the characteristics of a small sample of consumers with regards to what motivated them the most to visit supermarkets on a regular basis. Researcher mainly focuses on the consumer behavior and footfall parameters in terms of frequency, reason for visit to the retail outlet and spending related to such visits.

For the fulfillment of this purpose, primary data had to be collected through a questionnaire that was to be filled by a sample of shoppers.

The research paper is based on Primary and Secondary data. Due credits are mentioned in the references and this research paper does not violate the provisions of The Copyright Act of India, 1957.

Sample Size - 34 respondents

Questionnaire formulation - The questionnaire consisted of statements based on the Multiple-Choice Questions.

Scope and Limitations -

The Scope of this study is limited solely to the local environment of the city; this may hence not be a total reflection of the shoppers' behaviour in other cities in Mumbai.

The study was carried out in Dahisar and Thane so its scope is mainly limited to Mumbai city.

- The study sought to determine the key factors that attracted shoppers the most.
- The study focuses on motivational profiles with regards to age and experience.
- It gives information about the preference of the respondents to various parameters.
- It gives information about the services and benefits rendered by the supermarket to their shoppers.
- It will help the retailers to understand what factors attract their shoppers the most.
- It will also help the marketers to understand and customize their strategy around such factors that invite frequent footsteps.

Limitations -

This report had to work under several constraints and limitations. Some of the key limitations are:

- The sample size was limited and thereby could not take into account all the shoppers of the retail outlet for the study.
- With the presence of a neutral answer choice, it was difficult to gauge the attitude and profile of certain respondents.
- Some responses were Contradictory and Unsure.
- A few respondents had chosen multiple options.
- Inference was difficult where open ended questions were involved.
- The psychology and temperament of a respondent played a significant role. Some respondents are more sensitive as against others who are more tolerant. A change in the composition of the respondents, can affect the answers adversely or favorably.

- Respondents may not have been true in answering various questions and may be biased to certain other questions.

LITERATURE REVIEW

Despite its ubiquity, the mall as it's been conceived for the last half century is at a critical inflection point. A storm of global trends is coming together at the same time to cause malls to change the role they play in people's lives. No longer are they primarily about shopping. Now, when consumers visit malls, they are looking for experiences that go well beyond traditional shopping.

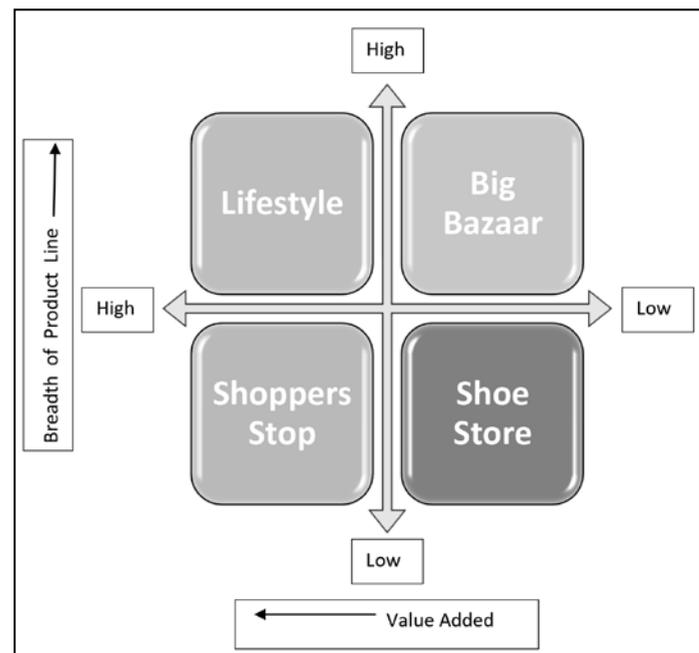
The trends helping to create this change include changing demographics, such as an aging population and increased urbanization, which means more people living in smaller spaces and a greater need for public spaces in which to socialize and congregate. In this environment, malls offer a welcome watering hole, especially in cities where other public spaces are not safe. Sustainability concerns are causing some consumers to prefer mixed use developments where they can live, shop and work all within walking distance – instead of having to get into a car and drive to a crowded suburban mall. The growing middle classes in Latin America and Asia maintain a strong association between consumption and pleasure, driving the need for more engaging shopping experiences. And finally, the e-commerce revolution and the rise of digital technologies are fundamentally reshaping consumer expectations and shifting the function of stores toward useful and entertaining customer experiences

Positioning the Retail Store & The Wheel of Retailing

The theory of Wheel of retailing explains the life cycle concept in retail industry. According to this theory most innovations in retail formats occur at the low end where the innovator enters the market with low cost, all bare store format. The profit margin in such cases is also low. This is the introduction or the embryonic stage in the retail store's life cycle. Such formats draw two types of customers- one, who are price sensitive and are looking for low cost alternative to buy their merchandise and the other, who are suffering from fatigue with existing formats or are dissatisfied with their service. As time passes and the innovative retail format attracts more customers, gains market share, it adds on to its product

and service mix. Improvements in retail ambience and improvements in delivery process now occur. All this start adding to the cost and thus keeps pushing up the prices in the store. Profit margins also improve. However, it is not long when this store starts innovating and delivering services which in a way resemble the retail store displaced by this innovative concept. The store now adds to its facilities and services and targets upscale customers who are willing to pay higher prices for the merchandise. At this stage, this store now resembles a fat duck which can be easily targeted by competition. This stage is also the one, when the store has matured. As a low-end retailer upgrades its strategy to increase sales and profit margins, a new form of discounter takes its place.

One of the strategic decisions that a marketer or retail marketer has to take is one concerning the positioning of the store. The choice is whether to locate it at the low or high end of the retail continuum. The two parameters taken to determine this continuum are the breadth of product line and value addition provided by the store through a range of services offered by it. On the basis of these two factors, the retail store may be positioned in any of the four quadrants as shown below:



The need to innovate in retailing is driven by intensity of competition within the industry, changes in consumer lifestyles, and customer price sensitivity behaviour and

developments in technology.

Boom in organized retailing has its roots in the changing Indian market kaleidoscope, most significant drivers of change are the socioeconomic profile of the Indian market, intensive competition and continuous developments in information and communication technology.

The differentiation between stores, rests on the quality of their customer service. Invariably, all major innovations in organized retailing are based on customer service initiatives. These include returns policy, delivery modes, loyalty programmes, creation of consumer panels including Ombudsman position and deployment of technology, to service customers in a seamless manner.

Sinha (2003) brought out the shopping orientation of the Indian shoppers. The analysis indicates that the Indian shoppers seek emotional value more than the functional value of shopping. Although there is an indication of shopping being considered as a task and should be finished as soon as possible, this orientation is overshadowed by the entertainment value derived by the shoppers. The study also indicates that though there are some similarities in the orientation of Indian shoppers and shoppers from developed countries, there are some significant differences too. The Indian shoppers show an orientation that is based more on the entertainment value than on the functional value.

The rate of inflation has been in low single digits in recent months. The food and beverage price index, which accounts for nearly half the consumer price index basket, shrunk 1.17% in June, and items of daily consumption witnessed either nominal or no increase in prices. Even though, very recently, between July and August 2017, inflation has inched up to 2-4%, broadly, all indicators are favourable for the FMCG sector.

It is the big brands rather than local or small ones that have contributed to the return of stock levels to erstwhile numbers; so the smaller and local players are slower in returning to normalcy as per a Nielsen report.

Digitalisation & Its Impact:

A recent study by BCG's Center for Customer Insight examined the changing behavior of Indian consumers across more than 50 product categories through

questionnaires and interviews with more than 10,000 consumers in 30 locations nationwide.

Firstly, the digital opportunity is large and growing. The adoption of digital in India is occurring considerably faster than that of technologies in the past. The report estimated that India will have more than 850 million online users by 2025, more than the combined populations of the G7 countries.

Second, digital's impact is becoming pervasive across all consumer segments. India's initial digital consumers were male, millennial, and mostly metro-based. The future looks very different. By 2020, half of all internet users will be rural, 40% will be women, and 33% will be 35 or older.

Third, internet penetration has been, and continues to be, mobile first. Four out of five users go online with mobile devices. Today, these devices are a mix of smartphones (with 3G or better connections) and feature phones with primarily 2G connections, but the trend is toward faster connections and more capable devices. To get a sense of the speed of this shift, consider this: it took nearly eight years for India's mobile market to reach 250 million 3G connections, but the country's Reliance Jio 4G network added 100 million connections in just seven months.

Finally, the primary determinant of consumer behavior is not age, gender, or location (urban versus rural), but digital maturity—that is, the number of years that a user has been online. The more digitally mature people are, the more they do online. As a consequence, digital's influence on purchases and actual digital commerce are both increasing. From 2014 through 2016, the number of online buyers rose sevenfold, to between 80 million and 90 million. Digitally influenced spending, currently \$45 billion to \$50 billion a year, is projected to increase more than tenfold, to between \$500 billion and \$550 billion—and to account for 30% to 35% of all retail sales by 2025.

The research also identified a much more engaged consumer and a broader set of online activities—eight categories of behavior that include, for example, consuming media, pursuing studies, managing finances, and, of course, shopping. The “eight S's” of online activity outlined below, some of which overlap, characterize the Indian consumer in a much more complete and specific

manner than does a more conventional, simplified view of online presence.

The Eight S's of Online Activity:

SHOPPING - Purchasing goods (electronics, apparel, books) and services (travel, hotels, taxi rentals) through e-commerce.

STUDYING - assessing study materials and other resources and taking online courses

SAVING - managing personal finances through online banking, trading and investing

SELLING - selling goods and services online, for personal or professional reasons

SOCIALIZING - interacting with others through email, social media and instant messaging

SEARCHING - researching topics of interest, such as home décor ideas, health tips, and recipes

SELECTING - buying a house, finding a life partner, and booking a restaurant

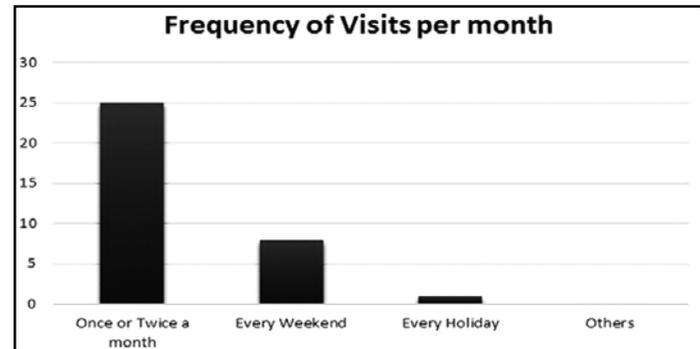
SEEING - reading the news, watching videos, and listening to music

More than 50 mid-rung global retailers are planning to enter India within the next six months, according to data compiled by Franchise India that has tied up with them for their launches, with their eye mostly on smaller, untapped markets within the country. Brands such as Korres, Migato, Evisu, Wallstreet English, Pasta Mania, Lush Addiction, Melting Pot, Yogurt Lab and Monnalisa, many from the US and Singapore, will invest about \$300-500 million - all told to open roughly 3,000 stores, triggered by the country's expanding economy, booming consumption, urbanising population and growing middle class. Thailand-based Siam Makro PCL plans to launch its wholesale cash-and-carry business in India under the brand "Lots Wholesale Solutions". The company will open 15 wholesale distribution centres in the country in the next three years in the northern region. The company plans to invest Rs. 1,000 crore in the next five years in setting up its wholesale distribution centres and supply chain in North India.

KEY FINDINGS

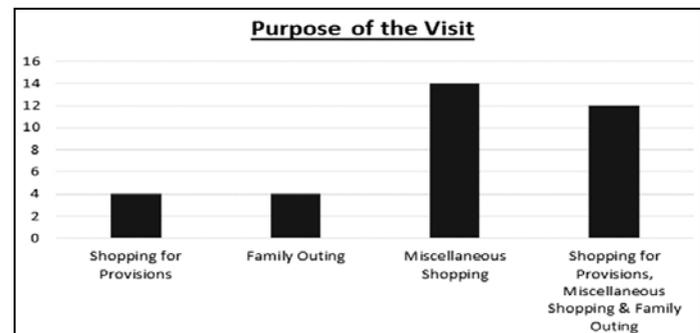
Q. 1 How many times in a month do you visit a Supermarket?

27% of the respondents clearly mentioned that they visited the supermarket every weekend or whenever there was a holiday. The purpose of the visit ranged from Miscellaneous shopping to family outing clubbed with shopping.



Q. 2 What is the purpose of the visit?

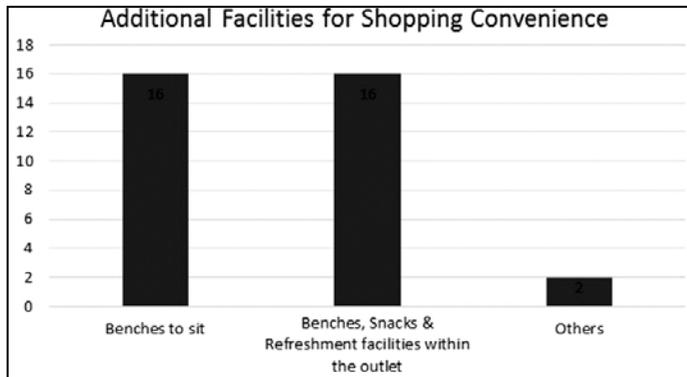
A shocking 88% respondents were found to be visiting supermarkets for Miscellaneous (Unplanned) shopping or for Family Outing or mostly for a 'Multipurpose-shopping-family outing'. The stated purpose ranged from Miscellaneous shopping to Window shopping to Family Outing, but all in all was more recreation-oriented. 44% of the respondents admitted that a trip to the supermarket guaranteed a win-all for all the members of the family. Aptly put by one such respondent- "Provisions means the wife is happy; Miscellaneous shopping means kids are happy; and No unnecessary expenditure or long journey means I am happy!"



Q. 3 Is there anything that can make your shopping experience more convenient?

47% respondents believed that having Benches to sit in the store would add more convenience to the shopping experience, while 47% believed that having benches and

refreshment facility within the outlet would ease their shopping involvement. All the respondents wanted to derive more from the ease of shopping. Convenience of shopping ranged from sitting facility to Refreshments to Snacks Vendors. Some respondents have mentioned Live streaming of Sports events through LCD screens, Music and entertainment in general.



Hence an inferential analysis on the factors contributing to the emerging trend, as observed during the research.

FACTORS CONTRIBUTING TO THE EMERGING TREND

- **Basic Need for provisions** - The need for provisions is irreplaceable and cannot be ignored. Customers who traditionally scheduled their monthly provisional purchases once a month, nearly when the income was received or credited, are increasingly fragmenting the purchase schedule to multiple times a month.
- **Decreasing social gatherings and engagements** - With Digitization and increasing affinity to mobile phones, physical meetings are transforming into e-meetings. Social gatherings are converting into e-gatherings and virtual social engagements are making it challenging for people to simply meet for no apparent reason. family time especially over the weekends
- **Lack of zero-cost gardens and parks** - The Gallup/Knight Foundation's Soul of the Community 2008-2010 study found that social offerings, openness and beauty - three key attributes of public places - are the primary drivers for community attachment. The study also demonstrates a strong positive correlation between resident attachment and local GDP growth.
- **Dual Income Couples**- Couples with dual income are

financially better placed than those with single income. Plus, they also share household responsibilities which increases the disposable income thereby facilitating.

- **Physical exhaustion of dual income couples**- Pew Research Center survey shows, balancing work and family poses challenges for parents. In fact, more than half (56%) of all working parents say this balancing act is difficult. Most parents, including at least eight-in-ten mothers (86%) and fathers (81%), say they feel rushed at least sometimes. But for many mothers who work full time, feeling rushed is an almost constant reality. In fact, four-in-ten full-time working moms say they always feel rushed, even to do the things they have to do; an additional 50% say they sometimes feel rushed and just 10% never feel rushed.

In such circumstances, the couple tends to combine work with recreation to save time and hence more footfalls in supermarkets.

- **Needs versus Wants dichotomy** - 3 male respondents during the interview candidly confessed that spending Rs. 800 to 1200 every weekend in Malls or Game zones gives momentary happiness and excitement but there is no take-away; whereas going to DMart or Hypercity guarantees family entertainment, everyone is involved and money is not wasted. Also, despite dual income families and even multiple income households, the fact remains that income is limited, investments and monthly installments leave limited budget for recreation and social engagements.
- **Rise of Digital socializing** – Digital socializing is not limited to making acquaintances on facebook or twitter. Even simple tasks such as booking an appointment with a doctor does not necessarily require a physical contact. Practo began as a cloud-based software-as-a-service provider for doctors, but now it also functions as an online marketplace for doctors and patients. It serves as an appointment-making service for patients and provides doctors with the data they need to better manage their patient base and their practices.

CONCLUSION

Organized retail sector is growing rapidly and consumers are shifting to shopping in organized retail stores. More than 50 mid-rung global retailers are planning to enter

India within the next six months, according to data compiled by Franchise India that has tied up with them for their launches, with their eye mostly on smaller, untapped markets within the country.

Thus, understanding of shoppers' behavior is the key to success for the retailers. Marketers will have to understand the consumers' shopping behavioral dimensions that will help them to tap the consumer in a better way. Consumer purchase behavior is an important factor that affects the strategies adopted by the retailers. Shopping habits of Indian customers are changing due to their growing disposable income, relative increase in the younger population, and the change in attitudes towards shopping. Shopping orientation is becoming more complex and so shall the Parameters considered for this study include retail format, customer convenience, and store ambience. It was observed that majority of customers prefer to visit particular retail outlets because

of promotional offers, followed by events and entertainment, and convenience to customer.

The literature survey and the findings of this study are indicative and are good enough to give an overview of the retail purchase consumer behavior in India. The time, efforts and manpower used for conducting this research was available limited and sample size was 34 consumer respondents. The objective of this paper is only giving an idea of retail consumer spending patterns and not overall consumer behavior. This research has traditional limitations associated with survey research such as selection errors, measurement errors and interviewers effect. Further research can be undertaken on similar kind of other different retail formats other than hypermarkets, departmental stores and supermarkets. Also researcher would like to undertake research on the impact of consumer behavior on other retail store environment etc.

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Digitisation of the Environment through Green Card and Green Balance Sheet of an Individual : The Future of Next Generation

Dr. Sudhir M. Purohit

Assistant Professor

Mithibai College

Email: sudhirpurohit5200@gmail.com

Abstract

The Research paper discusses about the need of Digitisation of the Environment through the help of Green Card termed as ***Harrit Patra***. This Greenery card with reference to Green Balance Sheet of An Individual in connection with the environment will help in eradicating the problems associated with the factors identifying those who contributes and those who Contaminates the Environment and thus Affecting the Environment Negatively and Positively. This Paper discusses about the Right and Wrong doings of an individual and digitising the same by transferring them into points which can be Digitised in the form of a Card know as ***Harrit Patra*** -the **Green Card** of An Individual's Contribution to the Environment. the Human actions are categorized as a withdrawal and contributor to the environment. **As a positive contributor** to the environment, the role of Digitisation is Crucial to keep a check on the daily routine activities of the individual and keeping a digital record of the same which can be saved and used as a reference for the future generation. **The idea behind** this research paper is to discuss the positive side of using the environment and saving the environment by an individual and having a measurability of the doings of an individual through Green card referred here as G-Card. The Research Papers discusses about the innovative idea of what is Greenery card and What is Green balance Sheet ? Is being discussed here and India being a growing country needs a strong awareness about the environmental issues which are emerging and **How this evaluation in the form of green asset and green liabilities will help India** from the Green accounting point of view. The idea behind this paper is to develop a strong connection between the environmental assets and liabilities in the near future.

Key words used : Harrit Patra, Green Card i.e. G - Card, GBS, Green Point.

Findings ,Suggestions, Bibliography

Introduction

The Human Life is all about what we give and what we take. We get in return what we give. The same principle of Life applies to the human behaviour and the Environment. The Environmental Accounting or now Popularly known as Green Accounting can explain this Concept .

Green Accounting: An overview

Green Accounting was formally known as Environmental Accounting. Environmental accounting is a tool to support the environmental management. The data and the information which is generated through the environmental accounting, is used by the public in general and by the management of the organization in particular to assess the accountability of the organization.

Green accounting popularly known as environmental accounting considers environmental and natural resources into account and incorporates environmental assets and sources.

Green Accounting puts a value on the country's natural resources such as forest and seas in order to get a clearer picture of its economic performance.

The Environment with reference to Environmental Accounting or Green Accounting, refers to the air water and land in which people, animal and plant live.

So human beings, animals, air, water and soil are the main elements of the environment. The natural forces

such as storms, cyclones and earth quakes are also a part of this environment. Anything makes up the environment are interrelated. The way in which people, animals and plants are related to one another and to their surrounding is known as Ecology. The Ecosystem is a complex web that links animals, plants and every other life form in the biosphere.

If we can breathe today, it is all because of the protection done or damage not done to the environment by our forefathers. But there is very little that we can possibly give back to the nature. We cannot create anything. The only thing that we create is sound or trees that we plant. Soil, atmosphere, water cannot be created by human beings.

The Rig Veda makes a clear reference to the presence of protective layer 'which we know now to be the 'ozone layer' that filters the harmful rays of the Sun and protect the Earth and raises the radiation that enters the atmosphere. This supports the human life.

All four major Vedas "*the Rig, Sama, Yajur and Atharva Vedas*" recognizes the importance of maintenance of the seasons' cycle that are likely to get altered due to the climate change owing to inappropriate human actions. It is remarkable that the people in Vedic times regarded Nature and the Environment in a holistic manner and respected each of its constituents and entities by carefully preserving them.

Review of Literature :

Arup Choudhuri (2008) in his paper titled "Environmental Accounting : Concepts and Practices" highlights the impact of revolutionary environmental management researches using environmental accounting as a tool of analysing the impact of business activities on financial, social and environmental performances.

Parikh and Parikh (1997) made an attempt to account for air pollution in India, using input- output sector information at the all India level.

Haripriya (1998) made an attempt to incorporate the forest resources in the state accounts of Maharashtra the "System of Integrated Environmental and Economic Accounting" (SEEA) framework.

S. Vijayalaxmi and Aparna Bellur (2008) in their book

titled "Environmental Accounting : An Introduction" stated about assessing the effect of environmental resources and services, and their effect on Gross National Product (GNP), Corporate environmental accounting making environmental related costs more transparent within corporate accounting system and reports. The benefit of undertaking a corporate environmental accounting initiative, greater awareness of environment-related cost often provides the opportunity to find ways to reduce or avoid these costs, at the same time improving environmental performance. Companies are slowly publishing their reports on their environmental management and performance.

The article "Environmental Accounting" authored by J K Nandi attempts to describe the concept of environmental accounting, environmental costs, various methods of environmental transmutation and practices of legal framework in India. The author defines environmental accounting as "The generation, analysis of materials and energy flow and environmental cost information along with other cost information, which can be used to estimate the environmental costs and benefit and incorporate these with the traditional accounting system so as to achieve development and growth of corporate environment and economic performance".

Objective of the Research :

It is mentioned in the *Bhagwat Gita* that we do not bring anything in this world and return empty handed from this world, whatever is of this world remains here, whatever we have acquired and created remains here. But we can do something for the environment and for the coming generations by planting tree, conserving water and using environment friendly processes and gadgets. It is high time for us to analyze and measure our Contribution to and our Withdrawals from the environment. This is possible only if we connect an individual with the Environment in such a way that what is contributed to the Environment and taxed to the environment by an individual, can be measured in monetary terms. The attempt is made to underscore the Rights and Responsibilities of an individual towards the environment with the help of Accounting Principles and Concepts.

Harrit Patra - the Green Card :

Green Card : G - Card :

The best thing learned here is, they are put on records in the form of a Green Card! It is like a thank you for Recycling and not throwing garbage. But again there will be a problem of measurement, as honesty is expected from every individual. There are certain facts relating to an individual which has an impact on the environment:

Harrit patra or Green card is an indicator of the Contributions of an individual towards the Environment . It will work as a yardstick or a measurement of an individual's positive contribution to the environment. The Harrit patra will be a card which will be credited with the points, which will always be credited with the Individual's positive involvement to the Environment. This Harrit patra card will get credited Digitally and then when ever an individual uses the Environmental Resources ie. Soil, Water, Air , Energy and Space to Live his Life, then this *Harrit Patra* will be Debited by those many Points. These Points Can Be Termed as Green Points.

Green Point : The Green Points here are used as the Indicator to the role of an Individual towards the Environment. It is the measurement criteria or it is the measuring tool of an individual's Contribution and Contamination to the Environment. The System can be based on Credit card system where the Card is Credited with Every Deposit of the Money and Debited with Every Withdrawal of the Money. Here the *Harrit Patra* or Green Card of the Environment will be Credited with Every Contribution and Debited with Every Contamination to or Withdrawal from the Environment. However this idea of Digitization of the Environment also suffers from certain limitation like record keeping of an individuals' action, honest disclosure from an individual's point, and one of the major limitation is the Quantification of the Contributions and Contamination of Human Efforts to the Environment.

Green cards i.e. G - Card and it's applicability in other countries:

The system of collecting garbage and recycling bin is unique and appreciable in western countries like United Kingdom. The system is followed bifurcating the waste into two categories:

1. If you have a general waste bin a recycling bin and compost bin:
2. If you have a general waste bin, red and black recycling boxes, and green food waste bin:

All the bins are collected fortnightly and the recycling bin one week general and composite bin the next week. The collection day is the same week, if there is a purple glass recycling box then that has to be left out with the recycling bin. If you have general waste bin then red and black recycling bin boxes and green food waste bin then your general waste is collected fortnightly, however the recycling boxes and food waste are collected every day, on the same day.

Green Balance Sheet: (GBS)

This is can be done with the help of Green Balance Sheet i.e. Balance Sheet of an Individual in connection with his Green assets what he has contributed to the environment and Green Liabilities what he has withdrawn from the environment.

It is the environment which runs the Life of an individual, same as the owner runs his Business. The concept of Green Balance Sheet (GBS) shall help in understanding the relationship between an Individual and the Environment.

The phrase Green Balances Sheet links us with the concept of Financial Balance Sheet. Green Balance Sheet, now onwards termed as GBS. GBS is an attempt to draw out a Balance Sheet of an individual and make him accountable towards the environment.

In the past, several Research studies have been taken up by the Researchers of all areas, to understand and combat the problem relating to Environmental issues with reference to Environmental Accounting.

Environmental accounting is the nerve Centre of modern accounting system for all those individuals and business units who want to incorporate Green accounting into their System of Accounting. Green Balance Sheet of an Individual has a future ahead. I think as a Researcher, I can contribute to identify some of those activities which will harm or help the environment, either oppose or support the environment. There are numerous ways in which an individual has affected the environment.

Because of these actions the Environmental Capital has either been reduced or been increased. As mentioned in the earlier, sound energy is the only energy that we, human beings can create. As a researcher, I wonder if sound energy can be constructively used to create other forms of energy thus reducing the burden on the natural sources of energy. If a research is done in this direction, it will significantly add to the Environmental capital of the present generation and the generations to come. The whole spectrum of Green Balance Sheet here, roams around an individual and the cost of rectifying the Human action becomes the cost of liabilities and the Cost to help the environment becomes the value of Green Assets here in the form of Green Balance Sheet. The concept of Green Balance Sheet is very important to understand environmental accounts. It is not only our duty to protect the environment but also to give back to the environment what we have received from the environment. Green Balance sheet of an individual will give a picture of what an individual has contributed popularly known as Green Assets and what he has withdrawn from the environment popularly known as green liabilities, will be presented in a format of Balance Sheet. In understanding the GBS it will be good to recollect the details of Balance Sheet as popularly used by Business concerns. Balance sheet is a condensed statement that shows the financial position of an entity on a specific date (usually the last day of an accounting period). What assets the entity owns ? How it is going to be paid for ? What it owes (its liabilities) ? and What is the amount left after satisfying the liabilities?

Arithmetically, balance sheet is based on a fundamental accounting equation (Assets= Liabilities+ owners' equity), and is classified under sub – headings such as Current assets, Fixed assets, Current liabilities, Long – term liabilities.

An audited Balance sheet is often demanded by investors, lenders, suppliers, and taxation authorities, and is usually required by law. To be considered valid, a balance sheet must give a true and fair view of an organization's state of affairs, and must follow the provisions of relevant Laws. The statement is also called statement of condition, statement of financial position.

The concept of GBS is associated with environment of the earth. The Mother Nature has provided this

environment to inhabit the life on the earth. The life has manifested in various forms. The very survival of the human being is associated with the wellbeing of the environment provided by the Mother Nature.

Here in GBS the owner is the “Mother Nature” (the Businessman) which has provided with “the Environment” (the Capital) the only limitations is that the capital is a sum total of all the environmental elements (soil, water, air, fire, space or atmosphere) and the same cannot be expressed in monetary terms. Therefore in GBS the researchers has assumed it to be “X” only.

For Mother Nature every individual human being is a separate “business unit”. This unit starts functioning with birth on the earth and continues to function till its death. During their presence on the earth either an individual “increases the environmental capital i.e. “X” or decreases the environmental during its lifetime.

In today's scenario when we are talking about “Go Green” the idea of Green Balance sheet will be an attempt to create such an awareness amongst the individuals that they should take care of their own environmental space.

Methodology :

A. Data collection

Primary data were collected from individuals being households, working people. Businessmen, students, senior citizens etc. The extensive use of data gathering was used. Methods such as Observation, Questionnaires, Personal interviews etc. were applied to collect primary data. However over and above all, the Self Experience as a researcher was the prime source to gather data for the research. We have not applied any technical statistical tools since it was a not a concluding research, it was an initial work which further needs the involvement of group of technical experts such as scientists, environmentalist, anthropologist etc.

The Green Balance Sheet being an exploratory search, was an initial work, which as researcher, I have surveyed based on the personal interview and questionnaire. A depth study by a group of people from different stream is needed, as the valuation of the natural resources needs the help of technical experts, anthropologist, environmentalist, scientist and other experts. We have

done an initial work, which is not a conclusive study but which can be further carried out with the help of group of people belong to different faculties. We have not applied any statistical tool for the purpose of analysis, as the primary data has been analysed.

Hypothesis:

Since the research problem is an exploratory one, therefore there were no hypotheses developed.

Analysis & Results :

Sample Profile

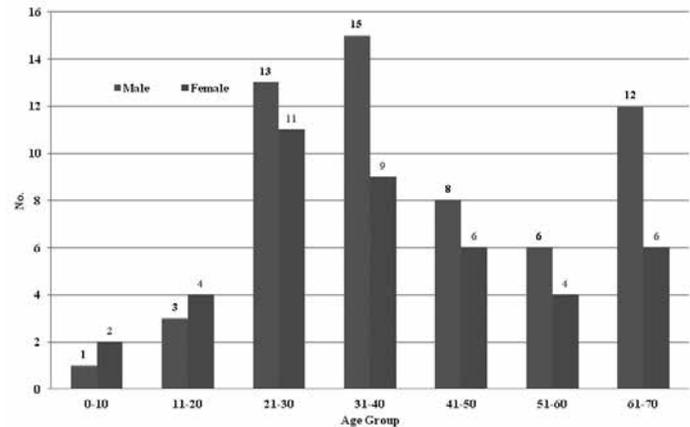
The overall sample has been classified into:

- 1) Students-sample size-16
- 2) Housewives - sample size-25
- 3) Businessmen - sample size-21
- 4) Working People going on Jobs- sample size-30 and
- 5) Senior citizens i.e. retired people- sample size-08

Collected Data were analysed with the help of charts and diagrams to find out the initial data, based on the behaviour and responses of different individuals. We surveyed around 100 respondents and collected data, tabulated them and analysed and interpreted with the help of Charts. The same data was analysed from different activity levels. We could find out that if an individual behaves negatively, he could harm the environment. The information gathered were classified and tabulated to represent the age group. The routine activities of different age group were analysed and were presented in tables, graphs, charts and diagrams etc. wherever was felt necessary.

Simple averages were calculated since the data collection was small i.e. 100 only. Hence we have not used the Statistical tools for analysis. In-depth study of collected data was conducted to arrive at interpretations and research findings.

B. Secondary Data Secondary data were also collected from various resources such as books, articles, reports, websites etc.



Sources of Data Analysis and Interpretation : Primary sources

Analysis & Results :

Another study of 100 respondents of the Individuals of the Age group:

1. 0-10 years
2. 10-20 years
3. 20-30 years
4. 30-40 years
5. 0-50 years
6. 50-60 years
7. 60-70 years & above

The questionnaire was prepared asking questions relating to the daily usage of water, electricity, eating habits, personal hygiene etc., which affects the environment. The respondents included males and females from different categories such as Households, housewives, businessmen, working women, senior citizens, employed, unemployed etc. Following were the observations of the study.

Out of 100 respondents, 58% were male and 42% were Female.

Out the total 58% male respondents,

1. 1% belonged to the age group of 0-10
2. 3% belonged to the age group of 10-20
3. 13% belonged to the age group of 20-30
4. 15% belonged to the age group of 30-40

5. 8% belonged to the age group of 40-50
6. 6% belonged to the age group of 50-60
7. 12% belonged to the age group of 60- 70 years & above

a) Out of total 42% Female respondents,

1. 2% belonged to the age group of 0-10
2. 4% belonged to the age group of 10-20
3. 11% belonged to the age group of 20-30
4. 9% belonged to the age group of 30-40
5. 6% belonged to the age group of 40-50
6. 4% belonged to the age group of 50-60
7. 6% belonged to the age group of 60-70 years & above

3% of the total respondent belonged to the age group of 0-10 years. Their daily routine activities were answered by their parents, particularly mother. 7% of the total respondents were of the category of 10-20 years who answered the question on their own. 24% of the respondent were of the age group were from 20-30 years, who were generally either job or searching for job, or pursuing higher studies.

The percentage of the age group of 30- 40 was 24% being the highest observation of the study coinciding with the age group of 20-30. 10% of the observation belongs to the age group of 40-50. However the age group of 50-60 was 10% and the age group of 60-70 was 18%.

Discussion and Conclusion :

Gender/ Age	0-10	10-20	20-30	30-40	40-50	50-60	60-70 & above	Total
Male	01	03	13	15	08	06	12	58
Female	02	04	11	09	06	04	06	42
Total	03	07	24	24	14	10	18	100

How many trees are needed to provide enough oxygen for one person? Trees release oxygen when they use energy from sunlight to make glucose from carbon dioxide and water. Like all plants, trees also use oxygen when they split glucose back down to release energy to power their metabolisms. Averaged over a 24 hour period they produce more oxygen than they use up, otherwise there

would be no net gain in growth.

It takes six molecules of CO₂ to produce one molecule of glucose by photosynthesis and six molecules of oxygen are released as a byproduct. A glucose molecule contains six carbon atoms, so that's a net gain of one molecule of oxygen for every atom of carbon added to the tree. A mature sycamore tree might be around 12m tall and weight two tones including the roots and leaves. If it grows by five percent each year, it will produce around 100 kg of wood of which 38 kg will be carbon. Allowing for the relative molecular weights of oxygen and carbon, this equates to 100 kg of oxygen per tree per year.

3. "A single mature tree can absorb carbon dioxide at a rate of 48 lbs. /year and release enough back into the atmosphere to support 2 human beings – Mcaliney, Mike. Arguments for land conservation.

4

The average person farts 30 times a day
The average fart is 25 cc
Total volume of fart per person per day = 750 cc
About 10% of a fart is methane, the rest is mainly nitrogen.
The average person therefore farts 75 cc of methane per day
Some people don't produce methane in their fart

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The average person therefore farts 75 cc of methane per day

Some people don't produce methane in their fart

Sources Secondary Data

General Findings :

1. A human breathes about 9.5 to tons of air in a year but oxygen only makes up about 23 percent of that air by mass and we only extract a little over a third of the

oxygen from each breathe. That works out to a total of about 740 kg of oxygen per year. Which is very roughly seven or eight trees worth.

2. How many times does the average human breathe in 24 hours? The average rate of respiration in a healthy adult human is twelve breaths per minute. This is based on an 'at rest' basis and assume the adult is healthy; without fever or encountering breathing difficulties.

3. Newborns, infant and children will have differing rates of respiration based on twelve breaths per minute a human will take 17280 breaths in a day (12 x 60 x 24).

4. The human ear feels pain at 120-140 decibels, and for that reason we tend to protect our ears with our hands when listening to sounds in or above the decibel range.

5. Noise creates sound waves that indirectly weaken the edifice of buildings, bridges and monuments and over time, can put buildings in dangerous condition.

How much water does an urban citizen need?

Understanding how consumers are responding to water availability will enable better design of systems and result in efficient use of water, our cities need to respond urgently, says water activist S. Vishwanth. In India, the design of water supply systems has been done using certain standards; currently the standard being used is BIS 1172:1993, reaffirmed in 1998. This specifies a consideration of use of the following:

1. For communities with a population between 20000 and 100000-100 to 150 liters per head per day.

2. For communities with a population of over 100000-150 to 200 liters per head per day.

3. In the previous study water there was also an attempt made in IS 1172 to understand the break-up of this demand which was then put as 135 liters per person per day. The break-up was as follows:

Bathing	55 liters	Drinking:	5 liters
Toilet flushing	30 liters	Total Consumption	125 liters
Washing of clothes	20 liters		
Washing utensils	10 liters		
Cooking:	5 liters		

Sources Primary Data

Summary Findings and Suggestions:

➤ there Can be some additional water supply facility, as a reward if they earn some Green Point?

➤ There Can "A Green Card" be asked by the traffic police instead of license? A license can be turned to green sense, if the vehicle saves fuel and emits less fumes or CO2 carbon dioxide in the air

➤ a separate "Green Book" can be prepared same as bank pass book which shows an individual's green accounts, stating the current position of his nature balance sheet? A green balance sheet denoted in Green Points.

➤ There can a Tree Balance be prepared instead of Trial Balance?

➤ The problem of carbon credit can be studied and solved at an individual land? E.g. Mr. A showing his garbage box with Mr. B's if the quantum of garbage increases beyond a certain limit and hence polluting the environment?

➤ a manufacturing company can borrow trees from other individual?

➤ a Green Balance Sheet can be prepared where, with an individual's contribution i.e. efforts an environmental asset i.e. Green Asset is generated or produced to compact his environmental liabilities and create a healthy environmental capital. This may work for him to become a good citizen. Such types of questions are thought of and taken into consideration.

➤ The Government can open Tree Plantation Centers where the retired people who wish to utilize their time and earn their livelihood can be appointed, where the individuals can plant trees at their leisure time and get it credited to the G - card.

➤ The Keynesian theory of economics suggest to generate employment “a pit and refill it “but in our country a pit is tunneled before time but not refilled on time. As researcher I feel Environment protection can be a source of generating employment, as the plastic polythene pickers should be awarded by the government and the more they collect such polythene, the higher should be the reward.

Suggestion with reference to Water Meters

➤ Every individual and apartment, if metered, can measure its water consumption and compare with standards. Price signals can be sent to ensure that those consuming more than the estimated levels pay a high price.

➤ Understanding how consumers are responding to water availability will enable better design of systems and result in efficient use of water. Our cities need to respond urgently that would be water wisdom.

➤ As a Researcher , I feel the appreciation always works better than reprimanding people on their wrong doing. Hence punishment is not the only solution to the problem. Rewards can also be offered in non monetary terms such as tax benefit if any.

➤ I wish to mention the name of the Great personality Shri Sunderlal Bahuguna, who devoted his Whole Life for the cause of environment. There are Paryavaran Mitras (Environment Friend) who spend there whole life to save the environment. There so many unsung heroes, who are the real heroes of Life, who saves Life of millions of people by their doings. As a researcher, I

may not be able mention every name but this effort of Green Balance Sheet of an Individual is a mile stone to involve every individual, to save the environment.

Limitation of the study and Direction for Further Research :

The prime limitation of this idea was the Quantification. Since the Contamination of Soil , Water, Air, Energy and Atmosphere ie. space are measured in different units. As Quantification is the biggest problem faced in this research the Unit Measurement of these Contamination Should be converted into Money or any other Common Points. These Common Points Can be termed as Green Points or Haritaank’s of an individual.

Another limitation of this research is the Technical support and Quantification of the Contributions of an individual which can be incorporated in the Green Card. If we can make it compulsory for an individual to have an Environmental card popularly known as Green Card or G- Card, where the records of the individual efforts are being converted into Green Points and whenever He or She is doing any thing positive then points will be added or credited to such card. On the other hand whenever an individual breaks the Environmental rule, immediately, he will have to swipe his G- card and automatically his points will be deducted from his Green point balance. If this can be practiced then my problems like corruption in the form of Bribe to the Traffic Hawaldar can be eradicated. The research paper invites more work on this issue and Technical research scholars should come forward to develop such Harrit Patra which will help the Environment to become Digital.

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Digital Footprint in Indian Mutual Fund Industry

Mr. Shahnawaz Ali

Research scholar School of Management Studies,
Ravenshaw University, Cuttack.
E-mail: shah_ali03@yahoo.co.uk

Dr. Shradhanjali Panda

Asst. Professor. (Finance) School of Management Studies,
Ravenshaw University, Cuttack.
E-mail: shradha313@yahoo.co.in

Abstract

“Customers expect an army of financial analysts working for them personally:”

Technology has been the integral part of today's investment and business. As of January, 2017 the total number of internet users are around 300 million and is expected to reach 600 million by 2020. The traditional models of Investment Science are soon going to be replaced by advanced technologies like cloud computing, artificial intelligence, block chains, big data and robo-advisors etc. In future, the Mutual Fund industry is going to rely on these technologies to understand investor's requirement, spending behaviour and future goal to suggest him the right investment portfolio. In this paper we have tried examine the important drivers of digitalisation trend that can link the regulatory changes and customer expectation. It aims at studying the digital scenario in Indian Mutual Fund industry as well as focusing the digital technologies transforming this industry by changing the asset management process. At the end the future prospects of digitalisation in Mutual Fund industry is discussed.

Key words: Digital Footprint, Mutual Fund, Asset Management.

1. Introduction:

Indian Mutual Fund industry is witnessing a robust and unprecedented growth over the past five years or so. Between 2011 and 2015, mutual fund industry contribution to mutual fund industry has almost doubled from 6.68 lac crores to 13.39 lac crores. Much of the credit could be given to the awareness program by AMFI and SEBI, for the recent rise in investor participation in

mutual funds, bringing over 4 lakh crores in past two years. Much of regulatory changes has been initiated by SEBI, to empower and protect investors from all parts of the country.

With digitalisation in the air, backed by several initiatives by the present government, all anchored in the digital technology. November 8, 2016, Prime Minister, Mr. Narendra Modi announced first step towards a cashless economy, followed by government incentives, regulatory initiatives and efforts towards rapid digitalisation. Despite all efforts by Asset Management Companies for widespread investor education and awareness programs, technology has been enabler for the overall ecosystem. Investors now can go for paperless way of investing in mutual funds, with e-KYC process, investors can now just need to login and complete KYC registration online. Investors can now invest in mutual funds and can redeem their funds online, without even interacting face to face any representative, completely omitting the physical layer.

Technology is now an integral part of Mutual funds, and its now used in each and every aspects. Asset management companies use robotics for enhancing its efficiency and fund management, also to smoothen its transaction processing. It helps customer to access information and ease in investing, tracking as well as redeeming of their investments. Distributors will be empowered with greater technologies to replicate or leverage Independent Financial Advisory (IFA) model, enhance Customer Relationship Management experience and more.

In this paper, effort has been made to study on the mutual fund investments trend over the past few years and the drivers for change in industry and investment pattern. Through this paper we would like to analyse the various

innovations and technological upgradations in Mutual fund industry and how it has helped it to grow over the past few years. Technologies like big data, cloud computing, robotics, analytics etc, is already making lot of impact in the current world. How these technologies could help to bring the change in the industry looking forward into the future.

2. Key drivers in Indian Mutual Fund Industry

With great effort from AMFI and AMC's awareness program, Indian Mutual fund industry has seen a phenomenal rise in participation from all sections of the society. There has been increase in investor base from non-urban areas of the society, beyond the top 15(B15) cities, there has been surge in exchange traded funds (ETFs), a very sharp rise in systematic investment plan (SIPs). There are many other key drivers of the Indian Mutual Fund Industry, which has helped to increase the pace of mutual fund participation from the investors, and the growth in Mutual Fund AUM. One of the key driver is the innovation and implementation of technology into the mutual fund industry. With the advancement of digitalisation, and its adoption into the mutual fund industry, is seen as a major step towards setting up a sound base for adapting to future high technological advancement into the industry.

- **Paperless experience:** SEBI was quick enough to understand the limitation of increased paperwork for both new investors. Paper work not only slows down the process of investing into the economy, but also it adds to unnecessary hassles and inconvenience of meeting an advisor or agent to make the investments. Not only to the new investor, making changes to existing funds or redeeming the funds was again lot slower with lot of documentation processes. Now with the paperless transactions, the investor can make investments online with minimum documentation, which could be uploaded by the investor at the ease of the investor. Also the investor can track its investments through online platform. The investor can even redeem the mutual funds, without even visiting the distributor or asset management company.
- **e-KYC:** To the ease of first time investor, KYC can now avoid all paperwork formalities and it can be complied online. The documents could also be uploaded online with a mobile verification code and aadhar. This

has made it very convenient for the first time investor to invest in mutual funds and also the renewal of KYC has become very easy and hassle free.

- **Convenience in transaction:** Customers can invest, manage, redeem and do all other transactions in mutual funds by online, without even interacting with any representative or a financial advisor.
- **Distribution Efficiencies:** The distributors are now having access to consumers sitting in distant place, where there is no representative office or even any agent. With the advancement in easy internet accessibility and mobile phone technology, Internet can now be accessed by anyone having a operational mobile phone. Investors can now make investments and can manage their funds portfolio, by just having access to mobile phones.
- **Use of Robo-Advisory:** Robo-advisory is the new mantra for mutual funds company. It is now being extensively used by the asset management company for the benefit of the investors to make wise investment decision.
- **Demonetisation:** Demonetisation has triggered the inflow of investments into mutual funds. Now people are finding out better avenues to invest their funds, instead of just hoarding it into the savings account of banks. Mutual funds being one of the most lucrative and convenient investment option, is able to attract increased contribution from the common people. Year 2016 to 2017 has seen highest inflow of funds in seven years.
- **Direct Plan funds:** Direct plan mutual funds is made mandatory by SEBI for all asset management companies to introduce and sell direct plans to the investors. There is no distribution channel required in this fund, it is directly sold to the customers through online platform. Therefore the distribution charges are eliminated, and thus the cost of funds is lower. The overall return in these funds are higher as compared to a normal fund, because of its elimination of distribution charges.
- **Special commission:** SEBI has allowed a special commission of 1.5% over and above the initial charge for the funds to be sold in out of B15 cities. This has given a boost to the distributors to try and sell more to the cities beyond B15 categories.

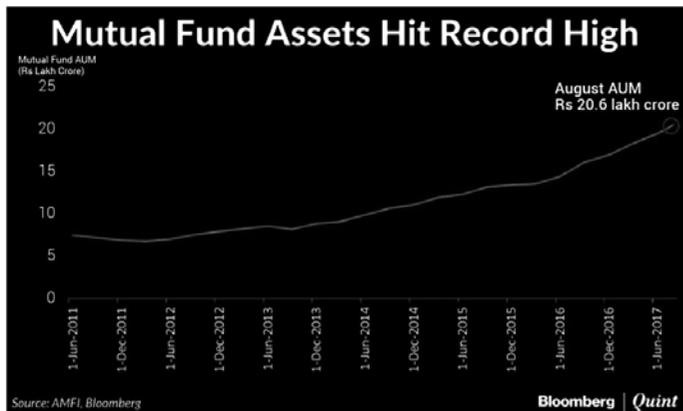
• **Inclusion of Financial Banks:** With introduction of payment banks and small finance banks, it has improved the financial inclusion.

• **Sale of MFs through e-commerce:** SEBI has allowed mutual funds to be sold through e-commerce website, it has increased in participation from investors.

• **Consolidation of Fund Houses:** For better understanding of the market and increase investments, SEBI has taken initiatives to consolidate fund houses and also the schemes.

• **AIFs and ETFs:** Alternate Investment Funds (AIFs) and Exchange Traded Funds (ETFs) are one of the key reasons to drive significant growth in mutual funds over past few years.

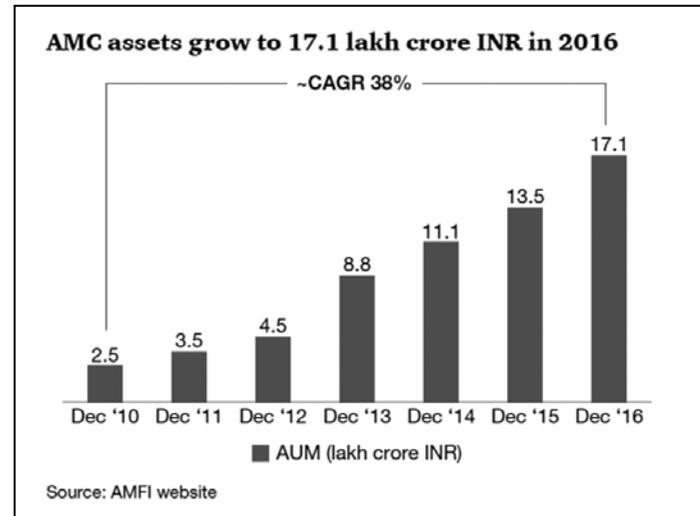
3. Trends and Innovations



Source: Bloombergquint

Mutual funds have been in news over the last few years, since demonetisation. This industry has seen one of the most remarkable growth trend in the last few years. There are many reasons which can be attributed for it and has already been discussed earlier, also we have witnessed shift in trends in mutual funds investment by both the individuals and institutional investors. NFOs flooded the pre 2008-09 era, where every fund houses were busy in introducing number of NFOs, and people too actively participated in the NFOs, because the stock market was in up-swing and all the existing funds were giving exceptionally good returns. However, 2009 financial crisis worldwide had an impact on Indian market, mutual fund investors burning their fingers, losing considerable amount of money in the 2009 financial crisis. Till 2015, the mutual funds participation was very less, and asset

management companies too hardly launched any new NFOs till 2015. SEBI played a very important role in gaining back the trust of individual investors, by bringing in more investor friendly regulations. Since 2015, Mutual funds Industry in India has seen a sharp upside growth in participation from investors, accelerating the growth rate in asset under management.



The asset management companies are now looking for trending concepts, which can help them to cater to the changing environment of the country. Asset Management companies have responded promptly to the initiative by SEBI to digitalise the mutual fund investing experience for customers. With shift in ageing of the population, mutual fund companies are now coming up with more of retirement-focused funds, fixed maturity plans (FMP). With more participation from the individual investors, mutual fund houses are now planning to launch Real Estate Investment Trust (REIT) funds and infrastructure investment trusts. Also SEBI is now planning to allow upto 20% direct investment into real estate for the real estate funds. ETF has witnessed substantial share in the growth of mutual funds AUM over last couple of years. ETFs have gained substantially over the last decade globally, it is now \$ 2.9 trillion. Direct plan funds are also introduced with mandatory requirement by SEBI, so investors can now surpass distribution channel and directly invest with AMC, saving the distribution cost.

4. Recent Innovations in Indian Mutual Funds

Systematic Investment Plan (SIP) is now contributing 5,500 crore rupees every month to the mutual funds industry. With such a rise in interest in SIPs by individual

investors, AMCs are now finding innovative ways to invest in SIP. Value SIP is one of the concepts being offered for online investors, where the contribution is adjusted as per the expected return in the mutual fund performance. Another AMC is offering prepaid SIP which gives the option of transferring a fixed contribution to equity fund by setting up a trigger. This fund enables to cash in the opportunity of purchase of equity funds, as and when it comes down to the trigger point. Another variant in SIP is offered by one of the AMCs known as Power SIP, which primarily invests in debt fund, and gradually switch to equity funds, depending upon a formula on PE variation. Top up SIP is just another variant offered by another AMC, to fulfilled the investment objective much early.

Debit Card allows to spend money from their mutual fund investments without going forward to the paperwork and delays of redeeming process.

Technology has been extensively used for making purchases of mutual funds online through mobile applications, linking the banking accounts or digital wallets and electronic payment applications. Use of Social media platform for promoting and engaging the entire distribution channel in mutual fund industry.

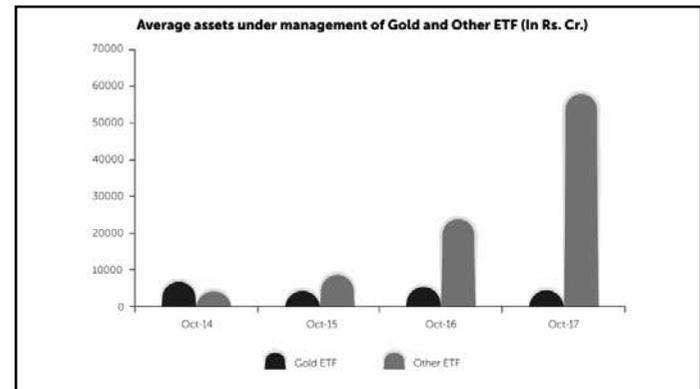
Big Data and advanced analytics could be used for extracting insightful information on conducting behavioural analysis of investor and distributor channel.

5. Technology the turning point

Technology has played a very important role in recent transformation of mutual funds industry in recent past. One of the very strong reasons for the sudden up rise in mutual funds AUM growth is extensive awareness program run by AMFI and fund houses. Another reason for the sharp rise in AUM growth rate is adaptation technology in Mutual Fund Industry.

Mutual Funds industry has adopted technology and has imbibed paperless transactions formalities for the investors. New customer can now just needs a mobile phone with internet connectivity, and he can apply, manage or redeem mutual funds, from a place, where there is no presence of any distributor or representative office. Technology has given the power of reaching to the distant customer without even ever meeting in

person. Social media has also played a very important role in reaching out to the customers and distribution channels. This is one of the reasons why there is increased contribution from B15 cities. E-KYC has made it possible for the first time investor to fill up the kyc forms and upload the relevant documents online at their ease. This saves lot of time for both the investor and the customer. ETF has also been one of the key driver in increase in mutual fund investments. Due to various reasons like liquidity, tax efficiency and more transparency. These are exchange traded and most of ETFs don't even need demat account.



Source: fintapp

Apart from paperless investor experience to the investors, technology has also helped the distributors to accelerate their back office operations. Creating efficiencies for distributors, reducing cost, improving customer services, also it has helped the distributors to directly reach the investors, eliminating the distribution channel.

6. Digital footprint in Asset Management

Asset management houses has transformed itself from a manual based operation to now technology based operations. So far in the above scenarios we have discussed about the use of technology, internet and digitalisation in mutual fund industry and how it has helped the investors, distributors and also the fund houses. Technology has advanced to the next stage, and is leaping forward to next generations. Robots are now out of the science fiction movies, and in real life they are working just like humans and are able to imitate and replicate your repetitive work. Technology has also started to offer solutions in the digital and artificial intelligence space. Increased use of Robotics Process

Automation (RPA) in Asset Management Companies due to its minimum errors, more scalability, and lower cost.

The Asset managers are now increasingly using robotics in their day to day operations of the management. Robotics are now used for functions like trade processing, cash forecasting, trade enrichment and validation, reconciliations, information delivery, financial reporting, etc. Robotics are used for performing repetitive multiple checks and tax assessment and filing process. It can run validation checks, process payments, also update budget forecasts. Also it can put multiple checks for the transactions suspicious of money laundering.

7. Way Ahead

Technology of the future are already here, it is now being tested in western countries, and to an extent also in the process of getting implemented. Investments in future could be done without the involvement of any human interface. The process would be based on algorithms and supported by patterns charted by robots. The next big wave in the mutual funds industry is the robo-advisory, which could replace independent financial advisors. According to a survey of financial advisors in United States, conducted by Investopedia, 46% of financial advisors are already using or in the process of using robo-advisory into their practice. And 78% of them feel that technology will greatly impact their traditional work in the next five to ten years.

In India, robo-advisory is still in the very nascent stage, it still needs lot of time to be accepted by the industry and its participants. Increasing popularity among investors for online transactions, has made it easy for the companies to collect data directly from the customers, and thus understand them better. Robo-Advisory may soon be widely accepted by the investors, and the industry. It may soon become a core product to be offered by the mutual fund houses, distribution channels like banks and other financial institutions. According to BIIntelligence, an estimate of 10% of the global asset under management would be soon managed by robo-advisors by 2020. With new rounds of suggestions by SEBI for mutual funds to be sold by e-commerce platform like flipkart, and amazon. Mutual funds would find another big market place, where it could be easily accessed by millions

of people living in rural and semi-urban parts of the country. Even people using mobile phones can have access to their funds through their mobile applications. The next big move could be automation of channels of distribution, so that the it could be easy for the IFAs to make sales transactions easy and hassles free.

Blockchain technology is already making news in the Cryptocurrency market, with the increase in the acceptability of cryptocurrencies worldwide. Mutual Funds industry is already in the process of implementing Blockchain mechanism for revolutionising its operations. One of the leading banks has already experimenting with the Blockchain in its international remittances and trade finance. Blockchain could benefit mutual funds industry in reducing the cost by minimising the reconciliation errors, speed up settlement, increased transparency. Blockchain also enhances the timeliness and accuracy of record keeping, storing the time-stamped source of pricing data.

8. Conclusion:

With adaptation of digitalisation in mutual funds, it has shown a very positive sign of increased participation by the investors. Demonetisation may have initially hampered the financial markets, but soon it witnessed highest ever contributions towards asset base of mutual funds, in the year 2017 as compared to over a decade. Investors can now make direct investments, without involvement of any broker or distributor, soon ecommerce platform will make it even more easier for the investors to invest in mutual funds. New technologies like Blockchain mechanism, robo-analytics, robo-advisors will help the asset management companies to increase their efficiency and performance in future. Distribution channels will utilise more of advanced technologies to make their work efficient and investor friendly. Technologies like robo-advisory can help the customer to have access to wealth of information and they can get personalised advisory at their convenience. However, there would be some challenges, which can be tackled by the active involvement of regulators, in bringing the necessary changes in regulations to be in the favour of the investors, by safeguarding the interest of the investors.

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Building Strategies in a Digital World

*Anthony Colaco,
Assistant Professor
Durgadevi Saraf Institute of Management Studies
Mumbai
E-mail: anthony.colaco@gmail.com*

It cannot be denied that the world is rapidly shifting from analogue to digital. Digital strategies have proven to be essential for driving business on a growing technological society. Digital technology, despite its seeming ubiquity, has only begun to penetrate industries. Organizations that have not yet recognized the importance of digital presence need to adapt fast. They need to adopt digital strategies and invest heavily in digital technologies and initiatives. Their large range of tools and ways to combine them makes every company a new challenge for what it concerns to the creation of their own strategies. As digital technology continues its advance, the implications for business models, strategy, risk, culture and leadership need to be understood. The paper begins with introduction to digital strategy and presents a brief perspective on aforesaid. Highlighting how culture, business models and leadership are essential for a successful digital strategy it put forths areas for further research in the field of digital strategy.

Key words: digital strategy, culture, strategy, leadership

Introduction

Every company or consultant you talk to today has a different definition of what digital is, and what constitutes a digital strategy. Regardless of how they're defined, every organization's digital strategy is unique, a mix of business strategy and information technology strategy. Much like strategy, a digital strategy is continuum of where their organization's digital maturity is today and where they aspire to be.

The digital revolution is already transforming not just the organizations but entire industries. Going digital is now a core strategy for many organizations around the world. Recent studies point to digital as the primary force driving

the business and societal changes that are affecting company operations across industries. Organizations that are failing to make the shift from the analog to digital world, irrespective of their size, scale and success, may feel like they are being hunted from all sides. As a result organizations looking to make a cut in an increasingly digital world can no longer afford to be mere spectators. However simply taking an existing product line and putting it on an e-commerce site or digitizing a customer experience is not a digital reinvention. Rather becoming a digital enterprise requires far more profound changes than merely investing in the latest digital technologies. Simply put, reinvention is a rethinking of the business itself.

The increasing digitization of our private, professional and public life is commonly referred to as a disruptive process that is fundamentally changing the way companies compete, create value, and engage with their business partners and customers. Organizations need to search for new business models, fundamentally rethink their operating models, revamp how they attract and foster digital talent, and consider afresh how they measure the success of their business.

Literature Review

Mithas et al. (2013) define digital strategy as the extent to which a firm engages in any category of IT activity as a strategic response shaped by industry conditions. Similarly, Woodward et al. (2013) posit that digital strategy is pattern of deliberate competitive actions undertaken by a firm as it competes by offering digitally enabled products or services. Traditionally, IT has been employed as a "functional level strategy that must be aligned with the firm's business strategy" (Bharadwaj et al. 2010, p. 1). Bharadwaj et al. (2013) go on to

propose a working definition of digital business strategy as organizational strategy formulated and executed by leveraging digital resources to create differential value. Digital business strategy allows organizations to synchronise business and information technology to develop competitive advantage, particularly due to the ability of digital technology to engage with customers and gain previously unavailable information (Mithas and Lucas, 2010; Prahad and Krishnan, 2002).

In their article ‘Digital Business Strategies and the Duality of IT’ (Mithas, Agarwal, & Courtney, 2012), the authors emphasize the critical role technology plays in defining the digital business strategy of an organization.

Chandler (1962, p. 13) defined strategy as “the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals”. However, according to Mintzberg (1978, p. 935), such notions of strategy imply that the phenomenon is “(a) explicit, (b) developed consciously and purposefully, and (c) made in advance of the specific decisions to which it applies.” Referring to this as “intended strategy”, he argues that strategies may also emerge as a response to environmental changes, known as “emergent strategy” (Mintzberg 1978, p. 935; 1987, p. 68).

Furthermore all strategies should be based on creating and maintaining competitive advantages, these advantages are often specific for each enterprise and this is value by consumers (Renko et al 2005).

Where does one start?

The best place to start with is aligning the digital strategy with the business strategy. Too often organizations just jump into the digitization wagon without this alignment.

Most organizations are still evolving or maturing from a digital perspective. It therefore becomes imperative to start with the organization’s vision, business objectives/ goals and priorities and identifying how digital can support these. This can help focus the strategy to those areas that matter most. For example, if the organization is focused on growth through better distributor relationships and more repeat business-focus your digital efforts on processes, app’s and data that will drive this. A more

intensive and demanding approach is that of challenging the very fundamental on which a business is based.

A good strategy begins not just with asking questions, but with asking the right ones. Organizations need to ask fundamental questions, such as, “Are we a manufacturer, or are we a company that enables customers to perform tasks with our equipment wherever and whenever they need to?” If it’s the latter, then logistics and service operations may suddenly become more important than the factory line. Though leading players are making fundamental changes to their entire organizations — an essential move for building and implementing a successful business strategy in a digital world — many organizations are hesitant to undertake a digital transformation. Although this uncertainty is understandable given the perceived complexity of developing a digital strategy, experience shows that all companies can succeed with the right strategy. It also becomes pertinent to understand that the business potential of digital technology might well be dependent on the industry a company competes in and on its position in the value chain.

Getting Priorities Right

A great digital strategy provides direction, enabling executives to lead digital initiatives, gauge their progress, and then redirect those efforts as needed. The first step in setting this direction is to decide what kind of digital strategy to pursue. The best strategy for a company will depend on its existing capabilities and the way it wants to compete. Selecting digital priorities that don’t truly help deliver on the business goals or objectives or set the stage for these possibilities can be a frustrating endeavor. Conflicting objectives and battle for organizational resources and mindshare often doom these digital strategies.

Pitfalls and Challenges

One of the pitfalls business leaders fall into is being enticed by emerging technology. Just because a business can do something doesn’t mean they should. Too often, a company’s “digital strategy” becomes a blind embrace of the latest and most exciting technology for its own sake. This approach may provide some short-term publicity, but that advantage quickly fades when it isn’t backed up by a strong business strategy.

Analog incumbents looking to become digital enterprises face two main challenges. First, the business model that served them well for decades has been disrupted by digital innovation and no longer works as desired. New digital innovations increasingly threaten the existence of traditional business models and have given rise to new business models. Companies need to fundamentally change the way they identify, develop and launch new business ventures. In fact a study by Hoberg, Oswald et. al. found 38% of executives reporting their organization's business model being threatened by digitization.

Second, attempts to create a new, viable business model for the digital age will flounder unless a company is willing to disrupt itself. Most organizations' strategies won't center on becoming a disrupter, but this is where some of the greatest opportunities for digital strategy lie - to envision, innovate and create new capabilities that weren't possible as recently as several years ago.

Business Models - To disrupt or not?

In fact, an IMD/Cisco report published in 2015 found that only a quarter of the companies surveyed said that they would be willing to disrupt themselves in order to compete. However, deciding when, how, and what needs to be transformed to at least keep pace with competitors is a major challenge. For incumbents, the dilemma can be particularly testing as the disruptive technology may directly compete with their profitable existing business. This could be reduced to one sentence: "In the years before the launch of the iPod and iTunes in 2001, both Nokia and Sony had similar products under development but chose not to proceed with them, for fear of disrupting their existing business.

A fear of cannibalizing profits is just one obstacle standing in the way of incumbents looking to launch new business models. These companies often have a risk-averse culture that focuses on the present rather than the future. Managers often are very adept at running existing business units but do not have the creativity to identify radically different business models or the decisiveness to commit resources to experiment.

Despite the difficulties involved, some incumbents have successfully disrupted their businesses - SAP's shift from selling software licenses to offering software as a service (SaaS), and Apple's launch of the iPhone. For

some organizations, the need to disrupt themselves was even more pressing.

Research by Deloitte and OpenMatters has found that investors are placing a greater value on companies with business models that embrace today's technology, emphasize intangible assets (such as intellectual property), and enable the crowdsourcing of products and services through the use of networks. Osterwalder et al. (2005, p. 3) define a business model as "a conceptual tool containing a set of objects, concepts and their relationships with the objective to express the business logic of a specific firm...". Whereas Teece (2010, p. 180), notes that a "business model is more generic than a business strategy" and strategy analysis is a crucial element "in designing a competitively sustainable business model".

Digital technologies have enabled the emergence of the following business models: peer-to-peer networks, freemium, delivering outcomes (mainly driven by Internet of Things), crowdfunding/crowdsourcing, as a service, ecommerce/marketplaces and personalization, among others.

Companies need to fundamentally change the way they identify, develop and launch new business ventures. They have to enhance their strategic toolkit - 'buy' versus 'build' is no longer enough. Instead, they need to build, buy, partner, invest and incubate/accelerate. Organizations have to make investment decisions much quicker and change their internal processes to identify and evaluate investments, with greater emphasis on decisions informed by data and analytics. Analog companies can benefit from their large asset base and use cash on their balance sheets to either invest in, partner with or acquire startups. Implementing digital business models is a complex endeavor, but there are a number of initiatives that can help incumbents revolutionize their own business model.

The decision to entirely rethink an existing business model is a difficult one to take, but once it has been made, an analog company needs to find the most effective way to disrupt itself.

An appropriate route

The incumbent's conundrum While the quandary over

whether to innovate at the risk of cannibalizing existing profits is the innovator's dilemma, the puzzle over which option to choose to create a new business model could be termed the incumbent's conundrum. The options include whether a company should build, buy, partner, invest or incubate/accelerate. The following are some guidelines for business leaders to help them determine which route is most appropriate.

Build

Building new business models might be the best route when an opportunity is related to the company's core business, if there is still time until the market's inflection point and the company has the opportunity to hire the necessary talent. The benefits are that it typically maximizes control and minimizes costs in markets that a company must own because of their strategic importance.

Buy

Buying another company is usually the most appropriate path when there is a strategic imperative to 'own' a market. Buying may be the only option if the market inflection point is close and hiring the right talent is not possible. If the new opportunity bears little relation to the corporation's current business model, this provides a further reason to buy. Engaging early with a digital disruptor is important to wrong-foot the competition and minimize the investment needed. The ideal moment is often when the startup is gaining significant traction and becoming a market leader. Corporate cores also need to compete with startups, such as Bla Bla Car, that are already using the buy route to achieve higher scale and increase their presence across countries.

Partner

When there is no immediate strategic need to own, a corporation can partner with a digitally native disruptor to learn more about the market and its partner's model. A partnering approach is sensible when it makes sense to watch and learn about emergent opportunities, with an eye toward deeper partnerships or acquisitions in the future. Companies need to develop a more flexible and open mindset toward partnerships; partnerships such as cooperation are expected to play an important role in the digital transformation of incumbents.

Invest

Investing in interesting startups is often a valid option, allowing an established company to connect with the right skills and capabilities. It will also avoid hindering entrepreneurial forces with a setup focused on internal governance and reporting, which could undermine the startup's agility, velocity, boldness to fail, openness and attractiveness to technology-savvy talent.

Incubate/accelerate

Investment and incubation/acceleration might seem similar endeavors. But while the former is usually focused on external innovation and independence from the corporate core, the latter represents a closer relationship to the funding company, deploying corporate internal capabilities, infrastructure and resources to the startups. Internal incubators are frequently used as a vehicle for intrapreneurship. Corporate incubators and accelerators need to precisely outline both internal benefits and incentives for startups and entrepreneurs, and a clear strategy, vision and incubation.

Digital talent and skills - but not without culture and leadership

Creating an effective digital strategy is critical, but so too is fostering a corporate culture that is open to innovation and will be supportive of the new strategy. There is a trend at present for firms to hire a chief digital officer (CDO) to drive through the changes that are needed to become a digital enterprise (see below). Installing a CDO, however, does not guarantee success. Of course talent is important, but a reinvention needs to involve more than just hiring a CDO or a few designers. They are needed, but not enough to see you through. One of the critical resources for successfully designing and implementing a digital transformation strategy are tech-savvy organizational leaders and employees. However, with a view to the wide range of innovative digital technologies that may constitute the technological basis for a company's transformation, understanding what skill set is needed for successful digital transformation is critical for organizations. This requires investing in building relevant digital capabilities that fit with the strategy and keep pace with customers as they change the way they consider and make purchases.

A common dilemma faced by many companies is the need to develop new, specialized skills before actually initiating a digital transformation initiative geared toward leveraging the business potential of a certain technology trend. Skill development is time consuming and payoffs, in terms of better customer service, increased process automation, or new revenue streams through digitally enhanced products and services, cannot be guaranteed. In addition, the resources required to develop these needed skills are often limited. In this light, knowing where to invest in order to address and correct a skill shortage of skill knowledge is critical for organizations. At the same time, targeted hiring should be tied to those capabilities that actually drive financial performance.

Organizations seem to have identified the skill sets that are necessary for being able to compete in an increasingly digitized world. However, there is a substantial lack in digital talent with regard to the respective skill domains.

Culture

Although organizational culture is a ‘soft’ element and many a times overlooked by organizations in their enthusiasm to embark upon the digital journey, it has the power to make or break their digital business strategy (Kiron & Buckley, 2015). Enabling that talent to thrive requires a digital culture, i.e., one that is customer centric and project based, with a bias for speed and continuous learning. A recent research by McKinsey lays emphasis on a culture conducive to execution. Getting the culture right is rather an uphill task for the requisite organization. The report points out that 25% of the companies polled reported that a culture averse to risk and experimentation is the biggest challenge, while another 20% percent find lack of common understanding of the organizational culture as a major impediment.

In fact, cultural and organizational issues can lead to the squandering of up to 85% of the value at stake. Making sure the new culture sticks, requires rebuilding programs that reward and encourage new behaviors, such as performance management, promotion criteria, and incentive systems. Creating a workplace that attracts high-caliber digital workers requires a progressive and forward-looking organizational culture.

Another research by James Bughin et al. from McKinsey carried out to understand the nature, extent, and top-

management implications of the progress of digitization observed a strong organizational culture is important for several reasons: it enhances the ability to perceive digital threats and opportunities, bolsters the scope of actions companies can take in response to digitization, and supports the coordinated execution of those actions across functions, departments, and business units.

In fact strengths in organizational culture underpinned bolder actions. Winners were less likely to be hindered by siloed mind-sets and behavior or by a fragmented view of their customers.

The role of the leadership

The impetus to set this culture has to come from leadership. The traditional attributes that set a good leader apart remain relevant, but today’s leaders also need to be well-versed in digital and how it’s disrupting their business. Successful leaders are able instill a culture where digital can flourish within organizations. Employees need to feel empowered to experiment with digital in a risk-free environment. To achieve this, leaders need to embrace failure as a prerequisite for success. However organizations often have a risk-averse culture that focuses on the present rather than the future and failure is met with skepticism. Managers often are very adept at running existing business units but do not have the creativity to identify radically different business models or the decisiveness to commit resources to experiment. After all, incumbents have existing revenue streams to protect—start-ups only have upside to capture. Additionally, management teams are more comfortable developing strategies for businesses they know how to operate, and are naturally reluctant to enter a new game with rules they don’t understand.

In a blog post for McKinsey, Jacques Bughin – Senior Partner observes that it is now widely understood that a digital transformation needs active CEO support throughout the journey. This top-down support, however, has to go beyond the chief executive. An authentic cultural shift cannot simply be driven from the top down in a structure where one person owns digital. To ensure real change, digital needs to be owned by every worker in the organization. All leaders need to shift their style from top-down decision-maker to coach. Leadership must work in collaboration with millennials to set a joint vision for their organization’s digital future.

Leaders need to hire people with digital mindsets and a willingness to challenge the status quo. Moreover, these individuals need to be placed across all levels of the organization to ensure ‘real’ change. While hiring digital natives might help speed up change, what leaders really need to do is increase their digital fluency, allowing them to effectively articulate the value of digital technologies to the organization’s future, the one that gives them credibility.

From risk averse to risk taking

What separates digital leaders from the rest is a clear digital strategy combined with a culture and leadership poised to drive the transformation. The history of technological advance in business is littered with examples of companies focusing on technologies without investing in organizational capabilities that ensure their impact. In many companies, the failed implementation of enterprise resource planning and previous generations of knowledge management systems are classic examples of expectations falling short because organizations didn’t change mindsets and processes or build cultures that fostered change. The top decision makers, who usually come from the biggest business centers, resist having their still-profitable (though more sluggishly growing) domains starved of resources in favor of unproven upstarts. As a result, leadership often under invests in new initiatives, even as it imposes high performance hurdles on them. Legacy businesses continue to receive the lion’s share of resources instead. The coziness of the comfort zone refuses to stand up to challenges of taking risks and in a digital world the biggest risk is not taking any risk.

Hence organizations need to move away from a risk-averse mindset to one that accepts failures and encourages employees to take higher amounts of risks. But not just any risk, warns Bughin, it should rather be at par with the size of investment at stake. For example, GE enlisted 500 coaches to train executives to embrace concepts such as risk taking and learning from failure. However, this change cannot happen without the support of the senior leadership, through, for example, rewarding longer-term thinking over short-term goals. A possible way for organizations to facilitate change at the top is by creating technology immersion workshops for boards, digital acceleration courses or tours of digitally native

organizations. Finally, companies need to move away from bureaucracy and hierarchy, and embrace flatter structures similar to those of organizations such as Haier and Xiaomi. Steve Jobs once declared: “We run Apple like a startup. We always let ideas win arguments, not hierarchies. Otherwise, your best employees won’t stay. Collaboration, discipline and trust are critical.”

Companies can examine their business vis à vis the digital world by thinking through a strategy that encompasses their corporate environment, the components that make up the company’s operations and the business model. It is worthwhile to note that a fundamental change that digital reinvention demands, does not require “throw it all out” approach. An engine-parts company, for example, will still likely make engine parts after a digital reinvention, but may do so in a way that’s much more agile and analytically driven, or the company may open up new lines of business by leveraging existing assets. Apple, with its move from computer manufacturer to music and lifestyle brand through its iPhone and iTunes ecosystem, reinvented itself—even as it continued to build computers. John Deere created a whole series of online services for farmers even as it continued to sell tractors and farm equipment.

With this understanding in hand, companies can determine what their strategic ambition is, whether retooling the existing business or something more radical, such as plunging into a new market or innovating a business model. They develop a detailed road map for addressing capability gaps, and recruiting, developing, incentivizing, and retaining the necessary talent. The goal is to develop a tight business case for change based on facts.

Conclusions & Future Directions

Organizations, therefore, need a clear digital strategy to develop an integrated portfolio of customer offerings. Their employees need a clear strategy to guide their innovation initiatives and resolve debates over priorities. The choice of a digital strategy should provide understanding of business objectives among employees, and it guides experimentation and innovation. Bringing clarity on how to make those choices needs to be studied further.

To succeed in the digital economy, companies must

offer a unique value proposition that is difficult for both established competitors and startups to replicate. Such a value proposition stems from a digital strategy that is focused on either a set of digitized, integrated offerings or a relationship that engages customers in ways that competitors can't match.

We are all great strategists in hindsight. The question is what to do when you are in the middle of it all, under the real-world constraints and pressures of running a large, modern company is an area that needs to be explored further.

Digital disruption can be a frightening game, especially when some of the players are as yet out of view. By subjecting the sources of disruption to systematic analysis solidly based on the fundamentals of supply and demand, executives can better understand the threats they confront in the digital space—and search more proactively for their own opportunities. How does an organization build a culture that enhances its ability to perceive digital threats and opportunities, bolsters the scope of actions companies can take in response to digitization needs to be further probing.

At this early stage of disruption, incumbents feel barely any impact on their core businesses except in the distant periphery. In short, they don't "need" to act. It takes rare acuity to make a preemptive move, likely in the face of conflicting demands from stakeholders. Gaining sharper insight, and escaping the myopia of this early stage, requires incumbents to challenge their own "story" and to disrupt long-standing (and sometimes implicit) beliefs about how to make money in a given industry needs to be given its due considerations if organizations have to thrive in a digital world.

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Introduction to e-commerce

Electronic commerce or e-commerce refers to a wide range of online business activities for products and services. It also pertains to “any form of business transaction in which the parties interact electronically rather than by physical exchanges or direct physical contact.”

Though popular, this definition is not comprehensive enough to capture recent developments in this new and revolutionary business phenomenon.

Business application of e-commerce

B2B e-commerce is simply defined as e-commerce between companies. This is the type of e-commerce that deals with relationships between and among businesses. About 80% of e-commerce is of this type, and most experts predict that B2B e-commerce will continue to grow faster than the B2C segment. The B2B market has two primary components: e-frastructure and e-markets.

The B2B market has two primary components: e-frastructure and e-markets. E-frastructure is the architecture of B2B, primarily consisting of the following:

- logistics - transportation, warehousing and distribution (e.g., Procter and Gamble);
- application service providers - deployment, hosting and management of packaged software from a central facility (e.g., Oracle and Linkshare);
- outsourcing of functions in the process of e-commerce, such as Web-hosting, security and customer care solutions (e.g., outsourcing providers such as eShare,

NetSales, iXL Enterprises and Universal Access);

- auction solutions software for the operation and maintenance of real-time auctions in the Internet (e.g., Moai Technologies and OpenSite Technologies);
- content management software for the facilitation of Web site content management and delivery (e.g., Interwoven and ProcureNet); and
- Web-based commerce enablers (e.g., Commerce One, a browser-based, XML-enabled purchasing automation software).

Models of e-commerce

B2B C2B G2B

B2C C2C G2C

B2G C2G G2G

where

B= Business

C= Consumer

G= Government

2= “to”

Business-to-Business (B2B)

Business-to-Consumer (B2C)

Business-to-Employee (B2E)

Business-to-Government (B2G) (also known as Business to Administration or B2A)

Business-to-Machines (B2M)

Consumer-to-Business (C2B)
 Consumer-to-Consumer (C2C)
 Citizen-to-Government (C2G) (also known as Consumer-to-Administration or C2A)
 Government-to-Business (G2B)
 Government-to-Citizen (G2C)
 Government-to-Employee (G2E)
 Government-to-Government (G2G)
 Manager-to-Consumer (M2C)
 Peer-to-Peer (P2P)

Global trading environment and adoption of e-commerce by India

The e-commerce sector has seen unprecedented growth in 2014. The growth was driven by rapid technology adoption led by the increasing use of devices such as smartphones and tablets, and access to the internet through broadband, 3G, etc, which led to an increased online consumer base. Furthermore, favoured demographics and a growing internet user base helped aid this growth. In terms of highlights, the growth shown by home grown players such as Flipkart and Snapdeal and the huge investor interest around these companies displayed the immense potential of the market. With the entry of e-commerce behemoths such as Amazon and Alibaba, the competition is expected to further intensify. Both these international players come with deep pockets and the patience to drive the Indian e-commerce market. Also, their strong domain knowledge and best practices from their international experience give them an additional edge. Additionally, these companies have been part of markets where they have seen the e-commerce market evolve and are aware of the challenges and strategies to address issues thereof. Indian companies realise this, and are therefore aiming to continue their focus on expanding sellers and selection on their platforms, innovating on multiple customer touch points, and providing seamless and rapid delivery services in order to compete with the international entities. Competition is expected to continue, with these e-commerce companies experimenting with different ways to attract customers and increase online traffic.

The Indian government's ambitious Digital India project and the modernisation of India Post will also affect the e-commerce sector. The Digital India project aims to offer a one-stop shop for government services that will have the mobile phone as the backbone of its delivery mechanism. The programme will give a strong boost to the e-commerce market as bringing the internet and broadband to remote corners of the country will give rise to an increase in trade and efficient warehousing and will also present a potentially huge market for goods to be sold. For India Post, the government is keen to develop its distribution channel and other e-commerce related services as a major revenue model going ahead, especially when India Post transacted business worth 280 Crore INR in the cash-on-delivery (CoD) segment for firms such as Flipkart, Snapdeal and Amazon. Both these projects will have significant impact on increasing the reach of e-commerce players to generally non-serviceable areas, thereby boosting growth. India's overall retail opportunity is substantial, and coupled with a demographic dividend (young population, rising standards of living and upwardly mobile middle class) and rising internet penetration; strong growth in e-commerce is expected. From an investment perspective, the market is a primarily minority stake market, with maximum traction in early-stage deals. Such early stage funding will help companies develop a strong foundation to start from. With such strong market prospects and an equally upbeat investor community, we look forward to many more e-commerce companies from India entering the coveted billion-dollar club.

Infrastructure of e-commerce

1. **First objective (what we are building):** An open, distributed and safe infrastructure which is scalable and thus has provisions for future needs
2. **Second objective (how we can use):** Using internet based technologies to demonstrate the value creation for the users, and facilitate the delivery
3. **Third objective (who will pay repeatedly):** Define the right business model to sustain in the future, in tandem with the IT infrastructure

E-Commerce Infrastructure comprise briefly of the following components at a very abstract level.

- **Software components used:** Content management systems, Web analytics, Text analytics, Application Programming Interface (API), Database server, Middlewares etc. Object oriented (e.g. CORBA), Transaction processing, communication (https, messaging), data base (e.g. ODBC), application middleware (CGI)
- **Hardware components used:** Servers, proxy servers, load balancing systems. Firewalls, encryption devices and interactive voice response units etc.
- **Middleware:** Systems that resides between the client (user) and the server (database and application resources). These could be data access components, communication protocols, specialized servers, or a mix of all.
- **Directory services:** Email Directory Services enables users to locate other users for sending emails. LAN Directory Services facilitates functions like connecting to the web, sharing printers, LAN chats, LAN based KMS
- **Lookup Database:** This is the database that stores information about network resources and user profiles. Enables usage of network resources based on entitlements.
- **Meta-Directories:** Facilitates the flow of data between one or more directory services and databases. Enables synchronization of data across databases or data warehouses.
- **Groupware:** Facilitate the automation and streamlining of business processes not implemented in legacy/ERP systems. Group communications and information sharing enabling collaboration between teams and individuals.
- **Internet Domain Name Service (DNS):** DNS facilitates the unique identification of an organization or entity on the Internet. DNS maps the domain name of an organization to its IP address

Product and service digitization

The number of products offered online has increased tremendously. There are many businesses that have started providing online services and also door-to-door services through online bookings. For example, net

banking, booking tickets and movie shows online, fixing an appointment for spa and parlour service which are then provided at home and many more. For example, an original historical document may only be accessible to people who visit its physical location, but if the document content is digitized, it can be made available to people worldwide.

Online marketing

Online advertising, also called online marketing or Internet advertising or web advertising is a form of marketing and advertising which uses the Internet to deliver promotional marketing messages to consumers. Consumers view online advertising as an unwanted distraction with few benefits and have increasingly turned to ad blocking for a variety of reasons.

It includes email marketing, search engine marketing (SEM), social media marketing, many types of display advertising (including web banner advertising), and mobile advertising. Like other advertising media, online advertising frequently involves both a publisher, who integrates advertisements into its online content, and an advertiser, who provides the advertisements to be displayed on the publisher's content. Other potential participants include advertising agencies who help generate and place the ad copy, an ad server which technologically delivers the ad and tracks statistics, and advertising affiliates who do independent promotional work for the advertiser.

BUSINESS TO CONSUMER E-COMMERCE APPLICATIONS

Business to consumer (B2C) is business or transactions conducted directly between a company and consumers who are the end-users of its products or services. The business-to-consumer as a business model differs significantly from the business-to-business model, which refers to commerce between two or more businesses. While most companies that sell directly to consumers can be referred to as B2C companies, the term became immensely popular during the dotcom boom of the late 1990s, when it was used mainly to refer to online retailers, as well as other companies that sold products and services to consumers through the internet. This includes cataloguing, order planning, order generation, pricing, order receipt and accounting, order selection

and prioritization, order scheduling, fulfilling and delivery, order billing and payment gateway and post-sales services.

Electronic data interchange (EDI) is the concept of businesses communicating electronically certain information that was traditionally communicated on paper. The two classic examples of such information are purchase orders and invoices. Standards for EDI exist to facilitate parties transacting such instruments without having to make special arrangements.

EDI has existed for more than 30 years, and there are many EDI standards (including X12, EDIFACT, ODETTE, etc.), some of which address the needs of specific industries or regions. It also refers specifically to a family of standards. In 1996, the National Institute of Standards and Technology defined electronic data interchange as “the computer-to-computer interchange of strictly formatted messages that represent documents other than monetary instruments. EDI implies a sequence of messages between two parties, either of whom may serve as originator or recipient. The formatted data representing the documents may be transmitted from originator to recipient via telecommunications or physically transported on electronic storage media.” It distinguishes mere electronic communication or data exchange, specifying that “in EDI, the usual processing of received messages is by computer only. Human intervention in the processing of a received message is typically intended only for error conditions, for quality review, and for special situations. For example, the transmission of binary or textual data is not EDI as defined here unless the data are treated as one or more data elements of an EDI message and are not normally intended for human interpretation as part of online data processing.[1] EDI can be formally defined as the transfer of structured data, by agreed message standards, from one computer system to another without human intervention.

Value-added networks

To address the limitations in peer-to-peer adoption of EDI, VANs (value-added networks) were established. A VAN acts as a regional post office. It receives transactions, examines the ‘from’ and the ‘to’ information, and routes the transaction to the final recipient. VANs may provide

a number of additional services, e.g. retransmitting documents, providing third party audit information, acting as a gateway for different transmission methods, and handling telecommunications support. Because of these and other services VANs provide, businesses frequently use a VAN even when both trading partners are using Internet-based protocols. Healthcare clearinghouses perform many of the same functions as a VAN, but have additional legal restrictions. VANs may be operated by various entities:

- telecommunication companies;
- industry group consortia;
- a large company interacting with its suppliers/vendors.

EDI and other similar technologies save a company money by providing an alternative to, or replacing, information flows that require a great deal of human interaction and paper documents. Even when paper documents are maintained in parallel with EDI exchange, e.g. printed shipping manifests, electronic exchange and the use of data from that exchange reduces the handling costs of sorting, distributing, organizing, and searching paper documents. EDI and similar technologies allow a company to take advantage of the benefits of storing and manipulating data electronically without the cost of manual entry. Another advantage of EDI is the opportunity to reduce or eliminate manual data entry errors, such as shipping and billing errors, because EDI eliminates the need to rekey documents on the destination side. One very important advantage of EDI over paper documents is the speed in which the trading partner receives and incorporates the information into their system thus greatly reducing cycle times. For this reason, EDI can be an important component of just-in-time production systems. There are a few barriers to adopting electronic data interchange. One of the most significant barriers is the accompanying business process change. Existing business processes built around paper handling may not be suited for EDI and would require changes to accommodate automated processing of business documents. For example, a business may receive the bulk of their goods by 1 or 2 day shipping and all of their invoices by mail. The existing process may therefore assume that goods are typically received before the invoice. With EDI, the invoice will typically

be sent when the goods ship and will therefore require a process that handles large numbers of invoices whose corresponding goods have not yet been received. Another significant barrier is the cost in time and money in the initial set-up. The preliminary expenses and time that arise from the implementation, customization and training can be costly. It is important to select the correct level of integration to match the business requirement. For a business with relatively few transactions with EDI-based partners, it may make sense for businesses to implement inexpensive “rip and read” solutions, where the EDI format is printed out in human-readable form and people, rather than computers, respond to the transaction. Another alternative is outsourced EDI solutions provided by EDI “Service Bureaus”. For other businesses, the implementation of an integrated EDI solution may be necessary as increases in trading volumes brought on by EDI force them to re-implement their order processing business processes. The key hindrance to a successful implementation of EDI is the perception many businesses have of the nature of EDI. Many view EDI from the technical perspective that EDI is a data format; it would be more accurate to take the business view that EDI is a system for exchanging business documents with external entities, and integrating the data from those documents into the company’s internal systems. Successful implementations of EDI take into account the effect externally generated information will have on their internal systems and validate the business information received. For example, allowing a supplier to update a retailer’s Accounts Payable system without appropriate checks and balances would put the company at significant risk. Businesses new to the implementation of EDI must understand the underlying business process and apply proper judgment.

CONCLUDING REMARKS

From the above content it is clear that e-commerce i.e digital commerce has boomed in the past few years. Based on the study, the following is a listing of some of the main findings and recommendations for the proposed policy agenda:

- E-commerce is more about strategy and business management than it is about technology.
- Initiatives for a strategic approach to the digital

economy require a dynamic and not static approach.

- It is essential to create a policy and regulatory environment that favours the development of e-commerce and harmonises national approaches.
- For e-commerce promotion it is not just the hardware and physical infrastructure that is enough. What is required is the right ‘info-structure’ meaning.
- E-commerce in India encompasses three areas: (i) Software exports (ii) Web-enabled services (iii) e-business and e-trade.
- The issue is not whether the Internet should be regulated, but how.
- Certifying and authentication authorities that have to come up as a sequel to the IT Act need to be fully operational early.
- These steps need to be matched by sorting out the issues of security and payments. Banking laws and regulations thus need to be adjusted to the new formats and requirements so that electronic fund transfers and credit card culture evolves and sets in India.
- In the area of privacy, which is closely related to data-collection, interpretation, dissemination, and circulation, standards are required to govern the way in which personal information is acquired, disclosed, and used on-line.
- US companies developing security technologies are presently restricted by their Government from the export of such technologies and that is an issue that needs to be addressed at the international level.
- Implementation of e-governance needs to be pushed through despite the constraints and hurdles that will develop against it.
- Future tax policy on electronic commerce needs to ensure that e-commerce competes with traditional commerce on a level playing field; is consistent with the principles of international taxation; minimizes compliance costs; and is transparent, predictable, and with simple rules to follow.
- Capacity building in the field of information technology, in the knowledge of the existence of a global market for

such skills, is crucial. This requires the development of education and training policies, to ensure that training institutions' curricula meet with the needs of industry.

- A national debate is needed on the issue of supplying human intellectual capital to developed countries. India also needs to raise it at the multilateral level at organizations such as the WTO to demand negotiation on it between governments, on the one hand, while putting in place an agenda to gain from the economic opportunity, on the other.
- Regulating the e-commerce and IT teaching shops

needs to be addressed in order to ensure standards and coordination between government and private agencies.

- Developing countries, such as India, also need to prepare themselves for the future multilateral trade agenda which will necessarily include e-commerce.
- For the WTO negotiations on e-commerce, India needs to ask the WTO itself to assist it in studying the full global implications of e-commerce from the developing country angle. These would include examining the revenue and other fiscal implications of e-commerce for developing countries, erosion of market access of

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“e-commerce a managerial perspective”

A Study of Awareness of Mobile & Internet Banking Among College Students in Pune City

Prof. Sanket L. Charkha Assistant Professor
Smt. Kashibai Navale College Department of
Management Studies Off. Sinhgad Road, Pune
E-mail : charkha.sanket@gmail.com

Dr. Jagdeesh R. Lanjekar
Vice Principal - Senior College Brihan Maharashtra
College of Commerce BMCC Road, Pune
E-mail : jrlanjekar@gmail.com

Abstract:

Internet banking transacts and controls our bank account online through net banking service. We can do multiple things from the comforts of our home or take a wide range of transactions online. E-Banking service makes banking a lot more easy and effective. All the services that the bank has permitted on the internet are displayed in menu. Any service can be selected and further interaction is dictated by the nature of service. The traditional branch model of bank is now giving place to an alternative delivery channels with ATM network. Customers are provided with PIN numbers, passwords etc. Internet banking is also used for online shopping too. Maximum all age group of peoples of having awareness and experience of internet banking in this research particularly focused on youngsters awareness and experience about the Internet banking.

This Current study deals with the usage and awareness of Internet and Mobile Banking the specific category of college students in Pune City.

Introduction of Topic:

E-banking is very popular terms in this global world. Now generally all banks provide e-banking services in every city. There is no any geographical limitation for e-banking services. But the utility of the e-banking is dependent on the awareness of e-banking services, and information about the e-banking services. Pune is the urban area where many people know e-banking services and they are also using e-banking services and some people aware about e-banking services but they avoid for using e-banking services. Generally students have theoretical knowledge of e-banking and different services in e-banking. But all students used

this knowledge in practical way and so to find out proper findings that whether students really using e-banking or not this research is necessary. It is the research on awareness of e-banking services in graduate students.

Different E-Banking Services Provided in Banks

➤ ATM

ATM is a very popular service in this world. The Automated Teller Machine is an effective delivery channel, which play a vital role in consumer satisfaction and cost control of transaction of banks. ATM are emerging as the most useful tool to ensure “Any time Banking” or Any Time Money. ATM card is magnetic stripe card which operate with particular PIN Number. ATM card is Used for balance enquiry, Cash withdrawal Fast cash Updating of cash book, utility bill payments etc.

➤ NEFT/RTGS

NEFT means national electronic fund transfer system and RTGS means Real Time Gross Settlement System which enables an effective service, economical and reliable system of transfer of funds from bank to bank as well as from remitter’s account in a particular bank to beneficiary’s account in another bank across the country. IT is useful to customers to transfer funds from one bank branch to another branch and also another bank

➤ Internet Banking

Internet banking is a retail banking which enables customers to operate his account from anywhere and anytime. Internet Banking provide Fund Transfer, Credit PPF Account, Request Issue D.D., Request For loan, utility bill payments , Online bill payments, Online ticket

booking, Online share trading, credit card payment, LIC premium payments, Online donation etc

➤ **Mobile Banking**

Mobile banking services is provided by banks on request of customers. This service is provided with secure ID and password to customers mobile banking offer Fund transfer, immediate payments service, cheque book request, bill payments, mobile and DTH recharge, M Commerce transactions etc.

➤ **SMS Banking**

This service is provided with the help of mobile phone of the customers. It offers balance enquiry, last three transactions statements, cheque status, Alert for password generations etc.

➤ **Telephone Banking**

Bank provides this service with the help of telephone to customer's services is provided with secure ID and TPIN number. Telephone banking provides balance enquiry, last three transaction statements, cheque status enquiry, change of TPIN etc service.

➤ **Cards Facility**

Banks provide different debit cards and credit cards facility. With the use of these cards customer can purchase, can make e-commerce transaction, and also can pay bills etc.

Literature Review:

Researcher has gone through various blogs, Newspaper articles, experts' opinion and various Research papers. Researcher has found both positive & negative approach towards the usage of Mobile and Internet Banking.

1. An Book naming "40 Money Management Tips Every College Student Should Know" published in National Endowment for Financial Education. The author has studied Various techniques to maintain the fund balance and how to manage the funds are said. It was published in the year 2010.

2. A Paper Published in Journal of Behavioral Studies in Business naming "Student budgeting and spending behaviors: a comparative study" written by Matthew

Stollak - St. Norbert College , Amy Vandenberg - St. Norbert College , Kevin Steiner - Marquette University , Jessica Richards - St. Norbert College.

3. A Paper Published on FINANCIAL MANAGEMENT PRACTICES OF COLLEGE STUDENTS by Kayla Allen, Southeastern Louisiana University , Victoria Kinchen - Southeastern Louisiana University in GLOBAL JOURNAL OF BUSINESS RESEARCH ♦ Volume 3 ♦ Number 1 ♦ 2009.

4. A Article written on <http://www.investopedia.com/financial-edge/0712/money-management-for-college-students.aspx> By Amanda C. Haury | July 18, 2012 — 2:00 AM EDT on "Money Management For College Students"

5. An Article naming "College Students are Put to the Test: The Attitudes, Behaviors and Knowledge Levels of Financial Education" authored and published in Inceptia.org , 888.529 .2028. twitter.com/@inceptia.

Objectives of the Study:

1. To study awareness about e-banking in college students.
2. To know whether students using e-banking services provided by the banks.
3. College students believe in e-banking services.

Scope of the Study:

Functional scope: Research is related with e-banking services only, i.e. it considers only awareness of e-banking services in students.

Geographical Scope: This research is related with students in Pune City.

Research Methodology

It is a social research and Research based on primary and secondary data for the proper finding and analysis. Primary data is collected with the help of the questionnaire and interview of the students aim different colleges in Pune city in Maharashtra. Secondary Data is collected from news papers, periodicals, books, journals and website.

Research Questionnaire Questions:-

It is the study about awareness of e-banking services in college students and so generally question is based on e-banking services, it means regarding ATM, Internet banking, credit cards etc.

Sample Selection:-

Researcher had used the questionnaire and distributed it in the Pune city in different colleges for respondents. 45 questionnaires were distributed.

Methods of Analysis and Statistical Tools:

The information collected through the questionnaires and other sources is analyzed with the help of SPSS software and Microsoft Excel Sheets. The statistical tools like tabulation, average and percentage are used for analyzing the data.

Limitations of the Study:

1. The study is limited to Colleges or Institutes in Pune city.
2. The study considers the Project preparation as one of aspect for academic preparation.
3. Mobile & Internet Banking as one of factor of effect have been taken for study.

Collection and Analysis of Data

This chapter deals with the presentation of data, its analysis using various statistical tools and the interpretation of the data. The tools for analysis of data that are used are Graph, Pie Charts, Bar Diagram, Histograms and SPSS Software for Hypothesis testing. The few analysis of data is as furnished below :

For how long do you have your bank account?	No. of respondent
Less than 1 Year	0
1-3 Years	14
3-5 Years	22
5-10 Years	9
Total	45

Uses of Online Services	No. of respondent
Daily	13
Weekly	19
Monthly	9
Never	4
Total	45

Reason for choosing online services	No. of respondent
Convenience	10
To save time	6
24 hour access to accounts	25
Other	4
Total	45

Features of mobile banking	No. of respondent
Balance inquiry	27
Utility bill payment	5
Email and text alerts	3
Order check books	0
Internal account transfer	10
Total	45

Suggestion

1. The use of e-banking delivery channels is still not up to the mark as expected by the banks. This requires awareness building among the customers about the benefits of these services. Customers should be properly educated about the mechanism of using these services.
2. The banks have to initiate steps to educate the customers about new banking services new products, ATMs, online banking, mobile banking etc. The banker may have to conduct different programs like customers day, customer meet and customer campaign in which they can directly interact with their customers and educate them about their new products / services.
3. Banks should take prompt and timely action to ensure the smooth functioning of ATMs. Customers should be relieved from their apprehensions and make them feel comfortable while using ATMs.
4. For adoption of internet banking, it is necessary that the banks offering this service make the consumers aware

about the availability of such a service and explain how it adds value to their banking needs.

5. Banks should ensure safety and confidentiality while delivering services through internet banking. By customer education, bank managers can remove some disbelieves that non users have with regard to internet banking. So the challenge to all banks will be to expand the internet banking user base and slowly increase the range of services to the customers.

Conclusion :

College Students in Pune city have opened their saving account in nationalized bank they have awareness about different e-banking services very well, students also used net banking and trust on net banking. ATM is popular services among students. There is need to create awareness about e-banking security.

Adoption of ATMs was highest followed by internet banking, credit card and mobile banking, whereas as drop page rate is high in the case of credit cards followed by mobile banking, internet banking and ATMs.

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Names of all reference books, magazines, journals are mentioned here. Research paper that have been referred are also mentioned along with the names of authors, date and year of publications and publishers. The list of Management Institute is also duly attached.

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Brand Building Activities of Branded Ketchup: A Study of Consumer Buying Behaviour in Indian Market

Prof. Rubina Mohammad Assistant Professor
H.K Institute of Management Studies and Research,
University of Mumbai
E-mail: rubina.mohammad@hkimsr.edu.in

Ms. Pooja Gupta Student
H.K Institute of Management Studies and Research,
University of Mumbai
E-mail: pooja.gupta@hkimsr.edu.in

Abstract:

Branding is a major issue in product strategy. Creating a brand loyal market is the main aim of any marketer. At the same time, developing a branded product requires a great deal of long term investment especially for advertising and promotion. India being a diverse country with different states having different consumption patterns and customs, competition has become the key word in today's scenario. A study was done in Mumbai region to point towards sales and brand building activities of ketchup as a product and its effect on consumer behaviour. The objective of the study is to find the factors responsible for the success of a brand for ketchup. This exploratory research will give an insight about the issues regarding the sales and brand building activities of the ketchup product and also to develop concepts more clearly. Primary data was collected to get first hand and unbiased information. The sample size consisted of 300 respondents and data analysis will result in understanding the consumer's behaviour and importance of brand building activities of ketchup.

Key Words: Brand Loyalty, Brand Building, Product Strategy, Consumption Pattern.

1.0 Introduction:

Outlook of the global ketchup market

The report (Business Wire, Dec 18, 2017) on Global Ketchup Market provides qualitative and quantitative analysis for the period of 2015 to 2023. The report predicts the Global Ketchup Market to grow with a CAGR 4.9% over the period of 2017-2023

Outlook of the Indian ketchup market

Fast food and ketchup are directly proportional to one another. With the growing patterns of fast food consumption in the country the need for ketchup is also increasing. International fast food chains like McDonalds and KFC have almost found a second home in India. Currently revenue in the tomato ketchup segment amount to US\$685 Million in 2018. The market is expected to grow annually by 11.6%.

Brand Building and Consumer Buying Behaviour

Consumer buying decision is a process that involves different steps like the recognition of need, search for the information, evaluation of alternatives, selection and in the last post purchase behaviour. There are lots of factors which affect the consumer behaviour towards purchasing. Consumers are emotionally attached to different brands of their choice. Like if the brand ambassador of a brand is favourite celebrity of a consumer, they will buy that product because they want to look like their favourite personality. So celebrity branding basically leads to arousal of emotions and we can say that branding influences the behaviour of consumers and consumers behave in response according to various dimensions of consumer behaviour. This dimension of consumer behaviour influences them in selecting a branded product and impact of brands on consumer behaviour. Ketchup brands promote their product very effectively through television by adding humour in the ads. Effective advertising is clearly an influential media to promote branding of tomato ketchup that influences buying decisions. Ensuring effective execution of strategy are by understanding how variables such as pricing, quality, perceived societal status and brand name can influence consumer buying behaviour of branded ketchup. Ketchup brands also sponsor various cookery shows to promote

alternate usage of products. They also use strategy of free product samples to promote it brands use various punch lines that are very effective and create a unique image in the minds of the customer, and this influences buying decisions.

2.0 Review of Literature:

John Dudovskiy (March 2015)

John Dudovskiy has published his article entitled “Consumer Buying Behaviour on fresh Food” This report was written to understand & analyse the impact of previous experience on buying behaviour of fresh foods, particularly mussels. This research was conducted to learn how the individuals, groups or organizations choose, buy use and dispose the goods and the factors such as their previous experience, taste, price and branding on which the consumers base their purchasing decisions. This study implies that personal habits and previous experience on of the consumers have a direct impact on the consumers’ purchase decision and also the image of the product has a crucial impact on the purchasing decision of the consumer.

John Dudovskiy (March 2013)

John Dudovskiy has published his article entitled “Studying Consumer Buying Behaviour as an area of marketing is increasing due to several factors”. This report was written to understand the customer’s culture, social group and many other Factors and also understand the factors helps business to drawn an effective marketing plan in order to satisfy the needs and wants. This research conducted to learn once the knowledge is gathered and analysed about the customers and their buying behaviour, retailers can design and draw better and more effective marketing plan to achieve their objective. This study implies that the consumer usually pass through the five stages which such as problem recognition, information search, evaluation of alternatives, purchase decision and post purchase behaviour. It is of great important for the marketers to identify and study all these stages well in order to better find out about the buying behaviour of their customers.

Bin Shen, Tsan Ming, Pui-Sze Chow (2017)

Bin Shen, Tsan Ming, Pui-Sze Chow has published in

their article entitled “Brand loyalties in designer luxury and fast fashion co-branding alliances”. This report was written to understand how the brand loyalties of the associated brands theoretically affect the co-branding’s performance is largely unknown. This research conducted to learn through the industrial practices, they build a formal analytical model to examine the impact of brand loyalty on revenues in luxury and fast fashion co-branding. This implies that the internal cooperation within a big group is the most desirable strategy for co-branding. Moreover, they provided the analytical evidence that fast fashion brands should work with well-known luxury fashion brands for brand alliance.

Manhas Parikshant Singh, Sharma Vivel (2014)

Manhas Parikshant Singh, Sharma Vivel has published in their article entitled “Role of promotional mix in brand building: A study of fast moving consumer goods in India”. This report was written to understand the extent to which branding and promotion are integral components with reference to fast moving consumer goods and how it influences the purchasing patterns of consumers in India. This research conducted to learn that building brand equity for fast moving consumer goods impacts positively on the sales and the popularity of these products. That the challenge for marketers in this type of an environment will be to design communication messages that not only move the products off the shelves of supermarkets but also capture the imagination and attention of the target audience. This study concludes with the finding that business entities should also adopt a long term view with regards to brand building activities.

Aswathy Joseph Kangaraj K (2014)

Aswathy Joseph Kangaraj K has published in their article entitled “A study on the employer Brand Building activities at Titan PED Division”. This report was written to understand importance of brand building and the objective was to identify specific factors towards brand building among existing employees. This research conducted to learn identifying some specific parameters in the perception of organization by the employees. This implies that Titan PED Division with the various methodologies that they can adopt for employer branding which will help them to achieve their objectives and the same can also be extended to the entire Titan

Industries which encompasses about different brands and companies. This research can also be extended to other manufacturing units of TATA group.

3.0 Research Objective:

To understand the significance of brand building activities of branded ketchup and its impact on consumer buying Behavior.

4.0 Research Question:

Does brand building activities has an impact on consumer buying behavior in Indian market with respect to ketchup?

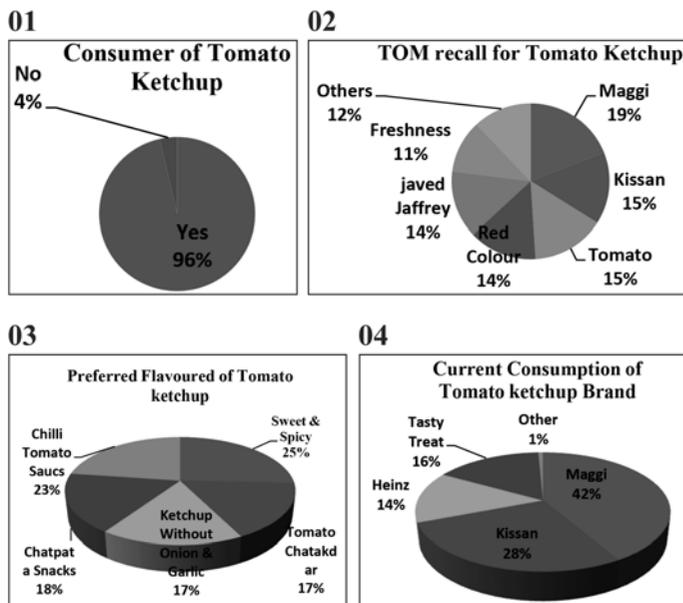
5.0 Research Methodology

Through the survey it was calculated that 40.3% male respondent and 51.7% female respondents are users of tomato ketchup. This helped in evaluating brand building activities of branded ketchup & its impact on consumer buying behaviour.

A. Types of Sampling: Simple Random Sampling, Convenience Sampling

B. Sources of data: Primary (Survey method), Secondary

6.0 Data Analysis:



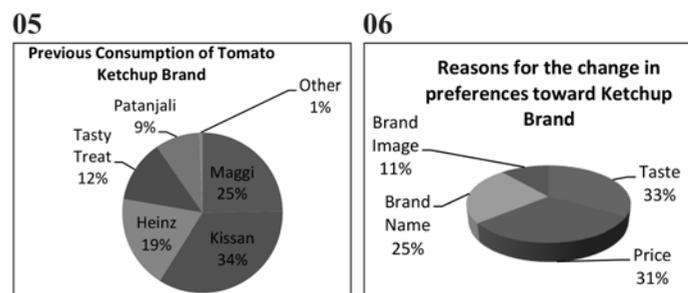
1. Interpretation: Majority of the respondents are the consumers of Tomato Ketchup. Others don't prefer to have Tomato ketchup as they might have a strong

preference towards consuming home-made tomato sauce.

2. Interpretation: Most of the respondents were able to recollect the brand name, its variant and the brand endorser for ketchup. Like majority of the respondents did mention Maggi as top of mind brand recall, whereas few of them recalled tomato as a fruit, followed by brand endorser, Javed Jaffrey.

3. Interpretation: Spicy flavoured was the most preferred one in ketchup, as an accompaniment with the snacks. 28.7% of consumers preferred Sweet and Spicy Flavoured ketchup whereas 25.4% preferred Chilli Tomato Sauce, followed by Chatpata Snacks as Indians prefer sweet taste mixed with hot chillies. Few of the respondents consumed Tomato Chatakdar and Ketchup without Onion and Garlic, because it being a recent launch, there is little awareness amongst the consumers.

4. Interpretation: Maggi Ketchup is the most consumed brand since it has succeeded in creating good image in the mind of consumers through various ads using emotional appeal about their new launches. Whereas 27.5% prefer Kissan as the taste of the ketchup as compared to the brand Maggi is tangy and spicy and also the price is lower as compared to the other brands. Few of the respondents consume Heinz Ketchup; because as compared to Maggi & Kissan, comparatively its price is higher than other ketchup brand. Tasty Treat, a private label brand, has more consumer base as compared to Heinz.



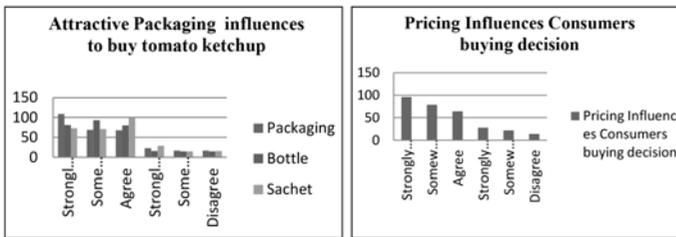
5. Interpretation: Majority of the consumers of Kissan ketchup shifted to other brands, because of less or no availability of offers/schemes. The controversial issue involving Nestle's brand Maggi could be responsible to hamper the image of its other brands in the portfolio and hence lead to shift to other brands. Few of the consumers of Heinz ketchup shifted to other brands as they strongly believed that glass bottles preserve the freshness for a

longer duration as plastic reacts and makes the product rancid. Whereas Consumers of tasty treat shifted to other brands, since it being a private label and consumers prefer consuming a well-known brand. The reason for shift for a brand called Patanjali was its taste factor.

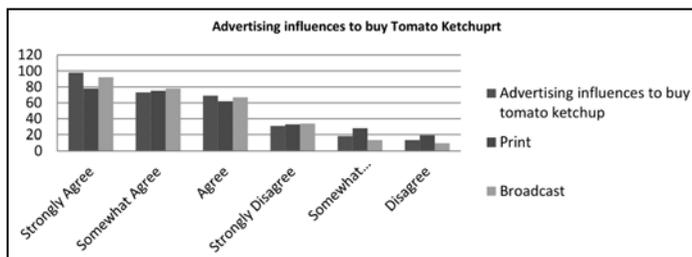
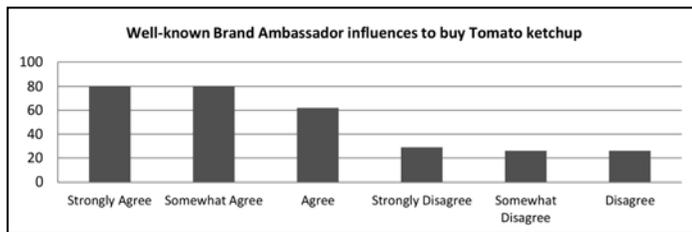
6. Interpretation: Since a brand name is responsible for facilitating product differentiation, a good brand name plays a significant role for consumer preferences towards a specific brand. The major reason for the change in consumption for a preferred brand for ketchup was hence, a brand name. The attributes of a product like taste, price etc. also play major role in being responsible for change in preferences. Brand image is way to attract and retain more consumers. It's simply an impression or an imprint of the brand developed once a period of time in the consumers mind. A good brand image hence, is responsible for maintaining customer's loyalty.

Q.7 Answer the following questions

01



02



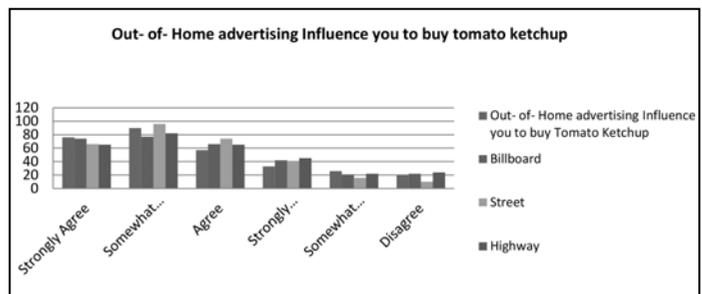
1. Interpretation: Since packaging is a core part of building relationship between a brand and the end users, it does influence the customers to buy the product. Good package design makes information easy to find. With the survey, it is clear that 35.97% Consumers Strongly

Agree to the point that attractive packaging influences the customers to select the brand. 22.77% consumers somewhat agree to it, that packaging influences them to select the brand. 22.44% consumers agree that attractive packaging is good for growth of the products. Very few of the consumers don't agree to it

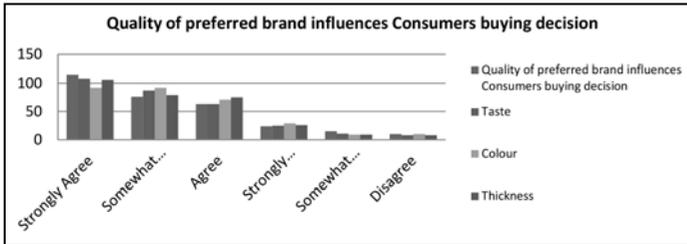
2. Interpretation: Pricing strategy plays an important role on consumer buying behaviour. Good Pricing attracts the customers to buy the product. 31% of the respondents strongly agree to the point that pricing influences their buying decision, because it highlights that some strategies like Odd-Even Pricing, Bundle Pricing and Discount pricing are used by Ketchup retailers to make the prices attractive to the consumers. Whereas few of the respondents disagree with the fact that pricing influences their buying decision

3. Interpretation: With celebrities vouching for or promoting their products, brands increases their awareness, trust and familiarity, which is important in purchase decision making process. People believe that purchasing a product that's promoted by a celebrity they admire, will allow them to emulate the celebrity's desired traits or attract similar people into their lives. In accordance to the survey 73.27% respondents strongly agree with that well-known brand ambassador influences to buy tomato ketchup. Whereas few of them disagree as they get influenced through friends and family.

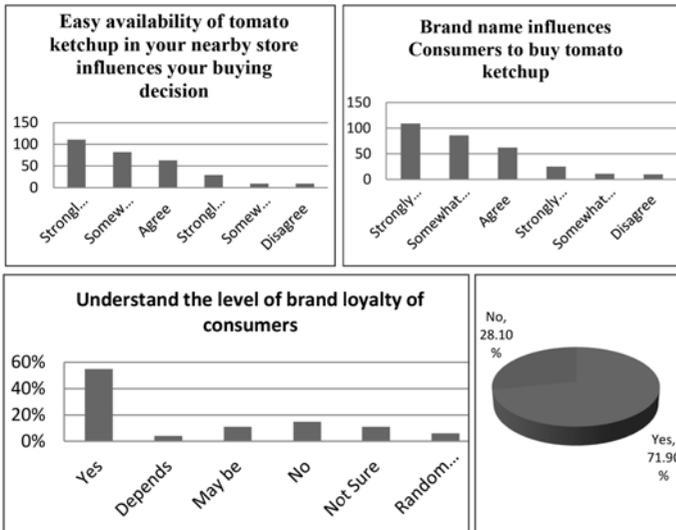
4. Interpretation: Advertisement creates awareness about the product. Marketers come up with innovative ads reflecting that they use only fresh tomato to make ketchup which influences the consumer to buy the products. 80% of the respondents are influenced from advertising, as consumers have strong belief that tomato ketchup is made from fresh tomato as shown in the advertising. Rest of the consumers are influenced from friends and families.



5. Interpretation: Out-of- Home advertising is one of the major advertising media used in the present day. It is believed that a human being spends a third of his life outdoor. Millions of commuters travelling by cars, bike, buses, train & taxis. Due to this most of people are involuntarily exposed to advertising outdoor. Television and Radio ads which are aired for only few second, outdoor advertisements like billboard and hording are available for consumers round the clock. This will lead to strong brand recognition in the mind of consumers. From the above data, it is clear that 73% respondents are influenced from OHA.



6. Interpretation: Quality of products is important for marketer and consumers. Since Indians like to use ketchup as a condiment with – fried pakoras or samosas, a plate of noodles, a sandwich, namkeen mixtures and packed chips, quality of ketchup is considered as a major factor in influencing their decision and hence majority of them strongly agree with this.



7. Interpretation: Distribution Channels is important because, without distribution even the best product or service fails. If it's not available it can't be sold, most customers won't wait. That's why ketchup company

focuses more on distribution Channels, this will lead to increase in sales and also consumer get products in nearby store. 86% of the respondents agree that easy availability of products is preferred most.

8. Interpretation: Since a brand name is responsible for facilitating product differentiation, a good brand name plays a significant role for consumer preferences towards a specific brand. 85% respondents agreeing that brand name of the products influence them to buy the products.

9. Interpretation: Majority of the consumers would not prefer to shift to other brands as they are extremely loyal towards it. Some of the respondents might shift to other brand depending upon the change in preferences due to change in price, taste, quality etc. Few of the respondents being switchers, prefer consuming a different brand in future whereas 6% of them were random buyers, since they believe in using a brand which offers a good price or an offer.

10. Interpretation: Majority of the consumers will act as an advocate i.e. recommends their preferred brand to others. It implies that these set of consumers are highly satisfied consuming the brand

7.0 Major Findings:

It was analysed that consumers have strong preference for branded ketchup like Maggi, kissan and Heinz. Maggi tomato ketchup (41%) it is most popular brand amongst tomato ketchup as compared to kissan (27.5%), Heinz (14.1%), and Tasty Treat (16.1). Moderate competition is faced by Maggi and Kissan(68%). Whereas Tasty Treat being private label brand fails to give tough competition to other two established brands of tomato ketchup. Most of the consumers are enticed towards attractive packaging of ketchup since it plays an important role in the final purchase of the product. Majority of respondents had never used Tasty Treat brand as they are not aware about the product. Majority of the customers are influenced by the brand name of the products which helps them to take purchase decision. (80%) advertising plays an important role to create awareness about the products. (71.90%) Respondents will act as an advocate and will recommend their brand to family & Friends.

Conclusions: Ketchup Brands strives hard to build the

faith among the customers, which gets converted to customer loyalty towards the brand. And also leads to increase in sale. Brand image is a major contributing factor in customer's preference whereas Price, Quality, and well-known brand ambassadors also create impact in the consumers buying decision. Nestlé's Maggi is most preferred brand as compared to other brands since it has achieved a great position in the market, for its good brand image in the mind of consumers. Advertising Campaign affects the purchase of ketchup brands and it also works as a reminder in the minds of the customers. To create a strong visibility in the market and a customer base, ketchup brands focusses on both advertising and packaging. Whereas thickness, taste and colour being a strong component for quality, it contributes to the deciding factor on purchase of ketchup. Maggi, Heinz and Kissan ketchup is more popular than Tasty Treat tomato ketchup as Tasty Treat is a local brand but still it is competing with established brands of tomato ketchup like Maggi Kissan and Heinz.

Recommendations: Heinz ketchup brand should adopt rapid penetration pricing strategy and also introduce

new variants. It should introduce glass bottles as it preserves the freshness for a longer duration as plastic reacts and makes the product rancid. And also Heinz should promote their products with brand ambassador as it will lead to brand association and also TOM recall. The distribution channel of Tasty Treat tomato ketchup should increase, like distribute in local retails shops. This will lead to increase in sales and also consumers will get products in nearby store. They must promote their product using various advertising campaign (TV, radio, print media commercials) with brand ambassador. They should also introduce more variants, and adopt aggressive advertising strategy using digital media. Ketchup brands should immensely work on the fact that the product should be easily available in local grocery shops, and hence should strengthen its distribution and marketing channels. Taste of the ketchup being one of the most important variant, Patanjali should concentrate on improving its taste. Ketchup products should maintain their brand name in the mind of consumers as good brand name always plays a pivotal role for consumer preferences towards a specific brand.

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Analytics, Artificial Intelligence and Blockchain in Banking System

Shivali Thakar

Visiting Faculty - Economics,
Chetana H S College of Commerce & Economics,
Bandra (East), Mumbai.
E-mail: shivalipandya86@gmail.com

Abstract:

Technology is core to digital transformation, and hence important for Banks and Financial institutions to create digital platforms that can connect their people, processes and deliver 'experience with efficiency' to their customers. Analytics, Artificial Intelligence & Blockchain are three dynamic components of Banking Industry today. Analytics would help banks and other firms' deep dive into their data, draw consumption patterns from their data, this pattern than enable the banker to offer better product depending on age and preferences. Adding Artificial Intelligence to analytics engine will give out better accuracy in decision-making as it enabled chatbots which carry out remittance and offer assistance to the customers in making their loan choices. Further, Blockchain will help banks verify, execute and record. Banks in India have already started experimenting with these new technologies. These technological advancements will change the way bank operates and enhance the customer experience. This paper deals with the understanding Analytics, Artificial Intelligence and Blockchain, how these technologies help in banking sector in India and lastly challenges and practicality of these technologies.

Key Words: Digital, Banking, Artificial Intelligence, Analytics, Blockchain.

Introduction

Over the past several years, digital technologies have changed the once staid banking industry. The collection and advanced analysis of data has changed the way customers are viewed and the introduction of mobile devices has altered the way consumers do their banking activities. In short, digital transformation is on the front

burner of all financial services. At a time when most of the organizations are still playing catch-up, a new wave of digital technology has the potential to change the way organizations deliver banking services. These new technologies include Artificial Intelligence(AI), Internet of Things (IoT), Blockchain, Open APIs (Applications Programming Interface) and Robotic process automation (RPA). These emerging technologies carry the potential to increase efficiency, lower cost and enhance customer experience at the same time how banking business model can be transformed. Fintechs are mastering these emerging technologies at a breakneck speed, where banks are feeling threatened from competitions from Fintechs.

Objective

The objective of this paper is to understand how Analytics, Artificial Intelligence and Blockchain will facilitate Indian banks to explore new opportunities and reinvent and achieve

Scope

The research paper covers the use of Analytics, Artificial Intelligence and Blockchain, and how these technologies are used in Indian Banking Sector only.

Methodology

The research study is descriptive in nature and is based on secondary data. The data are collected from various reports, journals, articles, various bank portals, and RBI portal.

Understanding and Discussion

Big data Analytics, Artificial Intelligence and Blockchain in general

Analytical Techniques Used for Business Analysis

Identify the elements of benchmarking and market analysis	Distinguish between the elements of state modeling	Recognize the characteristics of process analysis
Recognize the types of organizational models	Identify the elements of an interface definition	Recognize the elements of data flow diagrams
Recognize considerations for using data mining	Recognize considerations for using data modeling	Recognize how to apply models that support business analysis
Recognize characteristics of risk analysis and management	Define the elements of a swot analysis	Distinguish between decision modeling and decision analysis

Analytics

Analytics is a procedure or a method for the analysis of some problem, status or a fact. Analytical techniques are usually time-limited and task-limited. Big data analytics is normally a huge data that needs to be analyzed, handled, managed and validated through typical data management tools.

Analytics Industry is growing rapidly at 28.8% CAGR and almost 80% of its revenue comes from 3 sectors i.e. Banking and Finance, Marketing, and E-commerce. As these sectors grow the need for analytics by them will also increase thereby contributing to the overall growth of analytics industry.

Artificial Intelligence

A major thrust of AI is in the development of computer functions associated with human intelligence, such as reasoning, learning, and problem-solving.

AI Technique is a way to organize and use the knowledge efficiently in such a way that -

- It must be perceivable by the people who offer it.
- It must be easily modifiable to correct errors.
- It must be useful in many situations though it is incomplete or inaccurate.
- AI techniques elevate the speed of execution of the complex program.

Blockchain

Blockchain is a data structure that is used to create a digital ledger of transactions and share it among a distributed network of computers. The underlying principle used is

cryptography, wherein each participant on the network are allowed to manipulate the ledger in a secure way without the need for a central authority. The functioning of Bitcoin is based on Blockchain technology. Bitcoin is a digital currency that allows the user to do peer-to-peer transactions without the help of a third-party such as banks or regulator. Today, there are hundreds of startups that are using blockchain technology to disrupt an array of industries such as trade finance, healthcare, cloud storage, and cybersecurity, among many more. Despite the large number of industries that the blockchain is impacting, there are also concerns about the technology that are still preventing its widespread adoption.

1. Initial Costs

Though the adoption of blockchain technology promises long-term benefits with regard to productivity, efficiency, timeliness and reduced costs, it is expensive to initially put it in place. The software required to run blockchain technology in organizations must typically be developed for the specific firm.

2. Integration with Legacy Systems

In order to make the move to a blockchain-based system, an organization must either completely overhaul their earlier system or find a way to integrate their existing system with the blockchain solution. However, it may be difficult for blockchain solutions to handle all functions needed by organizations, initially making it difficult to completely eradicate legacy systems. Therefore, considerable changes must be made to the existing systems in order to facilitate a smooth transition. This process may take a significant amount of time, funds, and human expertise.

3.. Public Perception

The majority of the public is still oblivious to the existence and potential uses of this technology. In order for blockchain technology to make the move to the mainstream, there must first be a public buy-in to its benefits. Though the technology is revolutionizing many different industries, Knowledge of the benefits of distributed ledger technology is still limited to those who are involved in the technology space and those whose industries are adopting blockchain solutions.

4. Privacy and Security

Blockchains, as in the original design, made publicly visible. Take, for instance, the Bitcoin blockchain, which is designed to be accessible to all those who have made the transaction on the network. Governments and corporations should protect and restrict access to their data for a myriad of reasons. Although creating such blockchains takes a sizable amount of planning and expertise, it lessens the apprehension that firms and governments have the technology, thus making adoption more likely.

Analytics, Artificial Intelligence and Blockchain in Digital India

Presently the Indian economy makes significant headway in technology deployment. Big Data analytics, Artificial intelligence (AI), the Internet of Things (IoT), augmented and virtual reality (AR and VR), and blockchain became buzzwords across the country, that all because of digital push by the Indian government, a flourishing startup ecosystem, and automation in the commercial space. There are various sectors in India where these technologies are creating the new wave of efficiency and growth in various processes:

- Public Sector

The Government of India's efforts, such as Aadhaar, Jan Dhan Yojana or "banking for all," demonetization, Digital India, and the rollout of the goods and services tax (GST) regime, fueled technology adoption in the nation in 2017. The country made a start toward a Unified Payments Interface (UPI) for payments and digital lockers. The Digital India drive will open more opportunities for blockchain as Blockchain will be a big opportunity in India, in digitalizing physical assets and leveraging blockchain to ensure that transactions

against those assets are done in a very secure manner. Blockchain will facilitate trade finance which will have a positive impact on export and import industry.

- Banking

Digitalization takes the banking sector closer to the consumer with disruptive technologies such as Big Data, blockchain, AI, and the IoT leveraging cloud computing to change the face of business. Blockchain holds a lot of potential and is being explored by Indian banks how they can leverage it to the fullest. It is likely to find deployments across areas such as peer-to-peer lending and crowdsourcing. It can also help manage and enhance the economic inclusion index with minimal investments. The paper will further explain banking application in detail.

Analytics, Artificial Intelligence and Blockchain in Indian Banking System

Banking today is becoming less and less a place you go, and more something that is hidden from view behind digital banking and commerce apps. Once an account is opened at a bank there is less need to step into a branch, since functions like deposits, borrowing, payments and transfers can be done through online and mobile devices.

Fueled by improvements in advanced data analytics, artificial intelligence (AI), voice-controlled devices, application programming interface (API) and cloud technology, the invisible bank will be able to be integrated seamlessly within a consumer's everyday life. Ultimately being available 'beyond the device,' these technologies will allow banking, commerce, daily intelligence and decision making to be available to consumers 24/7/365 as a virtual, e-personal digital concierge.

Analytics

In order to stay competitive, banks in India are taking the data analytics route to lure new customers, retain them, find opportunities to upsell and cross-sell and minimize their own losses.

Practical applicability of Analytics in Indian Banking System

- HDFC Bank - Using Analytics to Get a Complete Picture of the Customer

One of the first instances of the use of analytics can be traced back to the early 2000s when HDFC Bank Ltd, put in place a data warehouse and started investing in technology that would help it make sense of the massive troves of unstructured data captured by its information technology (IT) systems. From 2004 to 2006, they set up a basic backbone for analytics in terms of an enterprise data warehouse. With the analytics engine in place, HDFC Bank can track every aspect of a typical customer's financial habits. For example, Bank can determine whether the customer has an active account or just having a salary credited to his account. HDFC is the primary bank account for this customer or just another account? The analytics tool also gives the bank insights into personal habits of its customers, allowing it to promote offers accordingly. Analytics is also used to reduce chances of money laundering by identifying suspicious activity such moving money to multiple accounts, finding large single-day cash deposits, opening a number of accounts in a short period of time or sudden activity in long-dormant accounts. Using analytics, the bank is also able to keep track of credit histories of customers and can hand out loans accordingly.

- **ICICI Bank-Using Analytics to Reduce Credit Losses**

ICICI bank identified Debt Collection as the key process where a friendly approach could improve customer satisfaction. One of the important steps in the debt collection process was choosing the appropriate customer-approach channel for each case. The bank management, with the aim to transform debt collection as a customer retention tool, decided to use technology to meet the aim. The bank uses multiple channels for debt collection. This includes non-intrusive channels such as SMS, e-mails, IVR, Dunning letters, and reminder calls through the call centers, which are used to handle early delinquencies. The serious delinquents require a personal visit or may even need initiation of legal action. Using analytics across the spectrum has brought about a number of efficiencies in the process.

- **Axis Bank - Analytics for Customer Intelligence & Risk Management**

Axis Bank, has been using analytics in almost every sphere. For example, when a sales personnel is pitching to a client for some loan, bank try to find out what the

background of the customer is and what the likelihood of him taking a particular loan is. Axis Bank has seen the productivity of the sales staffs increase by five times in the last financial year. it also uses analytics to increase customer loyalty and reduce loan prepayments due to refinancing with other institutions. Axis Bank uses analytics to offer customer intelligence across the organization. It also helps the bank to improve risk management throughout the organization by giving them early warning signals.

- **State Bank of India-Adding Social Media to the Mix**

Though private sector banks are leading the charge in using data analytics for effective decision-making, public sector banks are not far behind. SBI's data warehouse has over 120 TB of data and receives an additional 4 TB of banking data a day. The bank has hired about 16 statisticians and economists over the past few months and plans to build about 60 models in 2018. They are applying their data models to education loans, automotive loans, housing loans, SME loans to try to reduce the percentage of them going bad. For instance, in case of an education loan, they combine data from their bad loans, income tax departments, credit rating agencies to identify suitable candidates and then send them reminder messages on Facebook.

They are running studies on which colleges in which cities show the most delinquencies in student loans and how to adjust for the increased risk. They also use analytics to determine where ATM branches should be positioned and how much cash should be placed in them. To sum up, though Indian banks are still far behind in using data analytics when compared to their western counterparts, they are on the right track. In future, the effective use of their data will determine the winners from the losers.

Artificial Intelligence

Indian banking sector is heavily investing in automation via Robotics and Artificial Intelligence (AI). Intelligent machines are being deployed to cater to every need of today's modern tech-savvy customer. By adopting AI, some banks have automated operational processes, resulting in cost reduction and faster turnaround time. Some non-banking finance companies (NBFCs), payments banks, insurance companies, investment

advisory companies and online financial service providers are also looking to upgrade their processes.

Banking operations are highly process-oriented and data-intensive. For example, to open a bank account, a person submits a set of forms and supporting documents. The data in these are systematically scrutinized by the bank before approving the account opening. Likewise in disbursals, there are systematic approval processes for providing personal, corporate, and agricultural loans. In addition, there are systematic and data-centric processes banks use for quantifying and minimizing risk, customer support, hiring and retaining staff, detecting and blocking fraud, forecasting and avoiding delinquencies, and identifying existing and new customers for marketing of new products and services.

Practical applicability of Artificial Intelligence in Indian Banking System

● State Bank Of India

SBI, which is India's largest public-sector bank with 420 million customers, is embarking on its AI journey from the point of view of both employees and customers. To fuel its AI mission, SBI launched a national hackathon, "Code For Bank" in 2017 for developers, startups and students to come up with innovative ideas and solutions for the banking sector, focusing on technologies such as predictive analytics, blockchain, digital payments, IoT, AI, machine learning, BOTS and robotic process automation. SBI is currently using an AI-based solution which essentially scans camera installed in the branch and captures the facial expressions of the customers and immediately reports whether the customer is happy or sad, this is real-time or near real-time feedback. The bank will in future build a dashboard that will gauge the effectiveness of representatives or tellers based on customer feedback. From a customer chatbot perspective, SBI has launched SIA, an AI-powered chat assistant that addresses customer inquiries instantly and helps them with everyday banking tasks just like a bank representative.

● HDFC Bank

HDFC Bank has developed an AI-based chatbot, "Eva", since its launch in March 2017; Eva (Electronic Virtual Assistant) has addressed over 2.7 million customer

queries, interacted with over 530,000 unique users and held 1.2 million conversations. Eva can assimilate knowledge from thousands of sources and provide simple answers in less than 0.4 seconds. Within the first few days of its launch, Eva has answered more than 100,000 queries from thousands of customers from 17 countries across the globe.

With the launch of Eva, the bank's customers can get information on its products and services instantaneously. It removes the need to search, browse or call. Eva also becomes smarter as it learns through its customer interactions. Going forward, Eva would be able to handle real banking transactions as well, which would enable HDFC Bank to offer the true power of conversational banking to its customers.

● ICICI

ICICI Bank, India's second-largest private sector bank has deployed software robotics in over 200 business processes across various functions of the company. ICICI seems to be referring to what is often referred to as "robotic software" – a software generally focused on automating office work. In Feb 2017, ICICI Bank launched its AI-based chatbot, named iPal. The services offered by iPal are divided into three broad categories, most of which are mapped to the iMobile app.

✓ Category 1: It involves FAQs, which are simple questions that you may want to ask your bank executive for which there are simple, structured answers.

✓ Category 2: It involves financial transactions, wherein you can make fund transfers from person-to-person, pay your bills or recharge your mobile phone bills using queries.

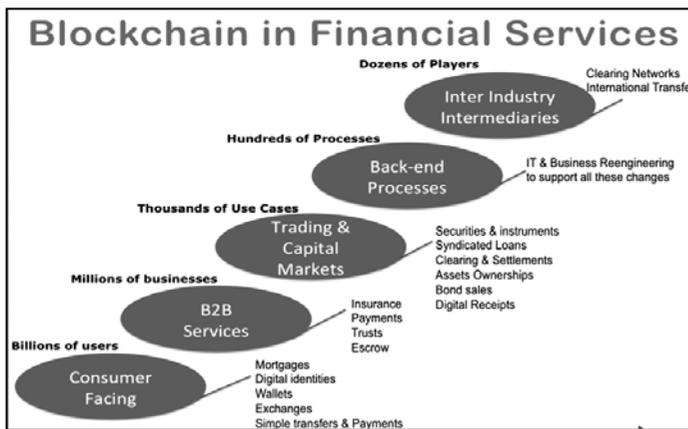
✓ Category 3: It involves helping people discover new features. These are simple how-to tasks such as how to reset your ATM pin, which is a bit more evolved and is like interacting with your bank executive.

Chatbots seems to be the primary AI use-case at Indian banks today. The banks seem to be competing with each other to launch their AI solutions and stay ahead in the technology adoption curve. While none of the banks quantified an investment figure, it's evident that a large percentage of the digital transformation budget is being

geared toward AI and related technologies and the spend is only going to increase in the future.

Blockchain

Financial institutions around the world have long been fascinated by blockchain technology -- created by a network of computers, where each transaction made has a digital signature that cannot be forged -- as it introduced a new way of executing and recording financial transactions without a central authority. Over the past two years, startups have begun throwing their weight around blockchain technology vying with giant Indian IT service providers such as Infosys and TCS, to create core banking platforms.



Practical applicability of Analytics in Indian Banking System

Blockchain-based solution designed to help Indian banks and non-banking financial companies do their KYC diligence of corporate borrowers, evaluate corporate lending risk and manage vendors is ready to be deployed by the end of 2018. The solution has been developed by Bankchain, a 30-member consortium led by the State Bank of India or SBI, the country's largest lender, and includes banks, NBFCs and the National Payments Corporation of India (NPCI), an organization set up by Indian banks to support retail payments. The code for Bankchain's permissioned blockchain solution, called Clearchain, that's being developed by Pune blockchain solutions provider Primechain Technologies will be available for banks to customize. Members of the Bankchain consortium include ICICI Bank, Bank of Baroda, Axis Bank, Kotak Mahindra Bank, YES Bank, among others; NBFCs such as Riviera Investors;

government agencies Clearing Corporation of India Ltd and Export-Import Bank of India; and technology companies such as Intel.

Reserve Bank of India's activities around Blockchain

Reserve Bank of India (RBI) has been closely monitoring developments related to Blockchain technology. In July 2016, Institute for Development and Research in Banking Technology (IDRBT) the technology research arm of RBI took the initiative of exploring the applicability of Blockchain to the Indian Banking and Financial Industry by conducting a workshop involving all the stakeholders such as the academicians, bankers, regulators and technology partners. The working group included experts from the central bank, IBA, NPCI, CCIL, ISI, State Bank of India, Punjab National Bank, Bank of Baroda, ICICI Bank, HDFC Bank, Axis Bank, Citi Bank, Deutsche Bank, Infosys, TCS, IBM Research, Deloitte and MonetaGo. In the process, the participants of the workshop came together to bring out a white paper detailing the technology, concerns, global experiences and possible areas of adoption in the financial sector in India. The white paper highlights several advantages of Blockchain technology, such as cost savings, efficiency, and transparency have been highlighted. The Institute has also developed a Proof of-Concept (PoC) on the applicability of Blockchain to a trade finance application

Challenges and alternate solutions

- Automation and AI may disturb the employment pattern AI and automation are the major breakthroughs in today's innovation era. Although the benefits are promising, technology revolution poses a great threat to many of the jobs which will be completely automated and opportunities for job seekers will shrink. Banking is no exception to this fact. However new jobs would be replaced such as data miners, data scientist to unearth solutions form these huge pile of data. According to Gartner estimate, there are only 1200 data scientist in the world as of now and Analytics and AI would add 2mn jobs in the next decade.
- Voice Revolution will take over online banking As voice recognition and voice authentication mature, web traffic to banking sites and mobile applications may drop by 50% in next few years. Customers will simply talk to an internet connected device and do most

common banking tasks within few seconds. Drop in web traffic due to voice recognition systems could pose a serious threat to the banking industry. The customers who visit the websites for banking tasks, also go through the marketing promotions on the site. The banks may lose the opportunity to cross-sell current customers with the drop in web traffic.

- Security issues

In its note on 'Digital Payments - Analysing the cyber landscape', KPMG mentions, cybersecurity is one of the most critical challenges faced by stakeholders of the digital payment ecosystem. With more and more users preferring digital payments, the chances of getting exposed to cybersecurity risks like online fraud, information theft, and malware or virus attacks are also increasing. Lack of awareness and poor digital payment ecosystem are some of the primary reasons that have led to increase in these attacks.

- Digital literacy in rural areas

There has been considerable growth in the users of the smartphone in rural India in last few years. But not many are aware and confident about online banking through smartphones. The primary usage of the smartphone is restricted to entertainment and communication only. As the urban tech-savvy customers adopt the changing landscape of innovation in banking. Rural sector is falling behind in terms of digital banking adoption due to unawareness.

Following steps can be adopted by the banks to overcome the challenges

- Organized Data

One thing critical to all these emerging technologies is the requirement of an organized data or structured data. If the data is not in place, if its unstructured it would be difficult for banks to run Analytics and AI. It is important for banks to have structured data in place to ensure smooth operation of Analytics and AI

- Transition to AI:

Top management and leadership of the banks should play a significant role. Effective communication regarding the need and implementation of AI in the organization to all the employees may help achieve the smooth transition. All employees irrespective of their age will have to equip themselves with latest technological innovation in

the industry and upgrade their skills.

- Voice Revolution

As voice revolution takes over, traditional online banking traffic is bound to get displaced. Banking industry should evolve its web presence by offering higher-end products such as loans, mortgages and financial planning tools. Websites should soon evolve to focus on superior experiences for financial education, planning and simplifying complex financial decisions.

- Security

Users should be aware of the basic security features. Organisations should regularly update their software and fraud detection systems. The government should focus more on educating the customers and should enforce basic security standards for organizations. All the breaches should be mandatorily reported.

- Digital Literacy

The government of India has launched National Digital Literacy Mission with the vision to empower at least one person per household with crucial digital literacy skills by 2020. It targets to train 60 million rural Indians. This mission will help in educating the rural population to understand the importance, ease, and benefits of digital transactions. This will boost the competitiveness of Indian banking sector in years to come.

Conclusion

With the growing need for innovation, Analytics, Artificial Intelligence, and blockchain will do wonders in terms of growth of banking sector in India. Implementation of these technologies in the banking sector is poised to solve multiple challenges faced by the banking industry by facilitating faster, secure, and more transparent transactions. The adoption lays in the size of the banks, in other words, wherein today's scenario most of the banks are facing issues of higher NPAs, it is impossible for them to allocate their resources to innovation. Bank-Fintech collaboration should be on cards to ensure both get good market share and enjoy sustained growth, reason being Fintechs are innovative, nimble and agile, whereas banks have the customer base but aren't as innovative and flexible as Fintechs. Collaboration between banks and fintechs is a win-win situation for all industry players & customers.

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