

Contents

Foreword	
Editorial	
1. Transforming Corporate Social Responsibility towards Socially Responsible Corporation Dr. Yogesh C. Joshi and Ms. Dharini Shah	1-9
2. A Study on Relationship between Financial Literacy and Investment Behaviour of Rural Area People Ms. Manisha Surti and Prof. (Dr.) Vinod B. Patel	10-21
3. Attitude towards Mobile Advertising of Rural Youngsters of Anand District: An Empirical Study Dr. Hitesh Vyas, Brijesh Patel and Kirit Chavda	22-30
4. Consumer Behaviour in a Services Context: An Empirical Study on an analysis of Pre-Purchase Stage, Service Encounter Stage and Post- Encounter stage for Service Consumption of Health Care services in Mogri Ms Shivangi Kirankumar Shukla and Ms Komal Shukla Sevak	31-44
5. A Study of Rural Consumers' Satisfaction and their Perception towards Telecom (Wireless) Service Sushilkumar M. Parmar and Milan S. Shah	45-56
6. Government's Role in Development of Rural Tourism of Gujarat Ashish Rami and Dr. Kavita Kshatriya	57-65
7. Pradhan Mantri Jan Dhan Yojana (The Financial Inclusion): A study of Awareness Mrunal Chetanbhai Joshi and Vikram P. Rajpurohit	66-75
8. A Study on DTH Usage, factors affecting on DTH usage and problems faced in Rural Area: A case from Gujarat Gautam R. Parmar and Manish Nakum	76-87
9. Issues and Challenges faced in Rural Market Development by (Power Transmission Division) J.K. Fenner India Ltd.(Gujarat Branch) Pooja Sharma	88-93
10. A Study on Banking Outreach in Rural Area of Tapi District Ms. Radhika Desai	94-98
11. Risk Minimization through ISEF Algorithm and Snake model in Dental Care Services A J Solanki	99-103

Editorial

The Indian economy is getting increasingly linked with global economy since economic liberalization. The Indian Rural economy is also gradually embracing effects of globalization. However, the economic and political changes all over the world are impacting Indian economy in a big way. The decline in commodity prices has challenged traditional ways of addressing business issues. The changes in policies require consumers to be more informed, more choosy and wiser than ever. Globally e markets are posing a challenge to traditional forms of markets. At the same time international institutions and organizations are playing a critical role in business transactions.

The present issue of 'Synergy' Volume 18 No. 1 consists of research on rural consumers with special reference to services in rural areas. It is our constant endeavor to bring you good papers which cover different areas of management. This volume of Synergy focuses on some of the current research undertaken by researchers on topics of relevance today. The present issue covers research papers on variety of issues across functional areas of Management including General Management, Rural Marketing, Consumer Behaviour, Brand Management, Finance, Human Resources, etc. focusing rural economy. This issue contains majority of the articles and research papers focusing on status and challenges for service providers in rural areas", this being one of the theme of the seminar organized by the department under Special Assistance Programme(SAP-DRS II) given by UGC, New Delhi.

In all ten blind peer reviewed papers have been included focusing on topics such as mobile advertising, DTH usage and problems, health care services, banking outreach, telecom services and financial literacy and financial inclusion in rural areas. Besides one research paper is focused on government's role in development of rural tourism of Gujarat and one paper is devoted to CSR and socially responsible corporations.

On behalf of our editorial team, we sincerely thank all the contributors and look forward to their continued support in sharing of facts, opinions and views in the form of research papers in forthcoming issues as well.

We humbly invite your views and suggestions to strengthen our efforts in making further improvements.

(Dr. Yogesh C. Joshil)
I/c Director

Foreword

The Post Graduate Department of Business Management (MBA Programme) at Sardar Patel University is churning out post graduates in Business Management since 1989. It is one of the leading management institutes in Gujarat state. The University Grants Commission, New Delhi, in recognition of the quality of research in the department had elevated its status for award of special assistance under DRS - II for "Consumer Research in Rural Areas", which it completed successfully in March 2016. The department has completed Silver Jubilee of its existence. All through its journey of providing management education, it has exemplary record in terms of quality education and placements.

The department has been contributing to research activities continuously. All the faculty members are actively involved in research publications. It also organises national level seminar every year sponsored by UGC, New Delhi on varied topics relevant to current scenario to promote research in Management. More than 100 students have successfully completed their Ph.D. degree from department while management graduates are contributing to success story of economic growth in India.

This research journal provides a platform for regular interaction and exchange of views, opinions and research findings among peer groups. I am confident that this issue of "Synergy", Journal of Management, Sardar Patel University, provides for a great deal of information sharing among teachers and research scholars belonging to the discipline.

I congratulate the editors for bringing out yet another volume of Synergy and appreciate the painstaking task undertaken by them.

Date : 21st April 2016
Sardar Patel University
Vallabh Vidyanagar

Dr. Harish Padh
Vice-Chancellor

Transforming Corporate Social Responsibility towards Socially Responsible Corporation

Dr. Yogesh C. Joshi* and Ms. Dharini Shah**

Abstract

Review of the literature in the area of Corporate Social Responsibility (CSR) has identified that majority of the business organizations, both in the developed and the developing world, continue to (i) Identify CSR practices and policies as an activity 'external' to the primary purpose of the business of creating a value proposition for the Customer, which in turn serves the primary purpose of value-creation for the Shareholder, and (ii) As an organizational intervention in response to the expression of various social concerns by external bodies.

The author has studied the cases of two large business organizations in India. One of the key observations has been that these successful business organizations exhibit characteristics which are intrinsically different - They are moving towards becoming Socially Responsible Corporations (SRC) by consciously integrating into their business model, responsible practices towards the community and society, sustainability and environment-consciousness. Hence, CSR is no longer an external construct, but an intrinsic part of the DNA of their metamorphosis to the Socially Responsible Corporation. The author proposes that this model of the Socially Responsible Corporation may represent a new model of the successful business organization of the future.

Key words : Societal well-being and benefit, Sustainability, Strategic Planning process, New Social Compact, transformational.

Introduction

This article aims to indicate and discuss a significant shift in the way business is being conducted in many organizations. Conventionally, CSR has been seen as activity 'external' to business. The central idea of this article is to suggest that CSR activity in the organization is being, and perhaps needs to be replaced with the concept of the Socially Responsible Corporation. This is a broader construct, wherein successful business organizations no longer treat practices towards the community and society, sustainability and environment as being 'external' to their mainstream operations but consciously integrate these responsible policies and practices into their business model. The SRC would also reflect the harbinger of the successful business organization of the future.

This article is divided into 5 sections : Section 1 covers the Definition of CSR and a glimpse of the traditionally accepted 'external' status of CSR. Section 2 covers the evolution of the thinking on CSR, especially in terms of organizational responsibility towards Community and Society and the responsibility towards the Environment as evident from an increasing amount of literature, especially in recent years. Section 4 covers the increasing recognition in organizations of the strategic role of Societal well-being and benefit, and Sustainability,

which leads to the Definition of Socially Responsible Corporation (SRC). Section 6 covers the framework and relationships between elements of an SRC, specifically in the context of the Strategic Planning process in organizations, to establish that SRC exhibits the true assimilation into the DNA of the organization of the responsibility towards the community and society, and towards the environment. Section 7 covers the case studies of two large organizations, Titan Industries and Excel Industries, that substantially exhibit the characteristics of the SRC.

Definition of Corporate Social Responsibility

There is no single definition of Corporate Social Responsibility (CSR) that has universal acceptance. While the World Business Council for Sustainable Development defines CSR as "Business's commitment to contribute to sustainable economic development, working with employees, their families, the local community, and society at large to improve the quality of their life", The Institute of Directors, UK, defines "CSR is about businesses and other organizations going beyond the legal obligations to manage the impact they have on the environment and society. In particular, this could include how organizations interact with their employees, suppliers, customers and the communities in which they operate, as well as the extent they attempt to protect the environment." The

* Professor, G.H.Patel Post Graduate Institute of Business Management, Sardar Patel University, Vallabh Vidyanagar 388120 Anand

** Ph.D. Student, G.H.Patel Post Graduate Institute of Business Management, Sardar Patel University, Vallabh Vidyanagar 388120 Anand

European Commission has defined CSR as "The voluntary commitment of a firm to contribute to social and environmental goals". Another definition by Kotler and Lee states that "Corporate Social Responsibility is a commitment to improve community well-being through discretionary business practices and contribution of corporate resources".

Evolution of the thinking on CSR

Even if we accept the current broadly-accepted definition of CSR that covers the commitment of corporate resources towards betterment of the broader society and towards improved sustainability, a review of the literature on CSR shows a clear evolution over time of the thought process of researchers on the subject of CSR.

Literature largely relates to business organizations in the Developed world, and a large proportion of the literature has been classified by Garriga and Mele (2004) as having its roots in 'Instrumental Theories', which is described by them as those theories that support the premise that CSR is largely a means for the organization to achieve profits.

This line of thinking would cover the journey from the views of Friedman (1970) "There is one and only one social responsibility of business - to use its resources and engage in activities designed to increase its profits as long as it stays within rules of the game, which is to say, engages in free competition without deception or fraud", to the more recent views of Porter and Kramer (2006) that "The link between Competitive Advantage and Corporate Social Responsibility is established in other research that implied that the more closely tied a social issue is to a company's business, the greater the opportunity to leverage the firms resources and benefit the society".

The seminal work on "Strategies for the Bottom of the Pyramid: Creating Sustaining Development", carried out by Prahalad and Hart (2001), argues that "Innovations in Technology, Credit, Cost and Distribution are critical prerequisites for tapping 3-4 billion people in the Tier 4 Market across the world. Only large firms with Global reach have the technological, managerial and financial resources to tap into 'well of innovations' and profit from the opportunity". This powerful concept is influencing organizations in many parts of the world, including in India, to tap new markets by developing appropriate products and services.

A trend evident in literature on CSR would suggest a move away from the traditional view that Business exists for profit alone to an adoption of a broader approach supporting community-based and society-based causes on one hand, to recognition that appropriate environmental conditions are a pre-requisite for economic growth, on the other. Focus upon the community and the society where the business entity is operating, and adoption of the 'Green' mantra, seem likely to provide the opportunity to the organization to move beyond the traditionally-defined CSR and align its business interests with wider social and environmental causes. Financial success of organizations often has a direct linkage to growth, which drives organizations to compete globally for resources and markets, and success of the organization's society-related and environment-related deployment in the set of markets it already is operating in facilitates its successful entry into and operations in new markets. As emerging markets develop, Multinational Corporations (MNCs) are expected to go beyond being providers of capital and technology, and as integral parts of society with much greater responsibilities stemming from their MNC roles, as identified in their study of MNCs in China by Chen, Newbury and Park (2009).

Organizational responsibility towards Community and Society

As mentioned earlier, a trend is visible moving away from the traditional view that Business exists for profit alone to views recognizing that active participation of the organization in supporting Community-based and Society-based causes are a pre-requisite for economic growth.

While Abratt and Sacks (1988) recognize that business can be profitable and socially responsible at the same time, by focussing the marketing activity on society rather than on the individual customer, Berry (2007) has suggested that in effectively generous firms, the relationship between social and financial performance is mutually reinforcing, creating a virtuous circle benefiting the firm and its employees, customers and the community.

Poole (2009) has arrived at the conclusion that Companies recognised as role models over time by their peers, seem to exhibit not only Vision, but also stand for something beyond mere profits. Burns and Schapper (2008) have built a case for the reinforcement of affirmative action, which provides a group of people with an opportunity to cut away from an inheritance that has

placed them in an inequitable economic and social position. Martin (2002) has designed the conceptual framework of the 'Virtue matrix' to help organizations understand and address the drivers, demand creators, barriers and supporting forces for CSR.

In recent times, the term Corporate Social and Environment Responsibility (CSER) seems to have gained popularity. Lynes and Andrachuk (2008) have developed a model by which various external, sector-specific and internal influences for CSER are interpreted, and then shaped into action at the level of the firm. Hopkins (1997) believes that Consumers will insist that enterprises of the future must be more socially responsible, both within and outside their workplaces. He has attempted to construct a system by which Socially Responsible Enterprises (SREs) can be ranked on a composite scale.

On the role of MNCs operating in multiple geographies, Chen, Newburry and Park (2009) have conducted a study in China, which indicates that with the progression in the development framework, the importance of stakeholders and sustainability has gone up. Hence, the challenge for MNCs seems to be to redesign business models, along with their attitudes and cognitions towards emerging markets, that can help provide suitable products with good quality, sustainability and profitability combined.

Responsibility towards the Environment

The increasing role of Sustainability and the responsibility towards the environment as an organizational priority is clearly visible in the research work carried out in recent years. Responsibilities towards the environment would include conserving natural resources, waste reduction at the source, assuming responsibility for suppliers' actions, and considering the well-being of environmental systems to which the organization contributes. In the organization, effective Planning should anticipate adverse impacts from production, distribution, transportation, use, and disposal of its products (and should prevent such problems), and Effective design strategies for product, service and technology, should anticipate growing environmental concerns and responsibilities.

Porter and Van der Linde (2002) have focused upon the new paradigm of being green and competitive, and the need to use resources productively. In their view, "It is important to use resources productively, whether

those resources are natural and physical, or human and capital". Lyon and Maxwell (2008) believe that business often takes proactive steps to avert political conflict (pressures from regulation, enforcement and NGOs). This is also the dominant line of thinking in linking up CSR and the Environment, with a view that pollution reduction and cost reduction go together to create win-win opportunities. Firms may be responding to a generation of 'Green' consumers willing to pay higher prices for clean products. Hart (1995) has linked Resource-based perspectives to the natural environment by stating that the Theory of Competitive Advantage is based upon the firm's relationship to the natural environment, and is composed of 3 interconnected strategies: Pollution prevention, Product stewardship and Sustainable development. This line of thinking has been taken forward by Branco and Rodrigues (2006), who say that Resource-based perspectives are a useful starting point in analysis of CSR because they emphasize the importance of intangible resources and capabilities.

While delving on the move away from the traditional view that Business exists for profit alone to the changing views on Social Responsibility theory and practice, public policy and social responsiveness (including on ethics and values), Buchholz (1991) suggests that the environment must be protected and enhanced for economic growth to take place. Pirson and Lawrence (2010) have built the case for a new paradigm of sustainable development of business in the future, where the economic system can be reconnected to its humanistic roots.

In the "Brutland Report" from the UN World Commission on Environment and Development, sustainable development seeks to meet the needs of the present without compromising the ability for the future generation to meet their own needs. In a similar vein, the UN Global Compact has included 9 principles in the areas of human rights, labor and the environment, and advocated human rights-based approaches by Corporations.

Definition of Socially Responsible Corporation

The author's argument is that the Instrumental theories classified by Garriga and Mele (2004) do not explain in its entirety the relevance of present-day CSR, by missing out on the elements of organized efforts of the business towards betterment of the broader society and towards improved sustainability.

It may be important here to examine two important parameters - Societal well-being and benefit, and Sustainability.

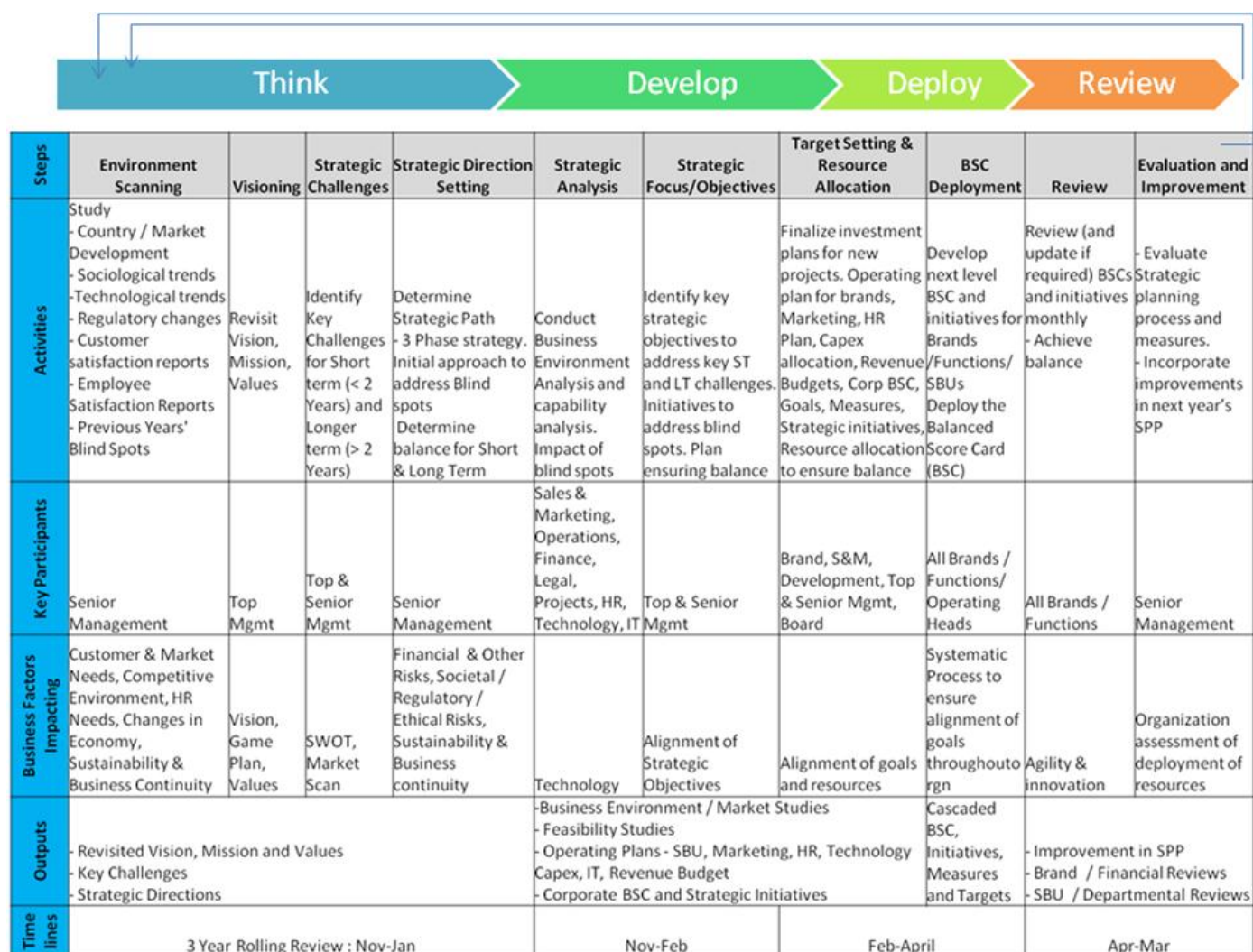
Malcolm Balridge National Quality Award criteria define Societal well-being and benefit as support by the organization (within constraints of the organization's resources) of publicly important purposes, such as performing community service (education, as an example), pursuing environmental excellence, practicing conservation of resources and improving industry practices. Malcolm Balridge National Quality Award criteria define Sustainability at a broad level as the organization's ability to address the current business, market, and operating environment, and be prepared for the future. The impact of the organization's products and operations on society and its contributions made to the well-being of environmental and social systems are part of the societal responsibilities of the organization.

In the view of author, these two parameters represent the direction in which organizations have moved forward in recent years, as is evident from the research work that was enumerated earlier. Hence, the author would like to add to the definition of CSR enumerated by Kotler and Lee, and define the "The Socially Responsible Corporation (SCR) is one exhibiting a commitment to improve societal well-being and benefit, and to sustaining the environment, through discretionary business practices and contribution of corporate resources".

Framework and Relationships between elements of an SRC

Excellent organizations display an integrated approach to organizational performance management that results in high value delivery to all stakeholders, while contributing to organizational sustainability and learning for the organization and the employee. The learning is

Figure 1: Typical Strategic Planning process (SPP) of organization operating on April-March Financial Year basis



directed not only toward high-value products and services but also towards being more efficient, adaptive and innovative, giving the organization the ability to continually deliver superior performance and sustainability.

Excellent organizations exhibit robust Strategic Planning, which implies strength in Strategy development, including identification of core competencies (areas of greatest expertise that are central to fulfilling the organizational mission or provide an advantage in the market or service environment) as a key component of strategy development and organizational sustainability, along with strength in systematic deployment of the strategy so developed.

The excellent organization is also characterized by Integration and Alignment between its strategies and day-to-day operations. Integration refers to the harmonisation of plans, processes, actions, information, results, and analyses to support key organization-wide goals. Alignment implies using the key linkages amongst different parts of the organization to ensure consistency of plans, processes, measures, and actions.

The classical and typical Strategic Planning process (SPP) of an excellent organization could be represented by Figure 1

The classical SPP is based on the analysis of factors external to the organization - Sociological, Technological, Regulatory, Economic, Geography, and internal in terms of own capabilities vis-à-vis competitive offerings and the anticipated changes in the environment. It is quite uncommon to in organizations to factor in as a part of the SPP, the parameters of Societal well-being and benefit, and Sustainability. The authors believe that SCR would exhibit one or both of organization-wide cross-cutting themes of Societal well-being and benefit, and Sustainability, in its approach to organizational performance management, strategy development and deployment, and integration and alignment within the organization.

In line with the definition of SCR enumerated earlier, the author intend to use the works by Brugmann and Prahalad (2007) and Nidomolu, Prahalad and Rangaswami (2009) to arrive at a framework to help determine the elements of a business that are connected with Social responsibility, examine the inter-relationships of these elements with reference to the outcome of Socially responsible activities. The author also attempt

to identify the criteria that will distinguish the SRC from other organizations.

Brugmann and Prahalad : Co-creating Business's New Social Compact

The salient features of the model are that Corporate executives and NGOs work together to combat poverty around the world, using innovative local businesses such as Self-Help groups (SHGs). The move from being adversaries to being partners is the realization amongst Corporations and NGOs that they need each other to achieve their respective goals: Companies require NGOs' local knowledge and community-base to set up successful enterprises, NGOs need the business discipline corporations bring to their operations. Collaboration can enhance a company's reputation and open doors to new markets, while accelerating poverty eradication by creating greater value collectively.

As companies build relationships with NGOs, it leads to the emergence of the first joint platforms for marketing and customer management, and of management professionals dedicated to working with companies on social causes and with NGOs on business endeavors. The performance of the partnership may be judged by the level of value they deliver to customers and communities: Companies and NGOs now both share the pressure to perform.

Nidomolu, Prahalad and Rangaswami : Why Sustainability Is Now the Key Driver of Innovation

The salient features of the model proposed by Nidomolu, Prahalad and Rangaswami are that Sustainability has a positive financial impact - becoming environment-friendly can lower costs and increase revenues. In the future, only companies that make sustainability a goal will achieve competitive advantage by re-thinking business models as well as products, technologies, and processes.

The five-stage process of becoming Sustainable entails Viewing Compliance as Opportunity, Making Value Chains Sustainable, Designing Sustainable Products and Services, Developing New Business Models and Creating Next-Practice Platforms. A few simple rules to become Sustainable are not to start from the present, ensuring that learning precedes investments, staying wedded to the goal while constantly adjusting tactics, building collaborative capacity and using a global presence to experiment.

Traditional approaches to business will collapse, and companies will have to develop innovative solutions. That will happen only when executives recognize a simple truth: Sustainability = Innovation.

What is clearly emerging from the models proposed by Bruggmann and Prahalad, and Nidomolu, Prahalad and Rangaswami summarized earlier, is that the manifestation of the commitment towards community and society in excellent organizations is likely in a comfortable partnership with NGOs and that towards Sustainability is through innovation in products, services, new practices and business models.

This article examines the case studies of two large Corporations - Titan India that has Community Development as the key driver to their CSR activities, and Excel Industries, that has conservation of natural resources and protection of the environment as the focus area of their CSR activities. Based upon these studies, the author attempt to draw learnings to support the construct SRC developed earlier, and to identify the elements and their inter-relationships within their businesses that are connected with Social responsibility.

Case Study 1 : Titan Industries : "Community Development is key to our CSR activities"

Background: The genesis of the Titan project is linked to the efforts of the TN Government to roping in the Tatas as the JV partner for setting up a watch-making unit in Hosur (during that period, watches were in the list barred for entry by the private sector, hence the Joint venture with a Public sector entity). The choice of Hosur as a location stemmed from the need to set up the unit in backward area (TIDCO keen on doing so to provide a fillip to industrialization in any such geography, as also for the company to get Tax benefits), which also had a proximity to Bangalore, as many of the initial technical hands came from the HMT unit based in Bangalore.

The Tata connection came from Xerxes Desai, a Tata hand of many years, and doing good for the community and the society came 'naturally'. Desai, the first MD and CEO of Titan Industries and, looks back at the period when the project was set up and says that investment in social infrastructure (township, school, training facilities, etc.) and the recruitment and training of young educated local boys and girls from nearby Hosur (against the option of recruiting and moving trained manpower), was only logical.

Thinking on CSR: While the technical team came from HMT, the decision to recruit 'local' talent (especially 80 girls for the first assembly line) came from the then Titan leadership team (Xerxes Desai, Amita, Manchanda, Hari Rao, etc.). The first team of local trainees was recruited, stipend paid for (monthly Rs. 1600 on confirmation, which was a handsome amount during the time) and they were accommodated with foster mothers and provided training.

Providing land to build a Titan township in Hosur (a sustainable community, that provides housing to 1300 residents, collaborating with NGOs, MCA and Ashraya), setting up a Trust to run a school, and providing Scholarships (through the Titan Foundation for Education) for deserving students to pursue studies was done as a matter of course. The Titan School is a primary school with 550 students. Employing the physically-challenged was encouraged right from the early stages of the project. Against a national average of 1.5%, the proportion of physically-challenged working in Titan today is about 6% (in the new unit in Dehradun, which is largely an assembly line, the figure is as high as 30%).

There have been challenges along the way. The unit as a whole was not very profitable in the early years and there were questions asked as to whether the company should continue to spend money on community welfare activities like subsidizing the township, education, etc. But, in line with the Tata ethos, it was decided not to curtail that activity. In fact, even during the difficult period of downturn in 2001-02, there never was a thought of scaling down the spends on community and societal causes

Current CSR activities: Currently, the causes seen as important by the company are Education, Health, Women's empowerment and the cause of the Physically-challenged. The COO for the Tanishq Jewellery Division, has voluntarily agreed to lead the CSR effort and a full-time Manager looks after the activities.

A major direction in the CSR activity in Corporate Office of Titan in Bangalore is to focus upon volunteering, which has already taken root in Hosur. Titan has recognized that partnership with NGOs is a way of delivering greater value than what they would be able to manage on their own. There is a systematic process of screening and identifying the right NGOs in each of the areas of interest to Titan. Thereafter, they intend to get the NGOs work with the organization, and volunteers

would be linked to the NGOs of their choice. As of now, they do not intend to specify a particular amount of time for each employee for such volunteering, but are open to doing so, going forward.

Sustainability of the activity is a key parameter in decision pertaining to the CSR activity - They wish to engage in an activity that can go forward on its own steam, with the company working as a facilitator. One way of doing so has been to move into activities that have some form of business linkage, while taking care of the community. In the Meadow Project in Hosur, they have tied-up with an NGO Myrada, and this collaborated effort with SHGs of rural women has provide gainful employment to more than 400 rural women in and around Hosur. The women work on getting sub-assemblies completed in satellite centres set up closer to their homes.

Another activity that has been integrated with the business is the setting up of Karigar Park, which is a social entrepreneurship project with 6 parks, benefiting over 400 artisans. The effort under a program called 'Mr. Perfect' has assisted entrepreneurs to set up Jewellery parks, which are spacious and ergonomic, and to position the worker as an upwardly mobile artisan. Similarly, free eye check-up camps (associated with the new eye-wear line launched by Titan), in collaboration with NGOs, have now become a regular practice in Titan.

Efforts are made to engage the employees in programs designed to fulfill our ecological and social responsibility, by various work-place initiatives such as War on Waste - an initiative that reduced the impact of manufacturing operations on the environment.

Titan Industries has received many awards and recognitions. Titan Industries has received the 'President of India's Award' for employing the disabled. Titan Industries, a signatory to the Global Compact, is a recipient of the prestigious 'Helen Keller Award' and the 'Mother Teresa Award'. The company has been ranked as one of the top companies in the 'Karmayog CSR Rating of India's Top 500 Companies' in 2007, 2008 and 2009. Other noteworthy awards for CSR include: FICCI-SEDF Award for Social Responsibility and the PHDCII Award for Good Corporate Citizenship. This would certainly rank Titan Industries among the nation's best corporate citizens.

Today, Titan Industries is a large, growing, profitable and much-admired corporation for its stylish

watch, jewellery and eye-wear products and many well admired brands. As Ram Charan (2010) says, having a societal purpose does not in any way reduce the intensity of Titan Industries to compete and win.

Case Study 2: Excel Industries: "Policy to conserve natural resources and protect the environment"

Excel Industries is an agricultural chemical company whose aim is to 'provide solutions through contributing to the photosynthesis cycle from soil health to plant health to crop productivity to nutrition'.

The founder CC Shroff established Excel in 1941 and, as their web-site says "We have believed that in every interaction we have with our clients, our individual as well as our corporate character, integrity and professionalism is under scrutiny. We have always kept the virtues of high quality, cost effectiveness, consumer need fulfillment, fair prices and fair trade practices uppermost in our minds. "

An excerpt from Excel's 50-Year mission statement shows an organization that is different from the average : 'We have a responsibility towards industry and community. Rural community is the heart of India. We will be friends and contributors to the well being of both the industrial and the rural community. Company is family. We will work and contribute, learn and grow together. This is our resolution and we resolve so. We pray to the Almighty that we be granted the strength to fulfill our mission'.

What seem rather unique about Excel Industries are strong orientations in their business operations - Respect for the Environment and a strong commitment to the community, in the way they conduct their business.

Respect for the Environment

Environment-consciousness is clearly a pillar in the edifice of Excel Industries. Well before 'green' became a buzz-word, Excel has been conducting research to minimize the effect of chemical fertilizers and has developed processes for using organic compounds and enzymes to deal with environmental problems resulting from wastes contaminating soils and waters.

KC Shroff, one of the founders of Excel, has stated some years back that 'The 21st century will see the rise of a new culture, one that is based on holistic principles, harmony and sustainable development. Only those who follow its principles will survive'. Winner of

many awards, K.C. Shroff was recognized in 1995 as 'Man of the Year' by The Week for his work on sustainable development in arid areas.

Excel scientists have developed a low-cost process using micro-organisms and some minerals in garbage heaps to initiate fermentation and remove the unpleasant odour associated with fermenting organic waste, and have projects at the municipal garbage dumping grounds to produce bio-fertilisers from garbage. When asked how his company treats the environment in the tricky business of making pesticides, G. Narayana, Executive Chairman of Excel Industries, replies: "We know that the excess use of pesticides is dangerous. We practice something called Integrated Crop Management. We recycle municipal organic waste to create a product called Celrich, which we combine with pesticides. This ensures that the land is not eroded and there's no pollution".

On their web-site, Excel Industries describe their CSR activities by saying that, as a responsible manufacturer of industrial chemicals, specialty chemicals and agricultural chemicals, they are committed to take precautions related to environment, health and safety in developing, manufacturing, storing, handling and distribution chemical products and in its business. They also say that it is their policy to provide a workplace free from accidents, injuries and exposure to hazardous chemicals; conserve natural resources and protect the environment.

Responsibility towards Community G. Narayana, referred to by people as Narayan Guruji, brings the unique characteristic of combining business with spirituality. Narayana also believes in service as an end in itself. 'Take care of people and people will take care of you' is his motto. Since all social development has to be accompanied by personal transformation, Narayana works tirelessly towards this end. Excel as a company has to embody high ethical standards in its dealings. Narayana expresses this in managerial terms: Ethics creates the Energy, which creates Excellence, which builds the Economy without disturbing the Ecology.

Many awards over the years have been the reward for this Corporate with a difference. But, for an agricultural chemical company to exhibit environment-consciousness in all aspects of its business operations, whether it be product development or process changes, and to constantly find innovative solutions to problems faced by the community (example, disposal of municipal

garbage) while being a profitable corporate entity is truly remarkable.

Conclusion :

The case studies of Titan Industries and Excel Industries exhibit how efforts of the business towards betterment of the community and towards improved sustainability had become embedded in the fabric of the organizations and is exhibited in practices and policies related to employees, community, product development and innovation. While doing so, they continue to exhibit excellence in market and financial performance.

The author believes that addition of the two parameters of organized efforts of the business towards betterment of the broader society and towards improved sustainability, represents a new way of representing CSR in organizations and is nothing short of transformational; in the words of Bruggmann and Prahalad (2007), "When companies and NGOs innovate together, the commercial nature of the relationship and their roles can vary, but the outcome is often a breakthrough". In a similar vein, Nidomolu, Prahalad and Rangaswami (2009) say the quest for sustainability is starting to transform the competitive landscape, which will force companies to change the way they think about products, technologies, processes, and business models.

References :

1. ABRATT. R. and SACKS. D. 1988. The Marketing Challenge: Towards being Profitable and Socially Responsible, *Journal of Business Ethics* 7(7): 497-507.
2. BERRY. L. 2007. The Best Companies are generous Companies, *Business Horizons* 50:263-269.
3. BRANCO. M. and RODRIGUES. L. 2006. Corporate Social Responsibility and Resource-Based Perspectives. *Journal of Business Ethics* 69(2): 111-132.
4. BRUGMANN. J. and PRAHALAD. C. 2007. Co-creating Business's New Social Compact. *Harvard Business Review*.
5. BUCHHOLZ. R. 1991. Corporate Responsibility and the Good Society: From Economics to Ecology, *Business Horizons* 19-31.
6. BURNS. P. and SCHAPPER. J. 2008. The Ethical Case for Affirmative Action, *Journal of Business Ethics* 83:369-379.
7. CHAKRABORTY. S., KURIEN. V., SINGH. J., ATHREYA. M., MAIRA. A., Aga. A., GUPTA. A.

- and KHANDWALLA. P. 2004. Management Paradigms Beyond Profit Maximization. *Vikalpa* 29(3): 97-117.
8. CHEN. D., NEWBURY. W. and PARK. S. 2009. Improving Sustainability: An international evolutionary framework, *Journal of International Management* 15 (317-327).
 9. DAHLRUD. A. 2006. How Corporate Social Responsibility is Defined: an Analysis of 37 Definitions. *Corporate Social Responsibility and Environmental Management*.
 10. FALCK. O. and HEBLICH. S. 2007. Corporate Social Responsibility: Doing Well by Doing Good. *Business Horizons* 50: 247-254.
 11. FREEMAN. R. 1994. The Politics of Stakeholder Theory: Some Future Directions. *Business Ethics Quarterly* 4(4) 409-421.
 12. FRIEDMAN. M. 1970. The Social Responsibility of Business Is to Increase Its Profits. *New York Times Magazine*.
 13. GARRIGA. E. and MELE. D. 2004. Corporate Social Responsibility Theories: Mapping the Territory. *Journal of Business Ethics* 53(1/2): 51-71.
 14. GHOSHAL S. 2005. Bad Management Theories Are Destroying Good Management Practices. *Academy of Management Learning and Education* 4(1): 75-91.
 15. HART. S. 1995. A Natural Resource-based View of the Firm. *The Academy of Management Review* 20: 986-1014.
 16. HOPKINS. M. 1997. Defining Indicators to assess Socially Responsible Enterprises, *Futures* 29(7): 581-603.
 17. HOSMER. L. 1995. Trust: The Connecting Link between Organizational Theory and Philosophical Ethics, *The Academy of Management Review* 20(2):379-403.
 18. KARAKAS. F. 2009. Spirituality and Performance in Organizations: A Literature Review, *Journal of Business Ethics*.
 19. LOCKETT. A. et al. 2006. Corporate Social Responsibility in Management Research: Focus, Nature, Salience and Sources of Influence. *Journal of Management Studies* 43:1(115-136)
 20. LYNES. J. and ANDRACHUK. M. 2008. Motivations for corporate social and environmental responsibility: A case study of Scandinavian Airlines. *Journal of International Management* 14 (377-390).
 21. LYON. T. and MAXWELL. J. 2008. Corporate Social Responsibility and the Environment: A Theoretical Perspective. *Review of Environmental Economics and Policy* 2(2): 240-260.
 22. MARTIN. R. 2002. The Virtue Matrix Calculating the Return on Corporate Responsibility. *Harvard Business Review* March 2002: 69-75.
 23. NIDUMOLU. R., PRAHALAD. C. and RANGASWAMI. M. 2009. Why Sustainability Is Now the Key Driver of Innovation. *Harvard Business Review*.
 24. PIRSON. M. and LAWRENCE. P. 2010. Humanism in Business - Towards a Paradigm Shift? *Journal of Business Ethics* 93:553-565.
 25. POOLE. E. 2009. Organizational Spirituality - A Literature Review, *Journal of Business Ethics* 84:577-588.
 26. PORTER. M. and VAN DER LINDE. C. 1995. Green and Competitive: Ending the Stalemate. *Harvard Business Review* September - October: 120-134.
 27. PORTER. M. and KRAMER. M. 2002. The Competitive Advantage of Corporate Philanthropy. *Harvard Business Review* December 2002: 1-14.
 28. PORTER. M. and KRAMER. M. 2006. Strategy and Society - The Link between Competitive Advantage and Corporate Social Responsibility. *Harvard Business Review* December 2006: 1-13.
- BOOKS:**
1. BUBNA-LITIC. D. Spirituality and Corporate Social Responsibility Interpreting Worlds.
 2. MILLER. W. and MILLER. D. 2009. Bringing Human Values to the forefront of Corporate Innovation.
 3. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, Malcolm Balridge National Quality Award
 4. WITZEL, M. 2010. TATA : The Evolution of a Corporate Brand
 5. PRUZAN P. and MILLER W.

A Study on Relationship between Financial Literacy and Investment Behaviour of Rural Area People

Ms. Manisha Surti* and Prof. (Dr.) Vinod B. Patel**

Introduction

There is a difference between investors and savers. Remarkable discussions are continuing on the importance of Financial Literacy. There has been rising interest in financial literacy in India. For the household wellbeing and economic stability financial literacy is become very crucial. In all over world various countries took a financial literacy as a main pillar to build or to make their financial system more strong. Numerous academic studies have discovered the importance of financial literacy for various aspects of household's wellbeing and economic stability (Huston, 2010). Today's financial world is highly complicated as compared to past (Thilakam, 2012). In order to understand risk and return associated with these products, a minimum level of financial literacy is a must.

According to previous research people with low levels of financial literacy face problems with issues relating to personal finance such as savings, borrowings, investments, retirement planning etc. Financially literate individuals can make effectual use of these financial products and services by evaluating associated risks and returns and finally choosing those products which are best suited to them. Thus financially literate individuals will not get cheated by sales people selling financial products not suited for them.

The OECD INFE has defined financial literacy as follows: 'A combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing.'

Thus, Financial Literacy is the ability to grow, monitor, and effectively use financial resources to enhance the well-being and economic security of oneself, one's family, and one's business.

More than 60 per cent of the people in rural areas had remained outside the purview of banking services. Financial literacy encourages people of rural areas to use the plentiful resources available to them and the opportunities that have not yet been exploited in the local market. It also aims to protect people from aggressive money lenders who may exploit the borrower's lack of financial knowledge and literacy.

The study mainly focuses on respondents' awareness level regarding various financial products, association between awareness levels and holding of various financial products and to know the association between various demographic factors with investment decision and planning skills regarding investment in various financial products.

Review of Literature:

S. Marcolin & A. Abraham (2006) done a research on "Financial Literacy Research: Current Literature and Future Opportunities". The research was conducted in Australia, the United States and the United Kingdom. The objective of the research is to determine the common factors and inconsistency in area of financial literacy. In general research shows that individuals with a higher level of education have higher level of financial literacy. Another major attempt of the research is that is to reveal the main sources of financial knowledge and they reach to the conclusion that the main sources of financial knowledge are not only schools and educational trust but other direct and indirect sources.

Matthew Martin (2007) studied various literatures with the objective to measure the effectiveness of financial education on investment behaviour and reached to the conclusion that household with low income and less education make more mistakes with personal finance decision. There is a causal relationship between increased level of financial knowledge and financial

* MBA, UGC - NET (Management & Commerce), Ph. D (Management) Pursuing Assistant Professor, B.V. Patel Institute of BMC & IT, Uka Tarsadia University

** Dean Faculty of Management, VNSGU, Professor, G. H. Bhakta Management Academy, Department of Business and Industrial Management, Veer Narmad South Gujarat University, Surat

behaviour. The benefits of financial education are appearing in various areas.

Selvatharangini.P.S (2009) The personal factors of investors influence the investment pattern and also determines investment choice. Ganapathi.R (2010) proper advertisements must be made for Post Office Savings Schemes.

Pallavi Seth, G.N. Patel and K.K. Krishnan (2010) have done a research on "Financial literacy & Investment decisions of Indian investors". The main objectives of the research were to know the level of financial literacy of the individuals residing in Delhi and National capital region, to find out relationship between financial literacy and other demographic factors like age, income and education, to know the major sources of information among the respondents while taking the investment decisions and to find out the most preferable investment avenues among the respondents. The major results of the research are, there is relationship between financial literacy and income level and there is no relationship between age and education with the financial literacy level of the respondents.

Gaurav Kabra, Prashant Kumar Mishra and Manoj Kumar Dash (2010), in their research, "Factors Influencing Investment Decision of Generations in India: An Econometric Study" they find out the key factors which influence the investor's behaviour. They reach to the conclusion that people may be equal in all the aspects like age, occupation, income etc. but their needs related to financial decisions or related to financial planning may vary from individual to individual. The main focus of the study is on to find out the factors that affects individual investment decisions, to measure the difference in the perception of different age people regarding investment decision and to measure the difference in the perception of different gender group regarding investment decision. At the end they reach to the conclusion that compare to the women, males are more risk takers and they are more willing to get knowledge about different types of investment avenues available in the market.

Sanjay Kantidas (2011) done research on "An Empirical Analysis on Preferred Investment Avenues among Rural and Semi-Urban Households" and reveals that rural investors found them safer with taking up the insurance policies. Another result is that most of the respondents show their intense interest towards the insurance to get the advantages of tax deduction, life

protection etc. Another conclusion is people with the high income invested their money in share market and people with the lower income preferred insurance and banks as an investment option.

Research done by Amu Manasseh Edison Komla and published in International Journal of Applied sociology (2012) on "Demographic Influences on Rural Households' Saving and Investment: A Study of Rural Households in the Ho Municipality of Ghana" Research suggests that the age distribution of the population, income level of the families, is a major determinant of the savings and investments behavior of the families in rural area. In general, various demographic factors wield some influence on saving and investment level of rural area households in variety of ways.

Puneet Bhushan and Yajulu Medury (2013) undertook a study on "Financial Literacy and its Determinants" with the objective to determine the level of financial literacy among salaried individuals and to know what is the relationship between financial literacy and various demographic and socio economic factors. Study suggests that level of financial literacy among the respondents is not satisfactory. Further study concludes that education and income level has a positive relationship with financial literacy. Employees who are working in non government jobs are more financially literate compare to employees working in government jobs. (rp 52)

A study "Existing Gap between the Financial Literacy and Saving/Investment Behaviour among Indian Women: An Empirical Study with Special References to Coimbatore City" done By Dr. R. Mathivanan And K. Mohanaranjani (2013) in Coimbatore city of India. Study suggest that respondents have high degree of financial literacy about traditional saving/investment avenues, but they have actively shifted their saving/investment avenues from traditional bank saving avenues to modern technically risky capital market operations like: investing in mutual funds, shares, debentures and bonds of public and private companies. Further it is derived that the women restricted their investments in gold/silver, rather they have focused to investment in real states, virtual real estates and arts and passions. From the study it can be seen the positive sign of growth, liberalisation and activities participation of women in household and national savings/investments.

Puneet Bhushan (2014) conducted a study in Himachal Pradesh on "Relationship between Financial Literacy and Investment Behavior of Salaried Individuals"

with the objectives to examine the relationship between financial literacy of salaried individuals and their awareness regarding financial products and to measure the relationship between financial literacy and investment behaviour of salaried individuals. He reached to the conclusion that respondents with high financial literacy have higher awareness about all financial products except post office saving on the other hand respondents with low financial literacy prefer to invest in traditional and safe financial products and ignore to invest in financial products which are comparatively more risky. Thus it can be concluded that financial literacy level affects awareness and investment preferences towards various financial products.

Bhabha J., Khan S., Qureshi Q., Naeem A. And Khan I. (2014) had done a study on "Impact of Financial Literacy on Saving-Investment Behavior of Working Women in the Developing Countries" with the aim to assess the financial literacy and its impact on saving-investment behavior of working women in Pakistan. Researchers have drawn the results that female workers possess less/no financial literacy in comparison with the male counterparts. Study suggests that one of the big hurdles in developing countries like Pakistan is that women treated personal finance as man's area. The primary reason for this is man has been treated as main bread - winner of the family and he is responsible for taking all money related decision. Further it is concluded that people of Pakistan are financially illiterate, only one third of the population are aware about various financial services and products. The working women though possess better understanding about basic financial concepts but they lack knowledge about advanced financial concepts. It is also concluded that saving-investment behavior of working women in Pakistan heavily depends on the financial literacy.

Objectives:

- To measure the awareness regarding various financial products of rural area people.
- To know the association between awareness level regarding various financial products and holding of various financial products.
- To find out the relationship between demographic factors and planning skills regarding investment.
- To assess the holding of various financial products according to their level of financial literacy.

Research Methodology:

Bardoli and Mahuva two Tehsil were taken for the study purpose. For the data collection non probability sampling method in that convenient sampling technique is chosen. Primary data were collected through the structured questionnaire. 382 questionnaires were used for the study purpose. SPSS software is used to analyse the data. Hypothesis has been tested using Chi-square test.

Result and Discussion:

Awareness about Various Financial Products:

Study suggests that respondents are highly aware about saving account, ATM card, life insurance, two wheeler loan, fixed deposit, debit card and health insurance. On the other hand people are least aware about consumer durable loans, microfinance loan, derivatives, commodities, currency, bonds, senior citizens saving scheme and postal life insurance.

Table: 1

		Frequency	Percentage
Gender	Male	257	67.3
	Female	125	32.7
Age	18-25	81	21.2
	26-35	118	30.9
	36-45	96	25.1
	46-55	59	15.4
	56-65	20	5.2
	> 65	8	2.1
Education	< SSC	29	7.6
	SSC	71	18.6
	HSC	117	30.6
	Graduate	120	31.4
	Post Graduate	36	9.4
	No Forman Education	5	1.3
	Other	4	1.0
Caste	Open	153	40.1
	SC	52	13.6
	ST	128	33.5
	OBC	49	12.8
Marital Status	Single	72	18.8
	Married	294	77.0
	Widow/ widower	13	3.4
	Divorcee	3	0.8
Occupation	Daily wager	19	5.0
	Salaried person	143	37.4
	Self employed	59	15.4
	Farmer	75	19.6
	Professional	17	4.5
	Retired	11	2.9
	Housewife	42	11.0
	Student	16	4.2

Income	Less than 2, 00,000	186	48.7
	2, 00,001 ó 4, 00,000	157	41.1
	4, 00,001 ó 6, 00,000	30	7.9
	More than 6, 00,000	9	2.4
Family Members	1	1	0.3
	2	13	3.4
	3	47	12.3
	4	121	31.7
	5	109	28.5
	6	52	13.6
	7	16	4.2
	8	12	3.1
	9	6	1.6
	10	4	1.0
	12	1	0.3
Total earning members in Family	1	147	38.5
	2	174	45.5
	3	48	12.6
	4	9	2.4
	5	1	0.3
	6	2	0.5
	7	1	0.3

Table: 2 Association between awareness level about various financial products and holding of various financial products.

Financial Products	Pearson Chi-Square		
	χ^2	Df	p-value
Bank Account and Deposit			
Current Account	38.179	5	.000
Savings Account	33.740	5	.000
Public Provident Fund Account	65.340	5	.000
Fixed Deposit	87.498	5	.000
Loans and Mortgage			
Personal Loan	77.690	5	.000
Home Loan	43.277	5	.000
Business loan	19.698	5	.001
Consumer Durable loan	46.001	5	.000
Car Loan	96.501	5	.000
Two wheeler loan	84.947	5	.000
Tractor Loan	56.493	5	.000
Any other agricultural machinery loan	49.713	5	.000
Gold loan	39.381	5	.000
Education loan	44.779	5	.000
Microfinance Loan	1.050	5	.000
Card			
Credit Card	95.722	5	.000
Debit Card	91.984	5	.000
ATM Card	88.360	5	.000
Insurance (Any Type)			
Life Insurance	43.468	5	.000
Health Insurance	86.064	5	.000
Motor Insurance	1.164	5	.000
Two wheeler Insurance	1.291	5	.000
Agriculture Insurance	56.855	5	.000
Home Insurance	86.996	5	.000
Demate Trading			
Stocks And Shares	93.343	5	.000
Derivatives	1.777	5	.000
Commodities	1.727	5	.000
Currency	2.287	5	.000
Investment			
Mutual Fund (Any type)	76.212	5	.000
Gold/ Silver	1.021	5	.000
Bonds	1.045	5	.000
Debentures	81.881	5	.000
Real Estate	1.650	5	.000
Postal Financial Services			
Savings Bank account (SB)	1.238	5	.000
Recurring Deposit account (RD)	1.326	5	.000
Monthly Income Scheme (MIS)	1.050	5	.000
Public Provident Fund (PPF)	1.194	5	.000
Senior Citizens Savings Scheme (SCSS)	48.372	5	.000
Kisan Vikas Patra	1.048	5	.000
National savings certificates (NSC)	1.046	5	.000
Postal Life Insurance (PLI)	1.173	5	.000

From the above table it is interpret that in all the cases there is an association between awareness level regarding various financial products and holding of financial products. So it can be said that high awareness level leads towards high level of holding of various financial products and low level of awareness results in to not holding various financial products.

Demographic variables and planning skills regarding investment.

HO: There is no relationship between demographic variables and planning skills regarding investment.

Table: 3

Demographic Factor	Planning before Investing in Financial Products				Pearson Square Chi-		
	Never Plan	Plan but not able to follow	Plan and follow	Total	χ^2	Df	p-value
Gender							
Male	50	82	112	244	1.857	2	.395
Female	31	40	47	118			
Age							
18 ó 25	23	22	34	79	14.018	10	.172
26 ó 35	29	31	49	109			
36 ó 45	14	34	42	90			
46 ó 55	9	26	21	56			
56 ó 65	6	6	8	20			
Above 65	0	3	5	8			
Education							
< SSC	15	6	7	28	39.834	12	.000
SSC	16	20	26	62			
HSC	22	47	43	112			
Graduate	22	35	59	116			
Post Graduate	4	9	22	35			
No Forman Education	0	5	0	5			
Other	2	0	2	4			
Category							
Open	32	53	59	144	2.951	6	.815
SC	9	17	26	52			
ST	27	39	54	120			
OBC	13	13	20	46			

Marital Status							
Single	18	23	28	69	6.296	6	.391
Married	60	93	124	277			
Widow/ widower	1	6	6	13			
Divorcee	2	0	1	3			
Occupation							
Daily wager	12	5	2	19	46.388	14	.000
Salaried person	17	47	69	133			
Self employed	15	17	25	57			
Farmer	12	32	30	74			
Professional	3	6	6	15			
Retired	2	1	8	11			
Housewife	14	13	11	38			
Student	6	1	8	15			
Income							
Less than 2, 00,000	43	57	72	172	5.423	6	.491
2, 00,001 ó 4, 00,000	34	52	65	151			
4, 00,001 ó 6, 00,000	3	11	16	30			
More than 6, 00,000	1	2	6	9			

Family Members							
1	1	0	0	1	22.578	20	.310
2	1	5	5	11			
3	8	15	22	45			
4	20	41	56	117			
5	30	31	42	103			
6	12	16	20	48			
7	6	8	2	16			
8	2	4	4	10			
9	0	2	4	6			
10	1	0	3	4			
12	0	0	1	1			
Total earning members in Family							
1	34	53	51	138	13.706	12	.320
2	37	52	76	165			
3	8	14	24	46			
4	1	1	7	9			
5	0	1	0	1			
6	1	1	0	2			
7	0	0	1	1			

From the above table it is interpreted that null hypothesis is accepted in case of gender, age, caste, marital status, income, family members and total earning members in family. It means that demographic variables (gender, age, caste, marital status, income, family members and total earning members in family) and planning before investing in financial products are separated from each other.

On the other hand null hypothesis is rejected in case of education and occupation. Further it is suggested that whether respondents plan before investing in financial products or not has a significant relationship with their education and occupation.

Table: 4 Holding of financial products according to High and Low Financial Literacy Group

Financial Products	High Financial Literacy Group	Holding of Financial Product	Low Financial Literacy Group	Holding of Financial Product
Bank Account and Deposit				
Current Account	136	37	246	02
Savings Account	274	250	108	86
Public Provident Fund Account	190	55	192	06
Fixed Deposit	197	139	185	57
Loans and Mortgage				
Personal Loan	229	66	153	04
Home Loan	234	47	148	01
Business loan	217	18	165	00
Consumer Durable loan	133	13	249	00
Car Loan	242	66	140	02
Two wheeler loan	184	95	198	30
Tractor Loan	172	24	210	01
Any other agricultural machinery loan	205	32	177	00
Gold loan	172	30	210	03
Education loan	184	11	198	01
Microfinance Loan	112	05	270	00
Card				
Credit Card	233	89	149	04
Debit Card	198	150	184	88
ATM Card	279	248	103	63
Insurance (Any Type)				
Life Insurance	213	167	169	98
Health Insurance	164	111	218	58
Motor Insurance	202	89	180	10
Two wheeler Insurance	258	163	124	17
Agriculture Insurance	148	15	234	00
Home Insurance	168	16	214	01
Demate Trading				
Stocks And Shares	156	40	226	01
Derivatives	62	5	320	00
Commodities	55	8	327	00
Currency	65	8	317	00
Investment				
Mutual Fund (Any type)	160	33	222	01
Gold/ Silver	211	96	171	20
Bonds	76	13	306	00
Debentures	80	11	302	00
Real Estate	156	36	226	01

Postal Financial Services				
Savings Bank account (SB)	246	138	136	15
Recurring Deposit account (RD)	173	89	209	11
Monthly Income Scheme (MIS)	138	40	244	00
Public Provident Fund (PPF)	141	34	241	00
Senior Citizens Savings Scheme (SCSS)	107	05	275	00
Kisan Vikas Patra	167	45	215	01
National savings certificates (NSC)	126	27	256	00
Postal Life Insurance (PLI)	126	29	256	00

In order to study how financial literacy level of respondent affects their investment behaviour, respondents were categorized into two groups namely "High Financial Literacy Group" and "Low Financial Literacy Group". The respondents whose awareness level was greater than median were put in "High Financial Literacy Group" and those respondents whose awareness level was equal to or less than median were put in "Low Financial Literacy Group". Above table show the investment preference of high and low financial literacy groups for various financial products. Results show that respondents in high financial literacy group holding more financial products and respondents in low financial literacy group show the preference towards traditional financial products like saving account, life insurance etc.

Conclusion:

From the study it is conclude that respondents are least aware about modern financial products like consumer durable loans, microfinance loan, derivatives, commodities, currency, bonds etc. There is an association between awareness level regarding various financial products and holding of various financial products. High awareness level leads towards the high level of holding of various financial products. Variables like education and occupation have an association with respondents' planning skill.

References:

Books:

- 1) Pandian. P (2010) Security Analysis and Portfolio Management, Vikas Publishing House, India
- 2) Research Methodology: Methods and Techniques, New Age Publications (Academic), India (2009)

- 3) Cooper,D., & Schindler,P.(2007) Business research methods, Ninth edition, The McGraw-Hill Companies, New delhi

Research paper:

- 1) S. Marcolin and A. Abraham (2006) "Financial Literacy Research: Current Literature and Future Opportunities", In P. Basu, G. O'Neill & A. Travaglione (Eds.)
- 2) Matthew Martin (2007), "A literature review on the effectiveness of Financial Education", Federal Reserve Bank of Richmond Working Paper No. 07-03, June 15, 2007
- 3) Pallavi Seth, G.N. Patel and K.K. Krishnan (2010), "Financial Literacy & Investment Decisions of Indian Investors"
- 4) Gaurav Kabra, Prashant Kumar Mishra and Manoj Kumar Dash (2010), "Factors Influencing Investment Decision of Generations in India: An Econometric Study", Asian Journal Of Management Research
- 5) Sanjay Kantidas (2011), "An Empirical Analysis on Preferred Investment Avenues Among Rural and Semi-Urban Households", Journal of Forntline Research, Vol. 01 (2011) : 26-36
- 6) Amu Manasseh Edison Komla(2012) "Demographic Influences on Rural Households' Saving and Investment: A Study of Rural Households in the Ho Municipality of Ghana", International Journal of Applied Sociology 2012, 2(4): 41-46

- 7) P. Bhushan and Y. Medury (2013)," Financial Literacy and its Determinants", International Journal of Engineering, Business and Enterprise Applications, March-May, 2013, pp. 155-160
- 8) Dr. R. Mathivanan and K. Mohanaranjani (2013), "Existing Gap between The Financial Literacy and Saving/Investment Behaviour among Indian Women: An Empirical Study with Special References to Coimbatore City", International Journal of Research in Commerce, Economics & Management, VOLUME NO. 3 (2013), ISSUE NO. 04 (APRIL), ISSN 2231-4245
- 9) Dhimen Jani and Dr. Rajeev Jain (2013) A Comparative Analysis of Investors Buying Behavior of Urban Rural for Financial Assets Specifically Focused on Mutual Fund, International Monthly Refereed Journal of Research In Management & Technology
- 10) Bhushan P. (2014), "Relationship between Financial Literacy and Investment Behavior of Salaried Individuals", Journal of Business Management & Social Sciences Research, ISSN No: 2319-5614, Volume 3, No.5, pp 82-87
- 11) Bhabha J., Khan S., Qureshi Q., Naeem A. and Khan I. (2014)," Impact of Financial Literacy on Saving-Investment Behavior of Working Women in the Developing Countries", Research Journal of Finance and Accounting, ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online), Vol.5, No.13 , PP 118-122

Websites:

- <http://www.differencebetween.com/difference-between-rural-and-urban/#ixzz2I3HXvvg1>
- <http://www.census2011.co.in/census/state/gujarat.html>
- http://en.wikipedia.org/wiki/Rural_area
- http://censusindia.gov.in/Data_Products/Library/Indian_perceptive_link/Census_Terms_link/census_terms.html?q=rural+area&drpQuick=&drpQuickSelect=
- <http://www.census2011.co.in/census/district/206-surat.html>

Attitude towards Mobile Advertising of Rural Youngsters of Anand District: An Empirical Study

Dr. Hitesh Vyas* Brijesh Patel ** and Kirit Chavda***

Abstract

Mobile is inevitable device for the modern commercial generation as it has some unique features like attractiveness, accessibility, credibility, entertainment, fun, game etc... It is the only device for mass advertisement at the cheapest and convenient rate. Although advertisement made through mobile generates different perceptions according to different age group, lifestyle, culture, etc. Building up of attitudes towards mobile advertisement especially in rural areas is very different and complex one. The present paper reflects the attitudes of youngsters among mobile advertisement in the rural areas of Anand district. On the other side it is also true that mobile as a medium of advertisement create negative attitudes and perceptions according to the education and geographical, cultural diversity of the human being.

Introduction

Mobile advertising is a rapidly growing sector providing brands, agencies and marketers the opportunity to connect with consumers beyond traditional and digital media directly on their mobile phones. This document is an overview on the mobile media channels available to advertisers today, including the benefits offered by each, and considerations to use in selecting and optimizing mobile advertising campaigns.

Today, mobile phones can be utilized for much more than just making and receiving calls. Besides voice services, mobile users have access to data services such Short Message Service (SMS), also known as text messaging, picture messaging and content downloads and the Mobile phone is an extremely personal device. One mobile phone typically has one unique user. This makes the mobile phone a precisely targeted communication channel, where users are highly engaged with content. As a result, the mobile channel delivers excellent campaign effectiveness and response levels compared to other media.

Understanding the mindset of potential customers, including their hopes, fears, aspirations and apprehension conducting a qualitative study among the target audience would help in better understanding of the consumer mindset. Pick up 'gems' in the form of idioms, expressions, words, etc. in relation to the product category for later use in the creative. ricky, clever, gimmicky, or even suggestive advertising does not work with rural audiences. 'Flicks' using very expensive

computer graphics without any human presence go over the heads of rural audiences. Combining education with entertainment is a good route to take when targeting rural audiences. Using locally popular film stars or even featuring religious events (melas) popular in the region, helps strike a chord with rural audiences.

History of Mobile Advertisements

Mobile advertising was introduced in the late 1990s when a Finnish news network began to send advertising sponsored headlines to people over SMS. Back then there was very little possible in terms of targeting and ad creatives, so a "blanket or carpet bombing approach" with nothing but text was the result. Also, carriers were almighty (even more than today) because they formed the only gateway to mobile phones. Through the early 2000s mobile phones and its ecosystem improved drastically (mobile internet, color screens, touch screens, etc.) but mobile advertising wasn't catching up. After Admob and Millennial Media were founded in 2006 things became a little better for advertisers' mobile aspirations. Although still mostly relying on carpet bombing advertising, the possibilities of ad creatives expanded greatly with mobile banner ads. Especially when the mobile operating systems advanced with iOS and Android things started to take off.

In 2007 the first mobile ad exchanges started to pop up which formed a marketplace where app publishers could easily sell their ad inventory, supported by advertising technology platforms such as AppNexus. SSPs (Supply Side Platforms) appeared that would cater

* Associate Professor & Head, M.J.College of Commerce ,Maharja Krishnakumarsimhji Bhavnagar University, Bhavnagar , Bhavnagar.

** Research Scholar, G. H. Patel PG Institute of Business Management, Sardar Patel University, Vallabh Vidyanagar.

*** Research Scholar, M.J.College of Commerce ,Maharja Krishnakumarsimhji Bhavnagar University, Bhavnagar , Bhavnagar.

specifically to mobile publishers with tools and services to optimize their yield. Conversely, DSPs (Demand Side Platforms) did the same for advertisers. Since then the ecosystem has grown tremendously in size and complexity because ad exchanges, SSPs, DSPs and data providers and management platforms (DMPs) started to adopt different functions and activities from each other which makes them almost impossible to distinguish. However, even with all this specialization in serving both app publishers and advertisers, the amount of money advertisers spent on mobile in no way reflected the amount of time people spent on their mobile devices. Mobile advertising was (and still is) simply less effective than other ads because they lack the behavioural and contextual targeting options cookies offer in normal desktop advertising. Also, there is a lack of transparency which makes fraud a big problem and advertisers guessing whether their ads are actually viewed by people. On top of that many different screen sizes and slow internet connections form another technical barrier. And perhaps the biggest factor, many ad creatives interfere with the UX and are therefore hated by consumers. However, the ecosystem today is becoming more and more sophisticated in order to tackle these problems and unleash the true potential of mobile advertising.

Review of Literature

Melody M. Tsang et al. (2004) studied on consumer attitudes towards mobile advertising. The study indicated that consumers generally have negative attitudes towards mobile advertising unless they have specifically consented to it and there is a direct relationship between consumer attitudes and consumer behaviour.

Tripti Dhote, Yatin Jog, Nutan Gavade and Gesu Shrivastava (2015) study indicated that there is a high degree of awareness with reference to digital medium among the target group studied and the medium is in consideration set of the target consumer, with a reasonable influence even while taking crucial decisions like admissions for higher education. However relevance of the content, convenience and the credibility aspects play a pivotal role in decision making. Convenience can also be enhanced by lending a better browsing experience to the consumer online as well as providing him alternate offline support. Reseachers concluded that digital media certainly plays an important role in decision making for students in particular and if the 3 major attributes are

taken care of it can lead to a better word of mouth and enhanced Brand building.

Patel Yatin B. and Pandya Aniket R. (2013) study showed that some variables have positive effect like; informativeness, entertainment, credibility, perceived usefulness, and personalization. There is no positive correlation found between perceived ease-of-use and consumer attitude & perception of mobile marketing among youngsters on the contrary it have been studied from the study that Customers are now like to know full details before the buying the product and by the mobile marketing the detail of the product cannot be known so people give less preference to mobile marketing.

Kirsten Evelien Kamphuis, Manishka Chaya Ramnarain (2012) studied that the results of this the Dutch youth mainly sees the originality, interactivity and entertainment levels of mobile advertising as positive in comparison to traditional forms of advertising. Furthermore, message content was shown to be an important factor in order for the consumer to perceive the advertising as positive. The main aggravating attributes that come with mobile advertising are the perceived risks, like receiving too many advertising messages. Furthermore they found that the more positive the attitude toward advertising in general is, and the more the consumer likes searching for product information, the more positive the attitude toward mobile advertising will be. The main purpose of this research was to find out what the attitudes of the Dutch youth are toward mobile advertising.

Rudaina Othman Yousif (2012) study concluded that Mobile marketing or so-called mobile commerce has the ability to change the model of retail sales through direct sales to consumers without the need for going to the retailer, in addition to influencing their purchasing motives.

According to the report of World Advertising Centre (2007) the study showed that there are significant difference between countries in terms of culture and digital market. Spain presents lower social network usage; France has a blogging culture; youngsters are more skilled in Germany than elsewhere. Young people use e ID for different purposes. There are risk in terms of mobile advertising have been studied among the young age groups. The study indicated the centrality of mobile phones in the lifestyles of young people; they are woven into the fabric of their daily lives, in and beyond the home. Clearly there is much scope for further research in this

area, not least in tracking the evolution of young people's relationships with MMC over time. Other consumer groups may have very different experiences with and expectations of mobile phones, however, and these also merit research attention.

Research Methodology:

Objective of the Research Study:

To analyse the attitude of rural youngsters of Anand district towards mobile advertising Nature of the Research Study: This study is a Descriptive research.

Sampling Design:

Area of the Research Study: Rural areas covering 4 villages of Anand district with equal sample size of 20 respondents from each village.

Target Respondent: rural youngsters who use mobile phones.

Sampling Technique: Non-probability sampling technique

Sampling Method: Convenience sampling method

Sampling Size: 80 respondents

Data Collection Method: Survey method

Research Instrument: Structured questionnaire

Statistical Test Applied: Descriptive Statistics (Frequency and Percentage), Reliability Statistics (Cronbach's Alpha), Correlation Analysis and Multiple Regression Analysis through SPSS version 17.

Hypotheses Testing:

1. H_01 : There is no correlation between attributes of mobile advertising and Entertainment & Excitement, Informativeness, Irritation, Credibility and youngster attitudes.

H_A1 : There is a correlation between attributes of mobile advertising and Entertainment & Excitement, Informativeness, Irritation, Credibility and youngster attitudes.

2. H_02 : The youngster's attitude on mobile advertising does not relate with Entertainment & Excitement, Informativeness, Irritation and Credibility in rural areas.

H_A2 : The youngster's attitude on mobile advertising relate with Entertainment & Excitement, Informativeness, Irritation and Credibility in rural areas.

Data Analysis

It can be observed from the table no. 1 that a significant proportion of respondents ($n = 20$, 25 percent) were equally divided in four villages namely Ghora, Julandh, Pandoli and Vatadara. Maximum respondents were females ($n = 48$, 60.00 per cent), it is also observed that most of the respondents ($n = 32$, 40.00 per cent) were found between age group of 20 - 21. Maximum respondents were unmarried ($n = 73$, 91.30 per cent) and majority's family annual income ($n = 51$, 63.80 percent) was less than 1,00,000. Majority of the respondents ($n = 77$, 96.30 per cent) were students and qualification of the respondents ($n = 34$, 42.50 per cent) hold degree up to graduation.

Table No.: 1 Demographic Profile of Respondents

Demographic Variable	Category	Statistics	
		Frequency	Percentage
Place	Ghora	20	25.0
	Julundh	20	25.0
	Pandoli	20	25.0
	Vatadara	20	25.0
Gender	Male	32	40.0
	Female	48	60.0
Age	18-19	20	25.0
	20-21	32	40.0
	22-23	20	25.0
	24 & above	8	10.0
Marital Status	Married	7	8.8
	Unmarried	73	91.3
Profession	Govt. Services	1	1.3
	Retired	1	1.3
	Students	77	96.3
	Farmers	1	1.3
Family Annual Income	Less than 1,00,000	51	63.8
	1,00,001 to 3,00,000	17	21.3
	3,00,001 to 5,00,000	5	6.3
	5,00,000 to 10,00,000	3	3.8
	Above 10,00,000	4	5.0
Education Qualification	Post-Graduation	21	26.3
	Graduation	34	42.5
	H.S.C/S.S.C	25	31.3

Table no. 2 indicates the behaviour at timing of the reading of message in his or her mobile and table no. 3 shows about the part of reading of the message whereas table no. 4 reflects frequency of receiving messages from mobile.

Table No.: 2 Timing of Message Reading

	Ignore it completely	Read it occasionally	Read it when I get time	Read it after accumulating too many of the m	Read it right away
Yes	32	53	56	23	46
No	48	27	24	57	34

Table No.: 3 Reading of Mobile Advertising

	Not at all	Read about a quarter of a message	Read about half of a message	Read about three-quarters of a message	Read the whole message
Yes	33	39	37	37	46
No	47	41	43	43	34

Table No.: 4 Frequency of Receiving Mobile Advertisements

	less than one message a day	Two messages a day	Three messages a day	over four messages a day
Yes	45	26	22	32
No	35	54	58	48

Table No.: 5 Descriptive Statistics

	N	Mean	Std. Deviation
Entertainment & Excitement	80	3.4250	.54340
Informativeness	80	3.6275	.61438
Irritation	80	3.4125	.85888
Credibility	80	3.4250	.72085
Attitude	80	3.4839	.74922

Four independent variables used to measure attitudes on mobile advertising in rural areas, namely Entertainment & Excitement, Informativeness, Irritation and Credibility. The measurement scale ranged from "strongly disagreed" (rating of 1) to "strongly agree" (rating of "5"). It can be observed from the table no. 5 that informativeness has highest mean of 3.62 whereas

irritation has lowest mean of 3.41. Therefore, on average, respondents give highest rate to informativeness with attitudes on mobile advertising while lowest rate to irritation with attitudes on mobile advertising.

Table No.: 6 Summary of the Reliability Test

Construct	Cronbach's Alpha	Number of Items
Entertainment & Excitement	.449	6
Informativeness	.673	5
Irritation	.657	3
Credibility	.702	6
Attitude	.467	7

This test is applied to examine reliability of all 27 items used to measure the five constructs. Referring to the above table reliability test, credibility had the highest level of Cronbach's Alpha which is 0.702 (number of items measure are 6). Second highest is informativeness which is 0.673 (number of items measure are 5), followed by irritation which is 0.657 (number of items measure are 3). The lowest of Cronbach's Alpha value is entertainment & excitement which is 0.449 (number of items measure are 6). Besides that, attitude which is the dependent variable had the Cronbach's Alpha of 0.497 (number of items measure are 7). In summary, the reliability analysis for the three constructs indicates high level of internal

consistency for the scale due, where the reliability statistics is more than 0.50.

Correlation Analysis

H₀1: There is no correlation between attributes of mobile advertising and Entertainment & Excitement, Informativeness, Irritation, Credibility and youngster attitudes.

H_A1: There is a correlation between attributes of mobile advertising and Entertainment & Excitement, Informativeness, Irritation, Credibility and youngster attitudes.

Table No.: 7 Spearman's Correlation Coefficient (rho)

		Entertainment & Excitement	Informativeness	Irritation	Credibility	Attitudes
Attributes	Correlation Coefficient	.345**	.376**	.160	.266*	.302**
	Sig. (2-tailed)	.002	.001	.156	.017	.006
	N	80	80	80	80	80
*. Correlation is significant at the 0.05 level (2-tailed).						
**. Correlation is significant at the 0.01 level (2-tailed).						

It can be observed from above table that the attributes of mobile advertising have positive moderate Spearman's correlation coefficient with Entertainment & Excitement ($r = 0.345$), With Informativeness ($r = 0.376$), with Credibility ($r = 0.266$) and with youngsters attitudes ($r = 0.302$) while Irritation has less significantly

spearman's correlation coefficient (rho) on attributes of mobile advertising.

Multiple Regression Analysis

The model summary table reports the strength of the relationship between the model and the dependent variable. R indicates correlation between the observed and predicted value of the dependent variable. Larger

value of R indicates stronger relationship and also indicates that model fit the data well. R square is the proportion of variation in the dependent variable explained by regression model. Higher value of R Square (more than 0.700) indicates that model having good predictive ability.

Table No.: 9 Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.659 ^a	.434	.404	.36986
a. Predictors: (Constant), Credibility, Irritation, Informativeness, Entertainment & Excitement				

The result of regression analysis based on four independent variables (i.e. Credibility, Irritation, Informativeness, Entertainment & Excitement) indicate positive relationship ($R = 0.659$) and statistically significant

relationship ($P 0.000 < 0.05$) with dependent variable (i.e. Attitudes of mobile advertising). The independent variables accounted for 43.40 percent ($R^2 = 0.434$) of variance in dependent variable above table.

Table No.: 10 ANOVA ^b					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	7.883	4	1.971	14.406	.000 ^a
Residual	10.260	75	.137		
Total	18.143	79			
a. Predictors: (Constant), Credibility, Irritation, Informativeness, Entertainment & Excitement					
b. Dependent Variable: Attitude					

The ANOVA Table tests the acceptability of the model from a statistical perspective. The regression row displays information about the variation accounted for by the model. The residual row displays information about the variation that is not accounted for by the model. The regression and residual sum of squares is not equal which indicates that about approximately 43.40 percent of the variation in predictors is explained by the model. The significance value of the F-statistic is less than 0.05, which means that the variation explained by the model is not due to chance.

H₀₃: The youngster attitudes on mobile advertising does not relate with Entertainment & Excitement, Informativeness, Irritation and Credibility in rural areas.

H_{A3}: The youngster attitudes on mobile advertising relate with Entertainment & Excitement, Informativeness, Irritation and Credibility in rural areas.

Table No.: 11 Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.451	.339		4.276	.000
Entertainment & Excitement	.179	.087	.203	2.060	.043
Informativeness	.238	.076	.306	3.124	.003
Irritation	-.085	.050	-.152	-1.716	.090
Credibility	.247	.064	.371	3.867	.000
a. Dependent Variable: Attitude					

It can be revealed that from above table, Entertainment & Excitement, Informativeness and Credibility or independent variables have been significant at 5 per cent level weather Irritation variable is not relate with attitudes on mobile advertising.

From hypothesis testing, the result indicted that the youngster attitudes on mobile advertising related entertainment & excitement, informativeness and credibility, p value less than 0.05. Therefore, these three factors are significantly related youngster attitudes on mobile advertising in rural areas. It can be said that mobile advertising are popular media for providing information, entertainment and rely on purchasing for youngster in rural areas whereas, Irritation is more than 0.05. Hence, the youngster attitudes on mobile advertising does not relate with irritation in rural areas.

Conclusion

The present study focuses on the attitudes of rural youngster towards mobile advertising. The study reveals that the major of students are a near school passed. The Study found that attributes of mobile advertising were positively correlated coefficient of Entertainment & Excitement, Informativeness, Credibility and Attitudes in rural youngsters. Further, the study found that the results of multiple regression analysis attitudes towards mobile advertising related with Entertainment & Excitement, Informativeness and Credibility in rural youngsters while irrigation factor was not found to be related. Thus, the study revealed that mobile advertising is a popular media for providing information, entertainment and rely on purchasing for youngster in rural areas. The study suggests that mobile phones may be

used as one of the significant tools for advertising among young generation especially in rural areas.

Bibliography

1. Kirsten Evelien Kamphuis and Manishka Chaya Ramnarain (2012), Consumer Attitudes Toward Mobile Advertising - A Study of the Dutch Youth, Masters of MBA thesis, Jonkoping International Business School, Jonkoping University.
2. Melody M. Tsang, Shu-Chun Ho, and Ting-Peng Liang, (2004), "Consumer Attitudes Towards Mobile Advertising: An Empirical Study", International Journal of Electronic Commerce, Spring, Vol. 8, No. 3, pp. 65 - 78.
3. Mobile Marketing Overview (2009), Mobile Marketing Association (MMA), Education. Patel Yatin B., Pandya Aniket R., Pranami Sachin D., Patel Hardik D. & Patel Tejas R. "Attitude And Perception Of Mobile Marketing Among Youngsters", Management Research Project -II
4. Tripti Dhote, Yatin Jog, Nutan Gavade and Gesu Shrivastava (2015), "Effectiveness of Digital Marketing in Education: An Insight into Consumer Perceptions", Indian Journal of Science and Technology, Vol 8(S4), 200-205, February.
5. World Advertising Research Center (2007), "Why young consumers are not open to mobile marketing communication", International Journal of Advertising, 26(2), pp. 223-246, Ian Grant University of Strathclyde Stephanie O'Donohoe, The University of Edinburgh © 2007 Advertising Association.

Web sites

1. www.blog.personagraph.com/an-introduction-to-the-mobile-advertising-ecosystem
2. www.indianmba.com/Faculty_Column/FC1164/fc1164.html
3. www.mmaglobal.com
4. www.palgrave-journals.com/dbm/
5. www.warc.com

Consumer Behaviour in a Services Context: An Empirical Study on an analysis of Pre-Purchase Stage, Service Encounter Stage and Post- Encounter stage for Service Consumption of Health Care services in Mogri

Ms Shivangi Kirankumar Shukla* and Ms Komal Shukla Sevak**

Abstract

A research paper on 'Consumer Behaviour in a Services Context: An Empirical Study on an analysis of Pre-Purchase Stage, Service Encounter Stage and Post- Encounter stage for Service Consumption of Health Care services in Mogri' is undertaken with the main objective of evaluating the alternatives of service consumption model. This study is targeted to rural area i.e. the Mogri for the purpose of identifying the actual scenario of Health Care Services in rural area. Through this model, the study is going to focus over what kind of attributes are arousing the needs for consumption, to identify their experience and expectations from health care services, evaluation of service performance. Data is being collected through structured closed ended questionnaire by personally interviewing the respondents. A Sample of 70 respondents are being taken for the study. The analysis will be done by using various tests in SPSS.

Key Words: *Consumer Behaviour, Service Consumption, Health Care Services.*

Introduction

Services are economic activities offered by one party to another. Often time based, performances bring about desired results to recipients, objects, or other such assets for which purchasers have responsibility. In exchange for money, time, and effort, service customers expect value from access to goods, labour, professional

skills, facilities, networks, and systems, but they do not normally take ownership of any of the physical elements involved.¹ Services represent an ideal contribution for most countries in the world. As countries develop, services from the largest part of the GDP of those countries. Globally, new jobs are generated in the service sector because of this development. The major industries of the service sector include:



* Lecturer, B.F.Shah Institute of Commerce & Management, Sardar Patel University, Vallabh Vidyanagar

** Lecturer, IndukakaIpcowala Institute of Management, CHARUSAT, Changa

¹ Adapted from definition by Christopher Lovelock in Bo Edvardsson, Anders Gustafsson and Inger Roos, "Service portraits in Service research: A critical review," International Journal of Service Industry Management, 16, No. 1, 2005, 107-121.

Services vary widely and can be categorized according to the nature of the underlying process. There are four main categories of services: People processing, Possession processing, mental stimulus processing, Information processing. Mental stimulus and information processing can be combined into information based services. Here in this paper, our category of study is people processing as health care services are directed at people bodies.

Services have unique characteristics that make them different from products:

- Most service products cannot be inventoried
- Intangible elements usually dominate value creation
- Services often are difficult to visualize and understand
- Customers may be involved in co-production
- People may be part of the service experience
- Operational inputs and outputs tend to vary widely
- Time factor often assumes great importance
- Distribution may take place through nonphysical channels

Review of Literature

The role of government in ensuring that its country's healthcare system provides optimal services for its population has been greatly emphasized upon (The World Health Report, 2000). Improvement in the quality of primary healthcare services apart from increasing accessibility and affordability has become a matter of grave concern for the developing nations in the recent years. However, the meaning of quality in healthcare system has been interpreted differently by different researchers.

Maria G.N. Musoke, (2007)

The quote sums up the study quite well: first, it has confirmed that the main concern of the study was not to quantify data, but rather to understand issues surrounding access and use of information in rural Uganda, and how women and health workers perceived and interpreted these issues. Secondly, it has demonstrated that in an African family, women nurse and care for the sick, hence targeting women in information provision could have a multiplier effect. Thirdly, the quote has highlighted the value attributed to information in the betterment of rural

health. This value has been demonstrated in the study to have driven and sustained the various information processes. Finally, it shows that there is a need to improve information provision.

The study has also shown that not all information users are active seekers. The main difference between the two groups of interviewees was that health workers were generally active information seekers, whereas the women were mainly passive. Passivity, however, was generally limited to the act of accessing information. This finding could be tested quantitatively in future. Furthermore, the findings appear to acknowledge the importance of a symbolic interactionist perspective in so far as it focuses on the importance of the meanings that emerged as people defined their information situations through interpersonal interactions. Such interactions were highlighted in all of the categories. However, symbolic interactionism stresses the creative and active aspects of human behaviour, and tends to pay less attention to the social factors which may be beyond the control of human beings, but all the same constrain their actions. This study concludes that both these issues were important to information access and use in rural Uganda. The various face-to-face interactions moderated information access and use when they took place, but there were situations which had not been moderated by these interactions, and the social factors overwhelmed the information process. Finally, the potential use of this social psychological theoretical approach to information behaviour is something that needs further attention by information researchers.

R.P. Mohanty K. Santhi C. Haripriya, (1996)

In this paper author has made an attempt to look at the relationship between HCS and TQM. Having identified the parameters that influence quality measure in HCS, he has designed a questionnaire that can be used in the process of evaluating the effectiveness of TQM in a hospital setting. Although HCS have some unique factors, they bear many similarities to other industrial systems and can be subjected to the same forms of analysis, evaluation and improvement. What is needed is for those involved within such systems to realize the true nature of the quality of healthcare, and to be motivated towards improving this quality. A comparative measure (across organizations or over time) may be a useful device.

Syed Amin Tabish, (1998)

Better management, or lack of it, will determine the future of health services. To some this recognition is long overdue. To others it represents the beginning of obstacles, hassles, and barriers to achieving important health care objectives. Whether viewed as a panacea or as a hazard to the operations of health-services delivery, the role of management must be understood by all people involved in health and hospital services organisation

Sukhan Jackson Liu Xili Song Jinduo, (1996)

Information on the socio-economic background of village doctors was collected in June 1994 by a questionnaire survey. The research team from the Henan Provincial Institute of Parasitic Diseases travelled separately to Gushi County (population of 1,425,453 in 1993) and Shang Cheng County (population of 649,656 in 1993). Both were situated in the poorest agricultural area of southeast Henan, with an average per capita income of 535 yuan (\$US1 = 8 yuan) a year. Questionnaires were completed, on two separate occasions, by a total of 519 village doctors who came to sit for examinations organized by each of the County Health Bureaus. Since the emergence of the private sector, the supply of Chinese herbs and drugs has not been exclusively in the hands of the traditional practitioners, and revenue from such sales is an important secondary source of income. Nearly half of the village doctors (233) supplied them in response to high demand. The suppliers included 41 per cent (152) of all Western medicine providers. In principle there should be no charge for visiting the village doctor and payment was for medicine only. It was expected that revenue from the sale of medicine would provide an adequate income as the village doctors were also farmers, as discussed above. Our research shows that many village doctors charged for visits, in addition to the cost of medicine. For each visit, one-third of them (161) charged one yuan, which was more than one day's average income for many people in these two countries. Thirty-eight (7.3 per cent) charged two yuan, 11 (2 per cent) charged three to five yuan, and one charged more than five yuan. However, 59 per cent (308) of village doctors did not charge for visits.

Lucy Bates Lynne Hancock Danna Peterkin, (2001)

The women attending the focus groups had all experienced domestic violence and were able to identify a range of areas for the improvement of services. The

Australian women also identified many of the positive and negative experiences with health care services identified by the women in the American studies. The major issue identified by both groups was the importance of a supportive environment where service providers are able to offer options and allow the women to make choices for their future. Despite the years of extensive physical and mental abuse many of the women in his study had suffered, with the assistance of the government agencies, they had moved on to rebuilt their lives. It is essential that public health services continue to improve the quality of their services to people who are experiencing domestic violence, as voiced by one woman, 'we get called stupid. I really don't think so. We are strong and we are bright but a little encouragement would go a long way.

MosadZineldin, (2006)

Service quality is a multidimensional concept and in order to operationalize it many variables have to be considered. SERVQUAL is a widely used scale to measure different quality dimensions. Originally, as developed by Parasuraman et al. (1985), scale consisted ten dimensions used by customer to Judge Company's service, which were reduced into five major dimensions (Berry et al., 1992): tangibles, reliability, responsiveness: assurance and empathy. The SERVQUAL constructs impact are used to measure service quality and to identify service quality gaps but not their root causes for which other approaches are needed (Wisniewski and Wisniewski, 2005). Some efforts have been invested to improve the methods. In this research we describe a study involving a new instrument and a new method that assures a reasonable level of relevance, validity and reliability, while being explicitly change oriented.

M. PalaniNatha Raja S.G. Deshmukh Subhash Wadhwa, (2007)

Quality award criteria emphasize the need for an organization to make substantial progress in its pursuit of quality. They concluded that customer-driven quality, fast response, communicating the mission statement, solving problems, continuous improvement, improving customer satisfaction, focusing on suppliers and partners, monitoring and evaluating service quality are all necessary (Rad, 2005). The quality awards criteria encourage staff to participate in quality improvement strategies and our survey provides insight into relationships between quality awards, which suggest that instruments can be used for self-assessment. By combining MBNQA, EFQM and

KBEM quality award dimensions into a framework for guiding policy and practice, healthcare staff are taking significant steps toward implementing quality practices. Comparing quality award criteria and their constructs represent the influence of service quality management in health care institution. The results of our work are similar to the conclusions of Baldrige criteria and its relationships (Pannirselvam and Ferguson, 2001). Their results show that doctors, nurses, technicians and patients attach different levels of importance to hospital service sub-factors. However, there are number of practical difficulties such as time and resources. Their evidence, therefore, supports quality and process management issues that can make the quality management option unworkable.

Leo van der Reis Qian Xiao Grant Savage, (2007)

To achieve the goal of a truly caring commonwealth, we must improve quality and safety in health care, increase access and utilization of technology, promote greater consumer involvement at all stages, restructure the medical malpractice system to reach all who may be injured by systemic errors, and develop sustainable financing less subject to the vagaries of state revenues. However, the access issue still remains a basic and important problem we have to confront. The rapidly evolving nature of the health care system presents both enhanced opportunities to address the access problem and new threats to the fragile health care system. However, with the efforts and resources of communities, providers, government, and others to create viable long-term solutions, a good tendency can be expected. For example, Senate Bill No. 738 - the Health Access and Affordability Act, a petition from the Committee on Health Care Financing - appears strongest in its objectives to offer full health care coverage that is universal and continuous, and is affordable to individuals and families (Moore, 2005).

Zillur Rahman M.N. Qureshi, (2008)

Indian healthcare has seen standards rising over the past decade. However, the industry is in its initial expansion phase. Private hospitals and continued investment in the public health programs are driving growth. Together, this health infrastructure serves a population of over one billion, growing at about 2 percent annually. The combination of high quality services and low cost facilities is also attracting a stream of international patients as cost of advanced surgery in India are ten to 15 times lower than anywhere in the world. Strategic foreign

investment and collaboration opportunities have already arrived in the sector. Leading Indian players are drawing out global expansion plans. The policies aim at widening the extent and coverage of care as well as envisions a greater role for the private sector in the urban primary care and tertiary care sectors with growth of private health insurance. With demand outstripping supply, the outlook for private medical players is positive. There exists a large gap to be filled by private HMOs. It is this gap that LIFENET can fill by being the first Indian HMO. LIFENET has served the healthcare industry as a first mover in corporate hospitals segment

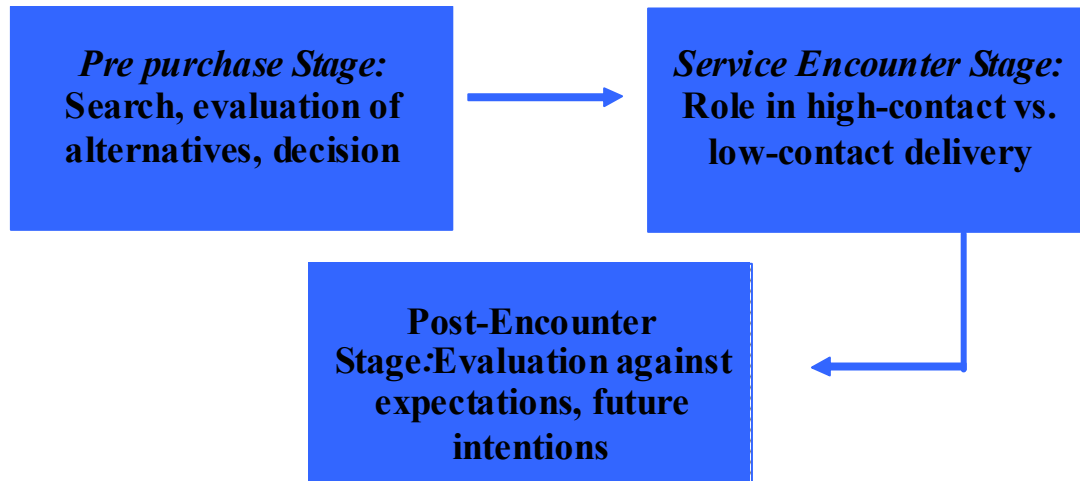
Objectives

1. To find out consumer preference of health care services in rural areas
2. To identify the credence attributes of health care services
3. To measure the perceived risk faced by patients
4. To evaluate the availability of health care services
5. To measure the patients satisfaction through their service experience

Research Methodology

The study is descriptive in nature and was conducted in rural area of Mogri, Gujarat. The sample of 70 respondents were taken for the study. Information was collected from the rural people through a structured questionnaire.

MAIN THRUST OF THE PAPER (The Three Stage model for Service Consumption)



PRE-PURCHASE STAGE

During this stage, customers seek solutions to aroused needs. Need can be triggered by unconscious mind, i.e. personal identity and aspiration, physical conditions and external sources like firm's marketing activities. It can be said that during this stage they are facing the problem of difficulty in evaluating the service. The uncertainty of result and outcomes will increase the perceived risk. Most of the companies are formulating the strategies to reduce the perceived risk. But in the context of services, it is becoming very difficult for companies to reduce the perceived risk faced by their customers. Perceived risk can be of various types:

1. Functional: Unsatisfactory performance outcomes
2. Financial: Monetary loss, unexpected extra cost
3. Temporal: Wasted time, delays leading to problems
4. Physical: Personal injury, damage to possessions
5. Psychological: Fear and negative emotions
6. Social: how others may think and react
7. Sensory: Unwanted impact on any of five senses

As services may vary from customer to customer. Before taking the purchase decision, customers are searching the best available alternatives and they are comparing the available options. Generally, a set of products and brands that a consumer considers during decision making process-that is derived from the past experiences called evoked set. Health care services can be fall into the category of experience attributes and credence attributes.

SERVICE ENCOUNTER STAGE

This is the stage where customers face reality of service delivery. This is the stage of active contact between customers and service personnel. During this stage, if customers experience with the service provider is good then he/she can think to purchase this service in future also. Front line is very important as front line employees come in direct contact with the customers, so if behaviour of frontline employees is not good then it creates negative impression in beginning of service consumption only.

POST ENCOUNTER STAGE

The evaluation of service performance will take place during this stage. Based on the way they treated during the service encounter stage, customers will evaluate and compare the service. And will also decide whether they will consume service from this provider in future also or not. They will evaluate the service performance by comparing the actual service delivery with the expected services. If actual service delivery falls above the level of expectations, they will be delighted and if it falls below the level of expectations they will be dissatisfied and will not sure to come back.

DATA ANALYSIS

Table: 1 Age wise frequency distribution

	Frequency	Per cent
Below 25 years	11	15.7
26-35 years	25	35.7
36-45 years	27	38.6
above 46 years	7	10.0
Total	70	100.0

From the above table, it can be said that out of 70 respondents 11 were below the age of 25 years, 25 respondents were between the ages of 26 to 35 years, 27 were falling in the age group of 36-45 years and only 07 respondents were above the age of 46 years.

Table:2 Qualification wise frequency distribution

	Frequency	Per cent
Illiterate	21	30.0
SSC	32	45.7
HSC	13	18.6
Graduate	2	2.9
Masters	2	2.9
Total	70	100.0

From the above table, it can be said that out of 70 respondents 21 were illiterate, 32 respondents studied till SSC, 13 respondents studied till HSC, 02 respondents were having graduate degree and only 02 were having the Master degree.

Table:3 Marital Status wise frequency distribution

	Frequency	Per cent
Unmarried	11	15.7
Married (Having kids)	58	82.9
Married (Not having kids)	1	1.4
Total	70	100.0

From the above table, it can be said that out of 70 respondents, 11 were unmarried, 58 respondents were married and having kids also, and only 01 respondent was there who was married but not having kids.

Table: 4 Reason for preferring previous service providers

	Responses	
	N	Per cent
Service at low price	55	17.5
less waiting time at service firm	54	17.2
Quality service	64	20.4
Nearness to home	55	17.5
skilled doctors	28	8.9
Status	8	2.5
Influence from others	6	1.9
Good behaviour of service provider	16	5.1
Infrastructure	9	2.9
Easy availability of doctors	19	6.1
Total	314	100.0

From the above table, it can be said that out of 70 respondents 55 preferred provider because of services available at low price, 54 respondents were preferring the service outlet because they were facing the less waiting time at firm, 64 respondents preferred the service provider because of the quality service, 55 were with this provider because that service provider was nearer to home of respondents, 28 were preferring because of skilled doctors, 08 respondents were

consuming service because they felt that consuming service from this outlet is status in society, 06 were going because of influence of others, 16 respondents were going in selected outlet because of the good behavior of the service provider. 09 were being attracted because of infrastructure facility, and 19 respondents main reason for consuming service from this outlet was because of the reason of easy availability of doctors at any time.

Table:5 you choose health care services based on your

	Responses	
	N	Per cent
Personal identity	20	14.9
past experience	48	35.8
Word of mouth	43	32.1
Advertisement	16	11.9
Website search	7	5.2
Total	134	100.0

From table.5, it can be said that 20 respondents choose health care services based on their personal identity, 48 respondents were choosing it based on their past experience, 43 respondents were selecting particular health care services based on views of others, i.e. the

word of mouth, 16 respondents were deciding about health care services through advertisement and only 07 respondents were choosing health care services by website search.

Table:6 your experience with service provider

	Frequency	Per cent
Up to your expectations	36	51.4
Below the expectations	11	15.7
More than the expectations (Delighted)	15	21.4
Hard to say (Credence attributes)	8	11.4
Total	70	100.0

From table.6, it can be said that 36 respondents' experience with the service provider was up to their expectations, 11 respondents' experience was below their expectations level, 15 respondents were delighted

through the service of provider and only 08 respondents felt that sharing the experience about service provider is hard to say.

Table: 7 Mean Rank of preferred health care service providers

Service Providers	N	Mean	Rank
Primary health centre	70	4.31	1
Institutional Trust	70	1.70	5
Private Ayurveda Hospital	70	2.67	4
Private Allopathic hospital	70	3.07	3
Private Homeopathic hospital	70	3.24	2

From table.7 it can be said that the highest mean rank of preferred health care service provider is 4.31 of Primary health Centre, that means this is the most preferred service provider comparing to all others. Followed by that, Privatehomeopathic hospital having the second highest rank with the mean of 3.24, Private Allopathic hospital is having third preferred rank comparing to all others with the mean of 3.07, Private Ayurveda hospital is carrying 4th rank with the mean of 2.67 and least preferred service provider among the respondents was Institutional trust carrying 5th rank with the mean of 1.70.

H_{01} : There is no significant difference between difficulty of searching best alternative and demographic variables.

Testing of Hypothesis

Further, we employed ANOVA method to test of hypothesis in SPSS 17. It has been as follows:

Table: 8 ANOVA Difficult to search best alternative by search only

Demographic Variable	Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.
Age	Between Groups	6.069	3	2.023	3.263	.027
	Within Groups	40.917	66	.620		
	Total	46.986	69			
Qualification	Between Groups	5.105	4	1.276	1.981	.108
	Within Groups	41.881	65	.644		
	Total	46.986	69			
Marital Status	Between Groups	1.005	2	.502	.732	.485
	Within Groups	45.981	67	.686		
	Total	46.986	69			

From above ANOVA table 08, it can be inferred that there is no significant difference between demographic variables (qualification and marital status) and difficult to search best alternatives at 5% significance level because all p-value is greater than 0.05. Hence, H₀₁ cannot be rejected; therefore there is no significant

difference between demographic variables (such as qualification, marital status) and difficulties of searching best alternative by search only.

H₀₂: There is no significant difference between Perceived risk and demographic variables.

Table:9 ANOVA Perceived Risk

Demographic Variable	Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.
Age	Between Groups	.665	3	.222	.424	.736
	Within Groups	34.535	66	.523		
	Total	35.200	69			
Qualification	Between Groups	1.246	4	.312	.596	.666
	Within Groups	33.954	65	.522		
	Total	35.200	69			
Marital Status	Between Groups	.046	2	.023	.044	.957
	Within Groups	35.154	67	.525		
	Total	35.200	69			

From above ANOVA table 09, it can be inferred that there is no significant difference between all demographic variables and perceived risk at 5% significance level because all p-value is greater than 0.05. Hence, H₀₂ cannot be rejected; therefore there is no

significant difference between demographic variables and perceived risk.

H₀₃: There is no significant difference between Service encounter stage and age

Table: 10 ANOVA Age wise

Factors	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Hard to evaluate service even after consumption	Between Groups	2.100	3	.700	.979	.408
	Within Groups	47.172	66	.715		
	Total	49.271	69			
Doctor is always available when you need	Between Groups	.897	3	.299	.193	.901
	Within Groups	102.545	66	1.554		
	Total	103.443	69			
Medical staff have not ever got rude with you	Between Groups	1.254	3	.418	.355	.786
	Within Groups	77.732	66	1.178		
	Total	78.986	69			
You always get seating facility when there is long waiting	Between Groups	2.686	3	.895	.643	.590
	Within Groups	91.957	66	1.393		
	Total	94.643	69			
doctor pay less attention when there is rush	Between Groups	5.104	3	1.701	.849	.472
	Within Groups	132.268	66	2.004		
	Total	137.371	69			

From above ANOVA table 10, it can be inferred that there is no significant difference between service encounter stage and age at 5% significance level because all p-value is greater than 0.05. Hence, H₀₃

cannot be rejected; therefore there is no significant difference between service encounter stage and age.

H₀₄: There is no significant difference between Service encounter stage and qualification.

Table 11: ANOVA Qualification wise

Factors	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Hard to evaluate service even after consumption	Between Groups	3.356	4	.839	1.188	.325
	Within Groups	45.915	65	.706		
	Total	49.271	69			
Doctor is always available when you need	Between Groups	5.567	4	1.392	.924	.455
	Within Groups	97.875	65	1.506		
	Total	103.443	69			
Medical staff have not ever got rude with you	Between Groups	3.265	4	.816	.701	.594
	Within Groups	75.721	65	1.165		
	Total	78.986	69			
You always get seating facility when there is long waiting	Between Groups	3.192	4	.798	.567	.687
	Within Groups	91.451	65	1.407		
	Total	94.643	69			
doctor pay less attention when there is rush	Between Groups	7.524	4	1.881	.942	.446
	Within Groups	129.848	65	1.998		
	Total	137.371	69			

From above ANOVA table 11, it can be inferred that there is no significant difference between service encounter stage and qualification at 5% significance level because all p-value is greater than 0.05. Hence, H₀₄ cannot be rejected; therefore there is no significant difference between service encounter stage and qualification.

H₀₅: There is no significant difference between Service encounter stage and marital status.

Table: 12 ANOVA Marital Status wise

Factors	Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.
Hard to evaluate service even after consumption	Between Groups	2.469	2	1.234	1.767	.179
	Within Groups	46.803	67	.699		
	Total	49.271	69			
Doctor is always available when you need	Between Groups	.703	2	.352	.229	.796
	Within Groups	102.740	67	1.533		
	Total	103.443	69			
Medical staff have not ever got rude with you	Between Groups	.873	2	.436	.374	.689
	Within Groups	78.113	67	1.166		
	Total	78.986	69			
You always get seating facility when there is long waiting	Between Groups	.919	2	.459	.328	.721
	Within Groups	93.724	67	1.399		
	Total	94.643	69			
doctor pay less attention when there is rush	Between Groups	.205	2	.103	.050	.951
	Within Groups	137.166	67	2.047		
	Total	137.371	69			

From above ANOVA table 12, it can be inferred that there is no significant difference between service encounter stage and marital status at 5% significance level because all p-value is greater than 0.05.

Hence, H₀₅ cannot be rejected; therefore there is no significant difference between service encounter stage and marital status.

H₀₆: There is no significant difference between Post encounter stage and age

Table: 13 ANOVA age

Factors	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
you always get the same kind of service	Between Groups	8.714	3	2.905	2.286	.087
	Within Groups	83.857	66	1.271		
	Total	92.571	69			
you will consume this service in future also from this provider	Between Groups	5.128	3	1.709	2.136	.104
	Within Groups	52.815	66	.800		
	Total	57.943	69			

From above ANOVA table 13, it can be inferred that there is no significant difference between post encounter stage and age at 5% significance level because all p-value is greater than 0.05. Hence, H₀₆ cannot be

rejected; therefore there is no significant difference between post encounter stage and age.

H₀₇: There is no significant difference between Post encounter stage and Qualification.

Table: 14 ANOVA qualification wise

Factors	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
you always get the same king of service	Between Groups	2.977	4	.744	.540	.707
	Within Groups	89.594	65	1.378		
	Total	92.571	69			
you will consume this servie in future also from this provider	Between Groups	2.478	4	.620	.726	.577
	Within Groups	55.465	65	.853		
	Total	57.943	69			

From above ANOVA table 14, it can be inferred that there is no significant difference between post encounter stage and qualification at 5% significance level because all p-value is greater than 0.05. Hence, H₀₇

cannot be rejected; therefore there is no significant difference between post encounter stage and qualification.

H₀₈: There is no significant difference between Post encounter stage and marital status.

Table: 15 ANOVA Marital Status wise

Factors	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
you always get the same king of service	Between Groups	3.181	2	1.591	1.192	.310
	Within Groups	89.390	67	1.334		
	Total	92.571	69			
you will consume this servie in future also from this provider	Between Groups	1.836	2	.918	1.096	.340
	Within Groups	56.107	67	.837		
	Total	57.943	69			

From above ANOVA table 15, it can be inferred that there is no significant difference between post encounter stage and marital status at 5% significance level because all p-value is greater than 0.05. Hence, H₀₈ cannot be rejected; therefore there is no significant difference between post encounter stage and marital status.

Limitations and Future Trends

This study is an attempt restricted to Mogri and sample size was also small for research. There are huge opportunities and challenges for health care services. The

current study can be extended to all districts of Gujarat and more robust findings can be obtained for health care services. Health care sector is growing at large level. Customers (Patients) are seeking innovating solutions to meet their expectations. This topic has great opportunities for other researchers also. As by analysing the pre purchase stage, service encounter stage and post encounter stage of service consumption of health care services, researchers can be helpful to medical institutions and private as well as public hospitals for needy changes.

Conclusion

This study was conducted for an analysis of Pre-Purchase Stage, Service Encounter Stage and Post-Encounter stage for Service Consumption of Health Care services in Mogri. The results found that the most preferred service provider in Mogri was Primary health centre (PHC) with the highest mean rank, followed by that Private homeopathic hospital, Private Allopathic hospital, Private Ayurveda hospital, and the least preferred provider was institutional trust carrying the lowest mean rank. Respondents who preferred Primary Health Centre, gave the reasons for choosing this provider because services are available at very cheap rate, it was nearer to their home. And respondents who preferred private hospitals, they gave the reasons like there is less waiting time at clinic, doctors are available whenever they need, quality service, consuming service from private clinic create the status in society and because of latest infrastructure. From this research it can be concluded that while consuming health care services, respondents faced perceived risk moreover to that some of them also faced credence attributes of services.

Bibliography

1. Andy Feld, (2013) Discovering statistics using IBM SPSS statistics, Sage Publications, Fourth Edition, New Delhi, pp 665-719
2. C R Kothari and Gaurav Garg (2014), Research Methodology-Methods & Techniques, New Age Publications
3. <http://www.researchgate.net>
4. Maria G.N. Musoke, (2007), "Information behaviour of primary health care providers in rural Uganda", Journal of Documentation, Vol. 63 Iss 3 pp. 299 - 322
5. R.P. Mohanty K. Santhi C. Haripriya, (1996), "A model for evaluating TQM effectiveness in health-care systems", Work Study, Vol. 45 Iss 2 pp. 14-17
6. Syed Amin Tabish, (1998), "Towards development of professional management in Indian hospitals", Journal of Management in Medicine, Vol. 12 Iss 2 pp. 109 - 119
7. Sukhan Jackson Liu Xili Song Jinduo, (1996), "Socio-economic reforms in China's rural health sector: Economic behaviour and incentives of village doctors", International Journal of Social Economics, Vol. 23 Iss 4/5/6 pp. 410 - 420
8. Lucy Bates Lynne Hancock Danna Peterkin, (2001), "A little encouragement": health services and domestic violence", International Journal of Health Care Quality Assurance, Vol. 14 Iss 2 pp. 49 - 56
9. MosadZineldin, (2006), "The quality of health care and patient satisfaction", International Journal of Health Care Quality Assurance, Vol. 19 Iss 1 pp. 60 - 92
10. M. PalaniNatha Raja S.G. DeshmukhSubhashWadhwa, (2007), "Quality award dimensions: a strategic instrument for measuring health service quality", International Journal of Health Care Quality Assurance, Vol. 20 Iss 5 pp. 363 - 378
11. Leo van der Reis Qian Xiao Grant Savage, (2007), "A retrospective on access to health care", International Journal of Health Care Quality Assurance, Vol. 20 Iss 6 pp. 494 - 505
12. ZillurRahman M.N. Qureshi, (2008), "LIFENET hospitals (India): developing new services' case study", International Journal of Health Care Quality Assurance, Vol. 21 Iss 3 pp. 274 - 288
13. http://articles.economictimes.indiatimes.com/2013-07-2/news/40727949_1_rural-areas-providers-healthcare-informatics
14. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1071136/>
15. <http://www.ruralhealthweb.org/go/left/about-rural-health>
16. <http://www.iimahd.ernet.in/egov/ifip/nov2003/article4.htm>
17. <http://theconversation.com/health-care-in-rural-areas-the-answer-is-not-more-of-the-same-9252>
18. <https://www.ruralhealthinfo.org/topics/healthcare-access>
19. <http://www.iitk.ac.in/3inetwork/html/reports/IIR2007/11-Health.pdf>
20. <http://www.who.int/bulletin/volumes/91/11/13-119008.pdf>
21. <http://www.tenet.res.in/Publications/Presentations/pdfs/Rural%20health-Mar08.pdf>

A Study of Rural Consumers' Satisfaction and their Perception towards Telecom (Wireless) Service

Sushilkumar M. Parmar* and Milan S. Shah **

Abstract

Net Neutrality, strain of 2G spectrum and the waves of 3G & 4G have rattled the Telecom Industry and there is a lot more brewing. The post liberalization period witnesses the unprecedented growth in telecom industry and a significant rise in tele-density in India due to the wide spread of cellular network and internet technology. The development of rural area is possible through telecom sector as the growth of telecom and development of infrastructure are directly related. The affordability of telecom service leads to increase in tele-density in rural areas. As telecom industry is competitive, it becomes imperative for wireless telecom service providers to offer quality services to customers and develop long term relationship. The primary objectives of this research study are to determine the factors influencing rural consumer satisfaction and to understand their perception towards telecom service. The researchers have collected necessary data from 106 rural consumers availing wireless telecom services through questionnaire for which simple random sampling method was used. Moreover, the present status of tele-density in rural area is documented with the help of secondary data. Factor analysis and descriptive statistics such as mean score and standard deviation have been used as statistical tools. By using factor analysis 26 variables have been reduced to 9 factors. In addition to this, the result shows that majority of respondents are Idea subscribers in rural areas and 35% of rural consumers are highly satisfied while 44% of respondents agreed that call and SMS plans are consumer friendly.

Keywords: Telecom, Tele-density, Customer Satisfaction, Cellular Network

Introduction

The phenomenal growth of telecom industry can lead to the accomplishment of objective of a nation such as Digital India, Infrastructure development and improvement in rural lifestyle etc. The ultimate reason is that the industry is greatly influenced by wide spread of cellular network and internet technology. The tele-density

is on rising due to Government's telecom policies and regulatory framework of TRAI. Similarly, the emergence of wireless telecom service and liberalization has brought significant revolution in the industry. Actually, the growth of telecom industry largely relies on the development of necessary infrastructure consequently the rapid growth of a developing country. In India, telecom industry is facing competition because of the existence of number of private cellular companies and their basic and value added services (VAS).

**Table 1 Wireless Market Share
(Total Subscribers in India)**

Wireless Telecom Operator	Market Share (%)
Bharti Airtel	23
Vodafone	18
Idea	15
Reliance	12
BSNL	10
Aircel	8
Tata	7
Telewings	4
Sistema	1
Other	2
Source: A Brief Report on Telecom Sector in India 6 January 2015	

The above table clearly depicts wireless market share in terms of total subscribers in India. As shown above, Bharti Airtel has a larger market share (23%) followed by Vodafone (18%). The market shares held by Idea, Reliance, BSNL and Aircel are 15%, 12%, 10% & 8% respectively. Moreover, the shares of urban subscribers and rural subscribers at the end of October 2014 were 59.27% and 40.73% respectively. And the wireless subscription in urban area increased from 547.70 million at the end of September 2014 to 548.78 million at the end of October 2014. The wireless subscription in rural areas increased from 382.50 million to 386.57 million during the same period. The monthly growth rates of urban and rural wireless subscription were 0.20% and 1.06% respectively. According to a report of Telecom Regulatory Authority of India (TRAI), the total, urban

* Research Scholar, Gujarat University - Ahmedabad Email: sushilparmar.19@gmail.com

** Assistant Professor, Smt. T. J. Patel Commerce - Nadiad Email: milanshah1990@gmail.com

and rural teledensity as of March 31, 2014 were 75.2%, 145.8% and 44% respectively which shows the significant growth over the last 15 years. Today, the Indian telecom industry suffers from major problems of customer attrition in the name of "number portability" because of multiple service providers or close substitutes with zero or less switching cost. (Naidu & Ponduri, 2015)

Above statistics give the correct picture of total % of subscription in both urban and rural market. Total share of wireless subscription in urban and rural areas are 57% and 40% respectively. While total share of wireline subscription are reported 2% and 1%.

Table 2 Composition of Telephone Subscription in India

Market and type of subscription	% of Subscription
Urban Wireless	57
Rural Wireless	40
Urban Wireline	2
Rural Wireline	1
Source: A brief report on Telecom Sector in India, January 2015	

Table 3 Number of Households having Telephone

Type of Telephone Subscription	Total (Million)	Rural (Million)	Urban (Million)	Total %	Rural %	Urban %
Wireline	9.9	5.2	4.7	4.0	3.1	5.9
Cellular	131.2	80.5	50.7	53.2	47.9	64.3
Both	14.8	5.5	9.3	6.0	3.3	11.7
Total	155.9	91.2	64.7	63.2	54.3	82.0
Total Household India	247	168	79	100	100	100
Source: House listing & Housing Census Data Highlights 2011						

According to Census 2011, out of 168 million rural household in India, 91.2 million rural household

having wireline telephone, cellular and both were 5.2 million, 80.5 million and 5.5 million respectively.

Table 4 Market Share of the Service Providers in Total Rural Subscriber (base Q.E. June 15)

Service Provider	No. of Total Subscribers (in millions)	No. of Rural Subscribers (in millions)	Percentage of Rural Subscribers %	Market Share of Rural Subscribers %
Bharti	234.11	110.25	47.09	26.08
Vodafone	185.47	99.26	53.52	23.48
IDEA	162.08	92.73	57.21	21.94
BSNL	93.29	30.75	32.96	7.27
Aircel	83.05	29.13	35.07	6.89
Reliance Com.	111.08	27.86	25.08	6.59
Tata	63.26	15.85	25.06	3.75
Telewings	48.13	14.91	30.97	3.53
Sistema	8.75	1.89	21.54	0.45
Quadrant	3.04	0.13	4.16	0.03
Videocon	7.61	-	-	-
MTNL	7.08	-	-	-
Total	1006.96	422.75	41.98	100
Source: The Indian Telecom Services Performance Indicators April-June 2015, 23 rd November, 2015 (Telecom Regulatory Authority of India)				

As on 30th June 2015, there were total 1006.9 million subscribers, out of which 422.5 million were rural subscribers. Moreover, there were 980.81 million wireless subscribers out of which 471.85 million were rural subscribers and rural density was 48.10. Total internet subscribers were 319.42 million out of which 114.44 million are rural Internet subscribers and rural internet density was 13.17.

internet. The results also indicate the significant relationship between customer satisfaction and the age, occupation and education level of customers, but no significant relation was reported between customer satisfaction and the monthly income. Similarly, (Yadav & Dabhade, 2013), attempted to know the impact of service quality on customer satisfaction among mobile users by using SERQUAL model. They found that customers remain

Table 5 Wireless Subscriber Base & Teledensity - Rural and Urban

Quarter Ending	Subscriber Base (Million)		Tele-density	
	Rural	Urban	Rural	Urban
June 14	377.36	537.56	43.82	140.44
September 14	382.50	547.70	44.32	142.39
December 14	393.34	550.64	45.47	142.46
March 15	414.18	555.71	47.78	143.08
June 15	417.85	562.95	48.10	144.25
Source: The Indian Telecom Services Performance Indicators April-June 2015, 23 rd November, 2015 (Telecom Regulatory Authority of India)				

As on 30th June 2015, there were total 1006.9 million subscribers, out of which 422.5 million were rural subscribers. Moreover, there were 980.81 million wireless subscribers out of which 471.85 million were rural subscribers and rural density was 48.10. Total internet subscribers were 319.42 million out of which 114.44 million are rural Internet subscribers and rural internet density was 13.17.

In June 2014, numbers of subscribers in rural and urban areas were 377.36 million and 537.56 million respectively while teledensity was 43.82 and 140.44 respectively. As shown, there has been significant growth in June 2015, the total number of rural and urban subscribers were 417.85 million and 562.95 million respectively, whereas teledensity was 48.10 and 144.25 respectively. According to telecom minister Ravishankar Pravas, out of 18,000 villages of Gujarat, 1275 villages are still deprived of telecom service. Unfortunately, 2G network is not satisfactory in rural areas where 4G network has knocked the door in urban area.

Literature Review:

(Sharma, 2014), investigated variety of factors which influence customer satisfaction. The findings showed that customers are more satisfied with quality of service network coverage, quality of SMS and mobile

content with the availability of VAS (value added service) and good network coverage and suggested that service providers are required to carry out marketing research to know the customer satisfaction. (Umair, Saeed, Arshad, Haider, & Ahmad, 2013), used structural model to analyse the relationship between customer loyalty and service quality, customer satisfaction, brand image, product value. The results reveal that customer loyalty has a direct and positive relationship with customer satisfaction, quality and value and no significant relationship was found with perceived brand image. (Ratnesh & Kansal, 2013), found that customer satisfaction with caller tune services of mobile service providers is not significantly related to the occupation of consumers, whereas significant relationship was resulted between customer satisfaction with call rates of mobile service providers and income of consumers and between that of with availability of customer stores and age of consumers. In their research, they recommended customised VAS, convenience, network coverage and call tariff. (Dineshkumar & Moorthy), conducted a research aimed to know the satisfaction level of customers with service provided by Airtel prepaid and determine their preference. (Naidu & Ponduri, 2015) attempted to study Customer Relationship Management practices followed by the major public (BSNL) and private (Airtel) sector telecom service providers in India and concluded that BSNL has

improved a lot in its performance and quality of service after the emergence of private players in terms of uninterrupted services, customer satisfaction, retention and providing customized products.

Statement of Problem:

There is a lot more brewing in Telecom Industry. Broadly speaking, net neutrality, black stain of 2G spectrum and waves of 3G and 4G have rattled the entire telecom industry and therefore the Government and TRAI have raised the eyebrow over the phenomenal growth in the industry. Today, telecom industry has gained the status of most competitive in nature with the existence of public and private players and the access of telecom (wireless) service in rural area is no longer any dream because of its affordability and availability which has resulted into rise in teledensity in rural area. However, yet lower rural teledensity has been reported as compared to urban area. Through this study, the researchers are striving to give an account on rural teledensity and factors influencing rural consumer satisfaction and their perceptions towards telecom service especially wireless.

Significance of Study:

Now, the telecom industry has become the most competitive and so, it is an alarm for the service providers to revamp their marketing strategy to offer customers satisfaction and to capture the larger market share. Telecom services providers are required to concentrate more on rural areas as majority of customers reside there. This study offers an insight on rural consumers' perceptions and satisfaction towards telecom service.

Research Objectives

- To determine the underlying factor affecting rural customer satisfaction toward telecom service

- To understand rural consumer's perception towards telecom service
- To analyze the present trend of wireless subscription and tele-density in rural area

Research Methodology

To successfully realize the aforementioned objectives, following research methodology was used by the researchers.

- Universe of the study: All rural consumers availing wireless telecom service of Kheda district were considered as the universe of the study.
- Sample Size: The researchers have collected relevant data from 106 rural consumers availing telecom service.
- Sampling Method: Simple random sampling method was adopted to collect the data
- Data Collection Tool: A structured questionnaire with 5 points rating Likert Scale was used to collect the primary data. The researchers have distributed 130 questionnaires, out of which 117 were received back and 11 questionnaires were found to be incomplete. Hence, 106 questionnaires were fit for the research.
- Data Analysis Tool: Factor Analysis and Descriptive Statistic such as Mean and S.D.
- Secondary data: To furnish more information on teledensity in rural area and related research done in the similar area, the researchers reviewed some secondary sources like books, magazines, journals and other published information.

Data Analysis And Interpretation

Table 6 Profile of Respondents

No	Demographic Details of Respondents		Number and % of Respondents
1	Gender	Male	59 (55.66)
		Female	47 (44.34)
2	Age Group	18-24	91 (85.85)
		25-30	3 (2.83)
		31-40	6 (5.66)
		41-50	5 (4.72)
		Above 50	1 (0.94)
3	Education	SSC	4 (3.77)
		HSC	60 (56.60)
		Graduation	13 (12.26)
		Under Graduation	27 (25.47)
		Post Graduation	2 (1.89)
4	Occupation	Student	87 (82.08)
		Housewife	2 (1.89)
		Self-employed	3 (2.83)
		Businessman	7 (6.60)
		Service	7 (6.60)
5	Monthly Family Income	Less than Rs.5000	7 (6.60)
		Rs. 5000-10000	50 (47.17)
		Rs.11000-20000	25 (23.58)
		Above Rs. 20000	24 (22.64)
Source: Primary Data compiled by authors			

The above table depicts the demographic features of respondents. The researcher has obtained relevant data from 106 respondents comprising 59 male rural consumers and 47 female rural consumers. The given data also offer information on age, occupation, education and monthly income of respondents (rural consumers)

Table 7 Type of Mobile User

Type of Mobile	No. of User
Simple	22 (20.75)
Smart Phone	84 (79.25)
Total	106 (100)

The Table 7 shows that 20.75% of respondents have simple mobile phone while majority of respondents (79.25%) possess smart phone. This statistics make it clear that affordability and popularity of smart phone in rural areas

Table 8 Telecom Operator wise Classification

Name of Telecom Operator	No. of User
Idea	47 (44.34)
Airtel	20 (18.87)
Vodafone	18 (16.98)
Telenor (Uninor)	13 (12.26)
BSNL	4 (3.77)
Tata Docomo	3 (2.83)
Reliance	1 (0.94)
Total	106 (100)

The table 8 portrays the clear picture of telecom operators whose services are availed by rural consumers. The maximum number of respondents (44.34%) have been availing the service of Idea followed Airtel (18.87%), Vodafone (16.98) and Telenor (12.26%).

Table 9 Type of Account

Type of Account	No. of User
Post paid	4 (3.77)
Pre paid	102 (96.23)
Total	106 (100)

As shown in the table 9, 96.23% of rural consumers have prepaid account whereas only 3.77% of rural consumers have post paid account.

Table 10 Frequency of Loss of Service

Frequency of loss of service	No. of User
Never	10 (9.43)
Once	10 (9.43)
Rarely	14 (13.21)
Often	7 (6.60)
Sometimes	65 (61.32)
Total	106 (100)

The above statistics make it clear that 9.43% of respondents have reported the 'Never' loss of service, 9.43 % of respondents shared 'Once' loss of service, 13.21% of respondents have reported 'Rarely' loss of service, 6.60% of respondents experienced 'Often' loss of experience while majority of respondents (65%) have opined 'Sometimes' loss of service.

Table 11 Use of Internet through Mobile

Internet user in Mobile	No. of user
User	91 (85.85)
Non- user	15 (14.15)
Total	106 (100)

The above table gives an account of the access of internet facility through mobile. As per the given data, 85.85% of respondents have access of internet through their mobile whereas only 14.15% do not avail internet facility in their mobile.

Tables 12 Total Score and Percent Score on Variables

Variables	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
Fair SMS Charges	14(13.208)	26(24.5)	26(24.5)	22(20.76)	18(16.98)
Fair Call Charges	19 (17.92)	42(39.62)	13(12.26)	20(18.87)	12(11.32)
Correctly charged video call	5 (4.7)	13(12)	66(62)	17(16)	5(4.7)
No hidden charges are imposed	10 (9.4)	25(24)	45(42)	11(10)	15(14)
Tariff Charged as per the advertisement	14 (13)	25(24)	40(38)	21(20)	6(5.7)
Better Voice quality	44(41.5)	42(39.6)	18(17)	2(1.89)	0(0)
Barrier free voice call & video call	10(9.4)	32(30)	44(42)	14(13)	6(5.7)
Ability to check balance	67(63.2)	31(29.2)	4(3.7)	3(2.83)	1(0.94)
Quick and Easy Recharge	74(69.8)	27(25.5)	3(2.83)	2(1.89)	0(0)
Consumer Friendly call & SMS Plan	32(30)	47(44)	20(19)	6(5.7)	1(0.94)
Variation in Internet Schemes	34(32.1)	27(25.5)	26(24.5)	14(13.2)	5(4.72)
Good Speed of Internet	30(28)	25(24)	26(24.5)	19(18)	6(5.7)
Wide network coverage & connectivity	28(26)	35(33)	23(22)	17(16)	3(2.8)
Variety of promotional offers	24(23)	38(36)	30(28)	10(9.4)	4(3.8)
No Receipt of Spam SMS	8(7.5)	18(17)	38(36)	18(17)	24(23)
No Receipt of unsolicited Call	10(9.4)	13(12)	43(41)	17(16)	23(22)
24 x 7 hours Customer Care Service	58(55)	30(28)	12(11)	4(3.8)	2(1.9)
Courteous, polite & well behaved staff	38(36)	41(39)	23(22)	1(0.9)	3(2.8)
Timely complaint handling	20(19)	46(43)	29(27)	7(6.6)	4(3.8)
Technical Support & Problem Assistant	11(10)	46(43)	37(35)	10(9.4)	2(1.9)
Minimum Waiting Period	23(22)	35(33)	38(36)	9(8.5)	1(0.9)
Availability of Customer Care Offices	22(21)	36(34)	18(17)	13(12)	17(16)
I enjoy availing the service	27(25)	58(55)	12(11)	5(4.7)	4(3.8)
I will not switch over to other operator	30(28)	37(35)	25(24)	9(8.5)	5(4.7)
I will recommend it to other	24(23)	40(38)	27(25)	12(11)	3(2.8)
Overall, I am satisfied with the service	37(35)	35(33)	24(23)	8(7.5)	2(1.9)

The above table offers the bird view of rural consumers' perception toward telecom services, 35% of respondents are highly satisfied whereas 33% are just satisfied. Moreover, Majority of respondents (55%) opined that they enjoy availing service and 35% agreed that they will not switch over to other operators. Similarly, 39% of rural respondents strongly believed that staffs are courteous, polite and well behaved, 34% of

respondents agreed that there are availability of customer care offices. In the similar line, 43% of respondents agreed that technical support and problem assistant are taken care of. Surprisingly, 55% of rural consumers strongly agreed for 24 x 7 hours customer care service.

Factory Analysis:

Exploratory factor analysis was conducted using SPSS to determine underlying factors.

Table 13 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.650
Bartlett's Test of Sphericity	Approx. Chi-Square	852.715
	Df	325
	Sig.	.000

As depicted in the above Table 13, sampling adequacy of the data was verified by computing Kaiser - Mayer- Olkin measure of Sampling Adequacy, which at 0.650 was above the minimum required value of 0.50.

Bartlett's test of sphericity also was significant at $p < .001$ with the degree of freedom 325 and approximate, Chi Square 852.715.

Table 14 Extraction Method: Principal Analysis Component

Variables	Community	Component	Eigen Value	% of Variance	Cumulative %
A1	1.000	1	5.094	19.593	19.593
A2	1.000	2	2.139	8.228	27.820
A3	1.000	3	2.077	7.990	35.810
A4	1.000	4	1.722	6.625	42.435
A5	1.000	5	1.539	5.918	48.353
A6	1.000	6	1.347	5.181	53.533
A7	1.000	7	1.306	5.023	58.557
A8	1.000	8	1.217	4.681	63.237
A9	1.000	9	1.025	3.943	67.180
A10	1.000	10	.956	3.676	70.856
A11	1.000	11	.849	3.265	74.121
A12	1.000	12	.771	2.965	77.086
A13	1.000	13	.759	2.920	80.006
A14	1.000	14	.640	2.460	82.466
A15	1.000	15	.614	2.360	84.826
A16	1.000	16	.576	2.215	87.041
A17	1.000	17	.506	1.944	88.985
A18	1.000	18	.480	1.846	90.832
A19	1.000	19	.434	1.668	92.499
A20	1.000	20	.411	1.580	94.080
A21	1.000	21	.367	1.413	95.493
A22	1.000	22	.331	1.271	96.764
A23	1.000	23	.276	1.062	97.826
A24	1.000	24	.223	.858	98.684
A25	1.000	25	.187	.721	99.405
A26	1.000	26	.155	.595	100.000

Through Principal Component Analysis and Varimax Rotation, a total of 9 factors accounting for 67.18% of the total variance were extracted as shown in the table. Principal Component Method was used to

obtain these factors and Varimax rotation was used for rotation. As shown in the table 14 Eigen values more than 1.000 are taken into considered and 26 variables are reduced into nine factors.

Table 15 Rotated Component Matrix: Varimax with Kaiser Normalization

	Component								
	1	2	3	4	5	6	7	8	9
A1	.126	-.027	-.036	-.025	.791	.072	-.071	.190	.107
A2	.035	.034	.106	-.116	.873	-.071	.017	-.105	.126
A3	.085	.233	.106	-.117	.052	.034	-.030	.773	.048
A4	-.151	.068	-.175	.209	.249	.173	.245	.334	.506
A5	.065	.027	.038	-.021	.157	-.056	-.141	-.001	.743
A6	.075	.124	.163	.207	-.140	.625	-.193	.136	.374
A7	-.090	.045	-.012	.001	-.039	-.082	.789	-.030	-.015
A8	-.013	.336	.356	.213	.184	-.075	-.492	-.345	.150
A9	.106	.707	.149	-.001	-.127	.149	.050	.075	.143
A10	.190	.260	.085	-.175	-.275	.577	-.019	-.362	-.046
A11	.297	.675	-.017	-.007	.142	.089	-.066	.271	-.211
A12	.389	.189	.003	.308	.204	.509	-.214	.153	-.224
A13	.365	.034	.482	.369	.046	.136	-.134	.253	.106
A14	.165	.511	.049	-.124	.024	.117	.279	-.158	.407
A15	-.133	.024	.054	.835	-.200	.037	-.012	.060	-.053
A16	.057	-.063	-.124	.843	.047	.048	.045	-.196	.083
A17	-.043	.524	.490	.108	.027	.015	-.036	.257	.011
A18	.104	.079	.864	-.173	-.001	.166	.030	.014	.007
A19	.279	.271	.291	-.084	.194	.316	.278	.335	.082
A20	.414	.291	.397	.042	.070	.089	.275	-.201	-.221
A21	.378	.173	.345	.277	.053	-.023	.464	-.054	-.044
A22	-.249	-.038	.197	.093	.329	.549	.332	.139	-.168
A23	.406	.277	.350	-.065	.212	.372	-.050	.019	-.009
A24	.561	-.296	.231	.239	-.033	-.114	.030	.230	.271
A25	.793	.124	.119	-.101	.068	-.052	-.028	-.005	.073
A26	.792	.257	-.056	-.070	.028	.287	-.045	.028	-.059

As shown in the above Rotated Component Matrix: Varimax with Kaiser Normalization, variables having factor loading less than 0.5 have been removed and the

rest of them have been considered and grouped into 9 factors and labelled accordingly.

Factor Labelling

Factor 1: Customer Satisfaction & Loyalty

Variables	Mean	S.D.	Factor Loading
A24: I will not switch over to other operator	3.7358	1.10671	0.561
A25: I will recommend it to other	3.6604	1.04094	0.793
A26: Overall, I am satisfied with the service	3.9151	1.02463	0.792

The variables grouped into factor 1 are collectively known as Customer Satisfaction & Loyalty. 'I will not switch over to other operator' variable indicates the customer loyalty whereas 'I will recommend it to other'

depicts the word to mouth publicity. This kind of consumer behaviour is related to the satisfied customers. 'Overall, I am satisfied with the service' has the highest mean score (3.9151) in the factor 1.

Factor 2: Accessibility & Variation in Offer

Variables	Mean	S.D.	Factor Loading
A9: Quick & easy recharge	4.6321	0.63734	0.707
A11: Variation in Internet Schemes	3.6698	1.19301	0.675
A14: Variety of promotional Offers	3.6415	1.05278	0.511
A17: 24 x 7 hours customer care service	4.3019	0.94788	0.524

The second factor is designated as Accessibility and Variation of Offer. 'Quick & easy recharge' and '24 x 7 hours customer care service' indicate the accessibility whereas 'variation in Internet schemes' and 'variety of

promotional offers' signify Variation in Offer. In the given data set, 'Quick & easy recharge' has the highest mean score (4.6321) followed by '24 x 7 hours customer care service' (4.3019)

Factor 3: Attitude and behaviour of staff

Variables	Mean	S.D.	Factor Loading
A18: Courteous, polite & well behaved staff	4.0377	0.93528	0.864

The factor 3 is termed as Attitude and behaviour of staff. In service sector, courteous, polite and well

behaved staffs add value to the CRM and significantly influence customer satisfaction.

Factor 4: No receipt of unwanted stuff

Variables	Mean	S.D.	Factor Loading
A15: No Receipt of spam SMS	2.6981	1.21239	0.835
A16: No Receipt of unsolicited call	2.7170	1.20913	0.843

The group of variables placed in the factor 4 is related to the No receipt of unwanted stuff and junk which means

spam SMS and unsolicited call. Receipt of such junk creates the feeling of irritation among the customers.

Factor 5: Fairly charged service

Variables	Mean	S.D.	Factor Loading
A1: Fair SMS charges	2.9623	1.29412	0.791
A2: Fair call charges	3.3396	1.28646	0.873

The factor 5 is labelled as fairly charged service. The variables grouped under this factor are fair SMS charge

and fair call charge. The fair call charges have 3.3396 mean score while fair SMS charges have 2.9623 mean score.

Factor 6: Quality Service and Consumer Friendly Approach

Variables	Mean	S.D.	Factor Loading
A6: Better voice quality	4.2075	0.78942	0.625
A10: Consumer friendly Call & SMS Plan	3.9717	0.89929	0.577
A12: Good speed of internet	3.5094	1.23632	0.509
A22: Availability of customer care offices	3.3113	1.36181	0.549

The factor 6 is termed as Quality Service and Consumer Friendly Approach. It is the combination of four variables namely better voice quality, consumer

friendly call and SMS plan, good speed of internet and availability of customer care offices.

Factor 7: Hurdle Free Special Call

Variables	Mean	S.D.	Factor Loading
A7: Barrier Free voice call & video call	3.9717	0.21636	0.789

The factor 7 is related to Hurdle free special call namely voice call and video call.

Factor 8: Reasonable Video Call Charge

Variables	Mean	S.D.	Factor Loading
A3: Correctly charge video call	2.9623	0.81562	0.773

Only single variable is placed in factor 8 which is labelled as Reasonable Video Call Charge having 2.9623 mean score.

Factor 9: Transparency of charges

Variables	Mean	S.D.	Factor Loading
A4: No hidden charges are imposed	3.0377	1.13745	0.506
A5: Tariff charged as per advertisement	3.1887	1.07892	0.743

The factor 9 clearly indicates the blend of two variables namely 'No hidden charges are imposed' and 'Tariff charged as per advertisement'. This factor is named as Transparency of charges.

Findings, Recommendations & Managerial Implication

Looking at present trend in telecom sector, all telecom companies are required to formulate such benefit offering strategies as can retain the customers for long time and be capable of fetching more number of new customers. Similarly, telecom service providers should adopt customer oriented approach instead of product oriented. To a larger extent, consumer friendly approach in service sector especially telecom adds value to the customer satisfaction. Most importantly, rural consumers often complain about the loss of connectivity or service which may negatively influence their perceptions and satisfaction. To capture larger market share, service providers need to develop necessary infrastructure suited to wireless telecom service and make available customer care offices at particular destination in rural areas. Besides, receipt of junk stuff such as unwanted SMS and unsolicited call develop feeling of irritation among the consumers which in turn switching to other service providers. It is also recommended that telecom service providers should think of such variety of promotion offers as can satisfy the diversified needs of rural consumers. Today, highest attrition rate is observed in telecom

industry and therefore, service providers should revamp of marketing strategy which is aggressive in nature and more attention should be paid on quality of service. To wisely deal with rural consumers and to persuade them, staffs should be well trained, courteous, polite and well mannered.

Limitation of Study And Scope For Further Research:

The study is confined to only few selected rural areas of Kheda district and therefore, the result cannot be generalized. Moreover, the research involves small sample size. Hence, the same study can be conducted with large sample size and in the context of other rural areas. Similar study can also be carried out in rural areas by taking other services such as healthcare, education, insurance, banking etc.

Conclusion:

In a nutshell, tele-density of wireless telecom subscription in rural areas is yet lesser than that of in urban areas. And factors like customer care services, fair charges of SMS and call, non receipt of spam SMS and unsolicited calls, courteous and polite staff contribute significantly to customer satisfaction.

References:

1. Dineshkumar, U., & Moorthy, V. (n.d.). A Study on Customer Satisfaction towards Airtel with Special

- Reference to Dharampuri (District). IOSR- Journal of Business and Management , pp. 09-12.
2. Jain, R. &. (2015, March). Lessons of Reforms of the Telecom Sector. Research and Publication, IIM Ahmedabad , pp. 1-54.
 3. Naidu, Y. K., & Ponduri, S. N. (2015, April). A Comparative Study on Customer Relationship Management Practices in Telecom Industry. Indian Journal of Marketing , 45 (4), pp. 42-55.
 4. Puschita, Emanuel et al, (2013), Challenges for a Broadband Service Strategy in Rural Areas: A Romanian Case Study (Telecommunication Policy), <http://dx.doi.org/10.1016/j.telpol.2013.08.01>
 5. Rahman, Abdur (2012), Customer Satisfaction Level of Prepaid Subscribers of Airtel Bangladesh Limited, Internship Report, BRAC Business School, BRAC University
 6. Ratnesh, K., & Kansal, A. (2013). An Analytical Study of Customer Satisfaction Influencing Brand Loyalty and Foster Recommendation for Mobile Services Providers of Indian Telecom Industry. International Journal of Emerging Research in Management , 2 (12), pp. 84-90.
 7. Sharma, R. B. (2014). Customer Satisfaction in Telecom Sector in Saudi Arabia: An Empirical Investigation. European Scientific Journal , 10 (13), pp. 354 - 363.
 8. Umair, R., Saeed, R., Arshad, H. M., Haider, S. A., & Ahmad, W. (2013). Determinants of Customer Satisfaction: The Case of Pakistan Industry. Journal of Basic and Applied Scientific Research , 3 (11), pp. 251-258.
 9. Yadav, R. K., & Dabhade, N. (2013). Impact of Service Quality on Customer Satisfaction of Mobile Users - A Case Study of Airtel. International Journal of Innovative Research & Studies , 2 (5), pp. 139-163.
 10. A Brief Report on Telecom Sector in India - January 2015
 11. www.trai.gov.in
 12. http://censusindia.gov.in/2011census/hlo/hlo_highlights.html

Government's Role in Development of Rural Tourism of Gujarat

Ashish Rami* and Dr. Kavita Kshatriya**

Abstract

Gujarat tourism has been developed drastically in the last decade. Tourist flow in the year of 2004-05 was 7,612,013 which were grown to 32,700,000 in the year of 2014-15. Government of Gujarat has taken so many initiatives to promote Gujarat tourism. Remarkable growth has been observed in tourist arrival after chosen Mr. Amitabh Bachchan as a brand ambassador of the Gujarat tourism. Gujarat government's venture Tourism Corporation of Gujarat Limited (TCGL) has applied many integrated marketing communication tools and strategies to promote tourism spots of Gujarat. Almost tourist places of the Gujarat are located in rural areas, so having potential of tourist hub; those areas can be focused more. TCGL has played a major role in development of rural tourism. The study focuses on various actions taken by government of Gujarat to promote rural tourism are: festivals/events, home stay policy, special advertisement campaign, fairs, enhancing administrative facilities, infrastructure development of rural tourist places, digital marketing, projects etc. Certain challenges are also associated in development of rural tourism such as lack of internet facilities, lack of infrastructure facilities to unknown tourist places, lack of support by tour operators. Researcher has also done a primary survey to visitors' opinion about rural tourism development and government's contribution.

Key words: Development of rural tourism, role of government, Gujarat tourism, tourist places

Introduction

Gujarat is blessed with diversified geographical vicinity from grasslands to lush green forests, deserts to wetlands, beaches to valleys. Gujarat is having cultural diversity with various fairs and festivals. People also love to visit various heritage sites, archeological places, pilgrimage spots of Gujarat. Government of Gujarat has granted status of 'Industry' to the tourism sector in newly launched tourism policy of September 2015. According to GITCO estimates, Gujarat tourism has contributed 2.7 percent in GDP of 2014 which was expected to grow at 5percent in 2015. Gujarat tourism has become a brand after tremendous marketing efforts by TCGL (Tourism Corporation of Gujarat Limited). Government has already started promoting Gujarat tourism in a digitalized way to realize the goal of 'Digital India'. Gujarat has been awarded as top for Comprehensive Development of Tourism in 2013-14. Gujarat also won first position in three other categories - best rural tourism project for Rann Utsav, best tourism promotion publicity material for 'Gujarat's 50 golden destinations' coffee table book, and best film promotion friendly state. Development of rural tourism can result into development of rural areas. Growth of such platform around the concept of rural tourism can be useful in the country like India where almost 74percent of population resides in its 7 million villages. Rural tourism provides chance for tourists to experience events, culture, people, food and craft that are not available in cities and

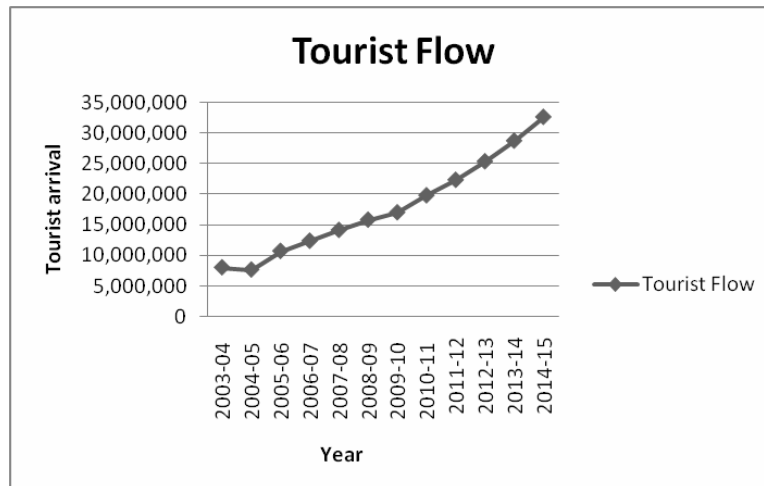
larger towns. Government is attentive to promote rural tourism as per the tourism policy 2015-2020.

There is a significant increase in the number of tourists since marketing drive had been strengthen after 2010. Total tourists visited in 2010 were 17,011,247 which are increased to 32,700,000 in 2014-15 as shown in figure 1.

* Research Scholar, Kadi Sarva Vishwa Vidyalaya, Gandhinagar and Associate Professor, Rai University, Ahmedabad

** Professor, NRIBM, GLS University, Ahmedabad

Figure 1- Flow of tourists



(Source: <http://www.gujarattourism.com/downloads/Tourism%20Policy%202015.pdf>)

Literature review:

"Rural tourism includes a range of activities, services and amenities provided by farmers and rural people to attract tourists to their area in order to generate extra income for their businesses" (Gannon, 1988, in te Kloeze, 1994) The rural tourism is the best source of income, which eliminates poverty and brings cheers to the simple villagers and the local youths. (Misra, Nanda, 2015). Patel R. (2012) has focused on strengthening tourist infrastructure, government should take care in maintenance of tourist places. Intercontinental consultants and technocrats pvt. Ltd. (2005) has found best practices adopted by state governments for the development of tourism. Verma S. (2005) found that cooperatives can also contribute in development of tourism. Pawan K. Shukla & A. A. Ansari (2013) said about the changing dimensions of tourism industry in Gujarat. Yogesh N. Vansiya and Subadra Ragothaman (2012) examined the progress and prospects of tourism in this state. Ajitkumar singh (2013) has studied on impact of celebrity endorsed advertisements on tourism and hospitality products. Vansiya and Subadra Ragothaman (2012) examined the progress and prospects of tourism in this state. The state has visualized various event based tourism which strengthens the prospects of Gujarat tourism. A team from IIMA is studying the promotional effectiveness of 'Khushboo Gujarat Ki' model that has given a facelift to tourism in the state. Students of the institute are conducting a case study on the marketing and branding of Rann Utsav, the annually organized festival in Kutchh. Different viewpoints have been analyzed in the literature about tourism aspects.

Research Methodology:

Research Objectives:

Very few studies have been done to grab the potential of rural tourism, so researchers want to highlight the concept of rural tourism in Gujarat.

In this way the present exercise attempts to attain the following objective during the cause of research. The objectives of the study are:

- To identify efforts taken by government to promote rural tourism
- To study challenges in implementation of projects for rural tourism development

Sample size: Total sample size is 100 out of which 60 respondents have visited the rural tourist sites.

Sampling method: Primary data is collected via convenient sampling method

Mode of data collection:

The researcher has reviewed a number of literature books, project reports of government and private research firms, articles, websites and related studies that have been done by other researchers. Primary data has been collected from the respondents who have visited the rural tourism places.

Data Analysis & Findings:

Government has launched many projects for development of rural tourism. Rural tourism is indirectly linked to heritage, pilgrimage, archaeological, natural,

coastal, water, forest sites. There are many such prominent places situated in the rural areas, developing which more tourists can be attracted and it may result into employment generation, exploring local craft & artisans, contribution in GDP. The study focuses on such projects and initiatives taken by government to develop rural tourism.

Gujarat Tourism policy 2015-2020: Latest tourism policy has focused on developing tourist sites. Government has decided to provide capital subsidy for setting up hotels. The policy also declared a slew of tax relaxations to boost entrepreneurs. Apart from this, ICT enabled technology, mega tourism projects, sustainable tourism, incentives for innovators, stipend to tourist guide are key points of new tourism policy.

Home stay policy: One of the strategy applied by TCGL is Home stay policy, under which tourist can stay into registered local homes in remote areas having few hotels. The policy is more helpful for tourist in rural area where hotel is not available easily such as Sasan Gir and Kutchch.

Global Bird Watchers' Conference: Government conducts conference for bird watchers every year to promote eco tourism in the state.

Tourist helpline: The Tourism Minister said the government has launched a tourist helpline 1363 which will soon have facility in 12 more foreign languages like Russian and Japanese. Currently the helpline operates in Hindi and English only.

Coastal Eco-village development programme: The project was launched to focus on renaissance and management of fodder and fuel in the coastal habitats of beaches, sea grass beds, wetlands, mangroves, coral reefs etc. The project was conducted in Sasan Gir area. The programme was intended to encourage acceptance and consideration of the requirement to protect, preserve and redevelop substitute native species of fodder and fuel by local communities.

Eco-tourism development project: The concept is meant for conservation of natural and cultural resources including biodiversity. It is a mechanism for sustainable development, particularly in environmentally susceptible region such as forest, river, coastal vicinity, water reservoir etc. Nal Sarovar and Thol Lake are conserved under eco tourism areas. Government has declared these areas as natural bird sanctuary and banned such areas for any kind of construction and using plastic

products.

Gujarat Archaeological Monuments Signage (GAMS) project under Cultural Heritage Interpretation Program is a big level signage initiative which involves blueprint, fabrication and installation of pavement display signage and making of brochures and booklets to construe approx 200 cultural heritage sites under the control of Directorate of Archeology, government of Gujarat.

MOU: Memorandum of understanding has been signed between Gujarat tourism and Rajasthan tourism, ITDC and the World Travel and Tourism Council for attaining the required promotional efforts. 'Royal Orient' is one of the esteemed tourism products for Gujarat. It is a joint venture between TCGL and Indian railways.

PPP: Public Private Partnership is the modern approach implemented. In this mode government and private both firms work together to develop rural tourism. Such projects are conducted in Rannotsav festival of Kuchch desert. Private players are encouraged to develop facilities such as camel/horse riding, trekking, paragliding, tent city, and caravan riding. Special projects on dissemination and transfer of technology in Bhavnagar and Valsad districts, Banni area of Kuchch was carried out to focus on employment generation. Government has joined hands with IL&FS to build up 50 tourism sites and more than 20 billion of tourism related infra investments. GUJTOP and GIDB will be coordinating with TCGL for PPP projects.

Sardar Sarovar Narmada Nigam Limited has invited private sector partaking for expansion of infrastructure amenities to make a famous tourist destination in downstream vicinity of dam.

Gujarat Gram Hat: It was a widespread marketing involvement and support for the rural poor in all districts of Gujarat.

Event/festivals based tourism:

Gujarat tourism policy 2003-2020 focused more on event based tourism which was very successful for non residents of Indians specially Gujaratis. Policy 2015-2020 is also focusing on fairs and festivals to promote rural tourism are as give below:

Name of festival/event	Place	Name of festival/event	Place
Rannotsav	Dhordo village of Kuchch	Tana riri Mahotsav	Vadnagar
Uttarardh mahotsav	Modhera	Monsoon festival, Winter festival	Saputara
Nalotsav	Nal Sarovar	Paragliding festival	Dang
Polotsav, Polo Cycle Race	Polo forest, Abhapur	Beach festival	Tithal, Mandvi
Panch Mahotsav	Champaner, Pavagadh	Sasan festival	Sasan Gir
Ravechi Fair	Ravechi Temple, Rav Village Kutch	Tarnetar Fair	Tarnetar - Surendranagar
Vautha Fair	Vautha Village	City Heritage Festival	Bhadra, Adalaj, Sarkhej Roza, Ranki Vav, Champaner
Horse Race	Ambod, Mansa	Don Festival	Don Hill Station, Dang
Run the Rann	Dholavira-Khadir Bet ó Kutch	Dang Darbar Mahotsav	Ahwa, Dang
Girnar Mahotsav	Junagadh	Camel mega show	Wetland of Bhuj
Chitra-Vichitra Fair	Khedbrahma	Kavant Fair	ChhotaUdeipur
Bhadrpad Ambaji Fair	Ambaji	Shamlaji Fair	Shamlaji

Celebrity endorsement: As per data compiled by GITCO, total increase in tourist arrival during 2011-12 was 54 lakhs. The rise in tourist arrival is said to be the result of ad campaign of 'Khushboo Gujarat Ki'. So after endorsement with renowned celebrity Mr. Amitabh Bachchan, excitement is emerged in the mind of viewers to visit various rural tourist places also for example Khambhalida Gufa, Adalaj step well, white desert of Kutchch etc.

Rural tourism projects:

Hodka District- Kuchch : Hodka village is located near to Bhuj, district Kuchch. The area is famous for leather craft, colorful attire of people, strong cultural background, rich art, craft and royal embroideries. Kuchch Mahila Vikas Sangathan an NGO has also contributed for the project. The project was so successful and received a PATA Grand Award 2010 also. Developmental activities done under the initiative are; creation of Kraft museum, Gram Kala Kendra, production

of equipment directly related to tourism, tourist accommodation, handicraft haat, tent house etc.

Dandi- Navsari District: Dandi is a small village near Navsari. The place is known for its salt satyagraha when Mahatma Gandhi had protested from Ahmedabad to Dandi against obligation of tax on salt. Focus of the project was to develop a place as a Mahatma Gandhi heritage site.

Navagaon and Malegaon, District- Dang: The villages located in Ahva Taluka are famous for tribal art and craft work. Activities under the project are; developing tourist information center, shops, museum, training room, general amenities for tourists.

Tera, District- Kuchch: The place is situated in Abdasa taluka of Kuchch known for Bandhani craft, heritage sites, and embroidery. Actions under the project are: developing Tera heritage walk, tourist restaurant, ratnabai's Samadhi, view point above Sumarsar pond, Raja Rani's seats etc.

Vishwa gram (Global Village): The project was launched in Tambi village in Bhavnagar District and Ahmedabad. Rural tourism can be made more comfortable at a global level by such innovative concept to provide Gujarati ethnicity as well as international culture, history, events, monuments and heritage.

Training & skill development: Training and skill development programmes for employees involved in providing tourism related services through 335 Kaushalya Vardhan Kendras giving professional skills to rural youth in different sectors including tourism.

Integrated Marketing Communication tools: Extensive marketing campaign is a basis behind richness of the Gujarat tourism. Such tools are Print advertisements, Social networking portals, Hoardings/poster, Mobile applications, E-marketing etc.

TV/radio commercials: in BBC world TV, Discovery and other well-known international channels

One of the objectives of newly launched Gujarat tourism policy is to enhance the use of ICT in further improvement in the quality of services. The policy has also focused on special incentives for investors to adopt ICT in tourism sector. The policy has highlighted about promoting ICT enable technologies through virtual tourism, mobile applications, blogs, social networking sites etc.

TCGL has started E-services to ease tourists' experience. Various E-services applied by TCGL includes online booking, online payment, mobile application of Gujarat tourism, information about places on website, events & authorized operator, virtual tour, tourist kiosk, customer care that help tourist to get better tour experience.

Various digital marketing tools and ICT enabled technologies are described as below:

Mobile applications: Number of mobile users is increasing day by day. TCGL has launched an application named 'Gujarat Tourism' on play store by which users can explore about various tourist spots. 241 people have rated the application.

Kutch-Gujarat tourism: another mobile application is Kutch-Gujarat tourism which is rated by 64 users.

Social networking websites: People use so many social networking websites to share their ideas and

photos. Gujarat tourism is also present in various social networking portals i.e. Facebook, Google +, Twitter, Youtube, Pinterest, Instagram, Soundcloud.

Facebook: TCGL has created a Facebook page of Gujarat tourism which is like by 1,066,324 users. It is the highest rated in all the social networking platforms.

Youtube videos: TCGL has uploaded various commercials of 'Khushboo Gujarat ki' campaign on youtube which is also famous. It has 1,018 subscribers and 366,530 views.

Twitter: One of the popular social networking website Twitter has 47.5k follower and 1130 tweets.

Pinterest: Pinterest is a visual discovery tool that one can use to find ideas for their projects and interests. 163 followers are there on Gujarat tourism pinterest page.

Soundcloud: SoundCloud is the world's leading social sound platform where anyone can create sounds and share them everywhere. On this platform TCGL has uploaded commercials of Gujarat tourism. 81 followers are following the page.

Instagram: Instagram is an online mobile photo-sharing, video-sharing and social networking service. 2376 followers are there on Gujarat tourism page of Instagram.

Google +: Gujarat tourism is having 755 followers and 520,937 views of Google+ page.

Blogs: Gujarat tourism is also get promoted via blogspot.com which is about writing blogs of various tourist spots.

Advertisement on websites: TCGL is also present in various websites such as advertisement of Gujarat tourism on Yahoo! login page.

Virtual tour: On the website of gujarattourism.com, people can enjoy by visualizing the tourist place virtually.

Website: In the era of digitalization, all the information has to be available on internet. TCGL has developed a website www.gujarattourism.com to explore the tourism of Gujarat. There are many other websites also created to widen the scope of digital information of Gujarat tourism. Other websites are Gujarat Pavitra Yatratham Vikas Board, Gujarat tourism opportunities pvt ltd., Girlion.in, Etc.

Gujarattourism.com: The official website of TCGL is having all the information about Gujarat tourism. One very good step taken by the website is that if any person has visited unknown tourist destination he can give details of such places on the page of website.

Pavitra Yatra Dham Vikas Board: The board is established by chief minister to promote and develop religious sites of Gujarat.

Girion.in: Government has created a special portal for online booking of Gir Safari.

Ranutsav.net: One of the popular festivals celebrated during December to March is Rannotsav in Kutch desert. Special website for booking is also available for people.

Online booking/payment: Visitors can book online about their tour, hotel, and tour operator.

Garvi Gurjari E-store: Government of Gujarat has developed a web store (www.estoregurjari.com) to sellout regional handloom and handicraft products.

Audio/video guide: The website is also equipped with audio-visual clips of tourist places.

E Brochure: Detailed information of major tourist destination is available in the form of E-Brochure.

Primary data analysis: Data has been taken from 60 respondents out of 100 who have visited rural tourist places. Analysis of the questions is as given below:

1. Awareness about rural tourism

Status	Number of respondents	Frequency in %
Knowing very well	25	41.7
Somewhat knowledge	27	45
Heard somewhere	8	13.3
No idea	0	0

45percent people are aware about rural tourism concept.

2. Do you think that rural tourism should be promoted?

Status	Number of respondents	Frequency in %
Yes	60	100
No	0	0

100percent respondents are in favor to promote rural tourism

3. Government's contribution in development of rural tourism

Status	Number of respondents	Frequency in %
Very good	5	8.3
Good	8	13.3
Average	33	55.0
Poor	11	18.3
Very poor	3	5.0

55percent respondents believe that government's contribution in development of rural tourism is average.

4. Satisfaction level at rural/village area tourist place

Status	Number of respondents	Frequency in %
Highly satisfied	4	6.7
Satisfied	13	21.7
Partially satisfied	33	55.0
Not satisfied	9	15.0
Very bad	1	1.7

55percent visitors are partially satisfied about tourist place at rural area.

5. How rural tourism can be developed?

Status	Number of respondents	Frequency in %
Advertising	3	5.0
Government projects and aids	21	35.0
Increasing facilities at tourist place	33	55.0
Developing digital infrastructure	3	5.0

55percent respondents gave opinion that rural tourism can be developed by increasing facilities at tourist place, whereas 35percent opines to develop such places via governmental projects and aids.

As per the primary survey, people believe that rural tourism can be developed by increasing various amenities and government projects, so government's focus should be on proper implementation of all the policies and projects properly.

Challenges:

- Lack of infrastructure, high illiteracy rates, unemployment, underdevelopment, poverty and a general lack of knowledge and understanding of tourism development issues are major in development of rural tourism. Tourism infrastructure, especially in rural areas of the state is poorly developed. Development of infrastructure facilitates, development of rural environment, ensuring compliance with environmental protection requirements. Rural tourism development is hampered by the poor quality of roads and transport facilities. In case of Nal Sarovar and Thol Lakes, basic facilities are missing such as transportation, pure drinking water. Charges levied for boating in Nal Sarovar is also very high which is not affordable for all classes of people.
- In case of Navagaon & Malegaon (Gujarat), Tara (Gujarat) etc., the work is half done and left due to insufficient budgeted amount. In the projects of rural tourism, 4 were successful, 2 were average and 2 were unsuccessful. Other behind failure of the project was deficient work of software components due to lack of funds. One project of Dandi in Navsari district was average because of half-done completion of hardware components and integration of two projects.
- Competition: Gujarat tourism is out of top ten states in terms of tourist arrivals, as Madhya Pradesh, Rajasthan, Kerala and other states are ahead to attract tourists. It would be challenge for government to divert tourist's attention to rural tourism of Gujarat.
- Safety and security measures: Tourists have more concerns about safety and security measures, especially in village areas.
- Self awareness about preserving heritage places: People from rural area are not educated or trained to preserve heritage places; even tourists from urban area pollute such places by wastage of plastic bags and other garbage.
- Improper management of projects for development: There are certain places such as Adalaj step well where the work is incomplete for development of the place.

Suggestions:

Gujarat government has done tremendous efforts to promote Gujarat tourism. Though so many tools of ICT are used, there are certain limitations on which government has to improve:

- Awareness of mobile applications: Awareness of mobile application has to be increased. As per the survey 29percent respondents has never utilized mobile applications of TCGL. Only 241 have rated the application. Another application launched by TCGL is Gujarat's Heritage. It is also very less popular. Whatsapp application can be useful for sending messages of various events.
- Website up gradation: Official website of TCGL is rarely used by respondents. Only 26percent people are chooses the website amongst other ICT tools. The website should be upgraded and improved.
- Internet facility: There are number of people who want to use digital technology to get the information about tourism but due unavailability of internet network they can get the information. So digital infrastructure in terms of internet services should be improved in remote locations.
- Wifi equipped place: Tourist places should be equipped with wifi facility to explore the place via digital devices.
- Audio/video guide or kiosk: Audio/video guide can be helpful to describe monuments, heritage / archeological spots. Audio/video guide or kiosk can be helpful for handicapped people. Language of the audio/video guide can be kept in various languages to tap the need of people other than Gujarati.
- Tourist information centers: Tourist information centers should be developed so that tourist can collect the necessary information about various tourist places.

Conclusions:

Government should provide proper facility for each village to become smart city. Punsari village of Sabarkantha district can be a model village where all the urban facilities are provided such as wifi connectivity, CCTV cameras, continuous power supply, good transport ways etc. The village has also Best gram panchayat award

in 2011. If village tourist place are developed like Punsari village, tourists can be fetched more.

Development of accommodation and food facility at rural places is required. Performance of 'Toran' restaurant is not good, few restaurants are not functioning well and price of food is also high for all class of people.

There are many tourist places in rural areas left untouched by tourism department. If such sites developed properly and promoted well, can catch attention of tourists. For example stepwell of Jundal village near to Adalaj, Fort and other heritage places near to Dholka and many more places are not developed.

Help of NGO and other private firms can be taken for development of rural tourism sites. Dairy Cooperatives have built up roads and schools in some areas of Gujarat. Those parties who are strong in infrastructure can be developed for formulating strategies for effective tourism.

When any state in India develops rural tourism, it always benefits to rural region in term of rural efficiency, employment, health, rural environment and culture community involvement and a path for appreciative conventional thinking and principles to contemporary era.

References

- ACNielsen ORG-MARG Pvt. Ltd. (2011), Impact & Evaluation Study of Rural Tourism Projects, Ministry of Tourism Government of India
- Blangy, S. and Nielsen, T. (1993) Ecotourism and minimum impact policy. *Annals of Tourism Research* 20:2, pp. 357-360
- Chaudhary, M. (2000). India's image as a tourist destination - a perspective of foreign tourists. *Tourism Management*, 21, 293-297.
- CII Report and Recommendations on Tourism Sector, April 2003.
- Clark, J. (1997) A framework of approaches to sustainable tourism. *Journal of Sustainable tourism* 5:3, pp. 226-234
- Consulting Engineering Services (India) Pvt Ltd. (CES) (2008), Project: Evaluation of the Scheme of Financial Assistance to States for Development of Circuits / Destinations, final report, government of India, ministry of tourism, MR Division.

- Elkin, R. D. and Roberts, R.S Ritchie, B. J. R. and Goeldner, C. R. (eds) (1987) Evaluating the human resources / employment requirements and impacts of tourism developments. Travel, tourism and hospitality research pp. 403-412. John Wiley & Sons, New York
- Gujarat tourism (2015), <http://www.gujarattourism.com/>
- Intercontinental consultants and technocrats pvt. Ltd. (2005), Best practices adopted by state government in the development of tourism, volume 1 final report.
- Kloeze, J.W. (1994): The Benefits of Rural Tourism, the Role of the State, and the Aspects of Training and Co-operation, Formal Speech held at the Central and East-European Federation for the Promotion of the Green-Soft-Rural Tourism Conference "Rural Tourism Development in Bulgaria and in the Balkan Countries", Karlovo
- KPMG (2013), Travel and tourism sector: Potential, opportunities and enabling framework for sustainable growth, Theme paper available at <http://www.kpmg.com/IN/en/IssuesAndInsights/ArticlesPublications/Documents/KPMG-CII-Travel-Tourism-sector-Report.pdf> accessed on 13 Dec.'15
- Mishra P. (2015), Gujarat bags 4 national tourism awards, Times of India. Available at <http://timesofindia.indiatimes.com/city/ahmedabad/Gujarat-bags-4-national-tourism-awards/articleshow/49016360.cms> assessed on 2-1-2016
- Misra L., Nanda S (2015), Home stay promoting rural tourism in India. International Journal of Retailing & Rural Business Perspectives © Pezzottaite Journals. Volume 4, Number 2, April - June.
- Patel R. (2012), India's tourism industry - progress and emerging issues. Arth Prabhand: A Journal of Economics and Management. Vol.1 Issue 5, August
- Rami A., Kshatriya K.(2015), 'A study of tourist satisfaction in Ahmedabad city within SERVQUAL dimension', Kaav international journal of economics, commerce & Business management, APR-JUN15/VOL-2/ISS-2/A9
- Sharma N, Tiwari A. (2014), Rural Tourism: A Prominent Niche for Indian Tourism. International Journal of Trade and Commerce-IIARTC January-June 2014, Volume 3, No. 1, pp.172-181. SGSR
- Singh A. (2013) 'marketing of tourism and hospitality products: - study of the Impact of celebrity endorsed advertisements on hospitality products and services', IBMRD's Journal of Management & Research.
- Swaniti (2014), Adarsh Gram (Model Village): A Concept Note. Available at http://unnat.iitd.ac.in/pdf/model_village.pdf assessed on 10-1-2016
- The Economic Times (2015). Digital India: 15 salient things to know about PM Narendra Modi's project. Available at: http://articles.economictimes.indiatimes.com/2015-07-01/news/64004371_1_digital-india-programme-swachh-bharat-mission-knowledge-economy
- The Indian Express (2015), Gujarat govt unveils new tourism policy, in a first tourism gets 'industry status', Available at <http://indianexpress.com/article/india/gujarat/gujarat-govt-unveils-new-tourism-policy-in-a-first-tourism-gets-industry-status>
- Verma S.(2005), Promoting Peace Through Tourism: Role of Co-operatives, ica-ap.coop

Pradhan Mantri Jan Dhan Yojana (The Financial Inclusion): A study of Awareness

Mrunal Chetanbhai Joshi* and Vikram P. Rajpurohit**

Abstract

Time to time Indian Government consistently make its efforts towards inclusion of rural customer (investors) in organised financial system. This might not only provide handsome amount of cash flow to boost Indian economy but it could also help the government to facilitate rural development through offering various services like gas subsidies etc. Thus, nomenclature of financial inclusion varies due different ruling party, but the primary objective remains the same i.e. to flourish the bottom of the pyramid of financial market. The current states elucidates that present government upto some extent turn out to be successful by opening around 12.54 crore new bank account (up to January 2015) and deposits of more than Rs. 5000 crore (up to November 2014) through new form financial inclusion Pradhan Mantri Jan Dhan Yojana (PMJDY). But it has been observed that still the largest part of the rural market is untouched and not explored fully. Hence, this paper is an attempt to study about the awareness of PMJDY among its potential investor i.e. rural customer.

Key Words: PMJDY, Financial Inclusion

Introduction

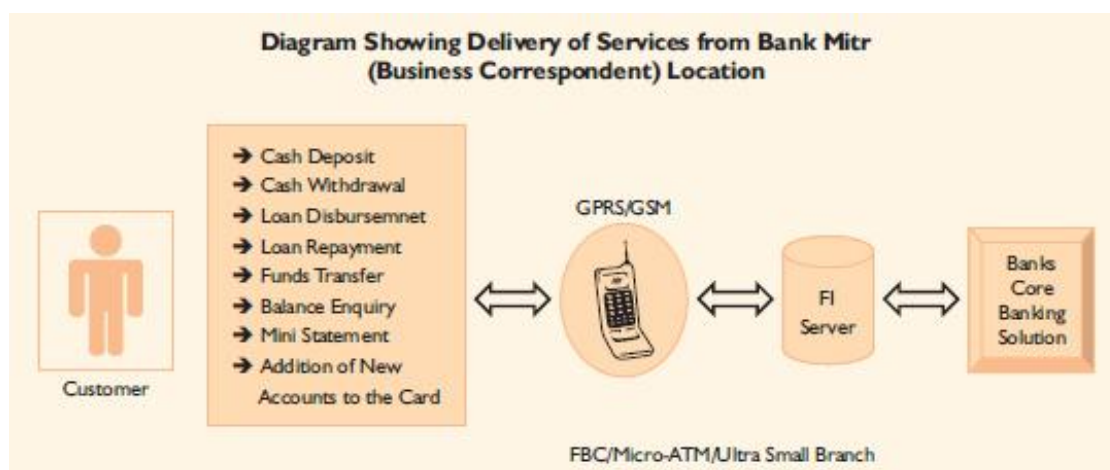
Financial Inclusion is delivery of banking services at an affordable cost to the vast sections of disadvantaged and low income groups - rural customer. The Financial Inclusion Plan aims at providing easy access to financial services to those sections of the society who are deprived of it so far at affordable cost thereby bringing them into the mainstream financial sector. Implementation of Financial Inclusion is not a new concept for Bank. Financial Inclusion activities are being implemented by Bank since inception through various government sponsored programmes, lending to the poorest of the poor, lending to the minority communities, lending to SC/ST, lending to priority sectors, etc. It will enable the Government to provide social development benefits and subsidies directly to the beneficiary bank accounts, thereby drastically reducing leakages and pilferages in social welfare schemes. Further, expanding the reach of financial services to those individuals who do not currently have access would be an objective that is fully consistent with the people-centric definition of inclusive growth which attempts to bridge the various divides in an economy and society, between the rich and the poor, between the rural and urban populace, and between one region and another. Thus, financial inclusion could be an instrument to provide

monetary fuel for economic growth and is critical for achieving inclusive growth.

However, the RBI formalized the concept of Financial Inclusion in 2005, when it permitted rendering of banking services through Business Correspondent (BC) channel. It has been defined, by the Committee on Financial Inclusion, 2008, as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost. It primarily represents access to a bank account backed by deposit insurance, access to affordable credit and the payments system. It then advised all commercial banks in the year 2010 to submit Board-approved Plan for providing banking services in rural unbanked areas under Financial Inclusion. In the year 2011, the Government of India gave a serious push to the programme by undertaking the "Swabhimaan" campaign to cover over 74,000 villages, with population more than 2,000 (as per 2001 census), with banking facilities. Because of the RBI's drive for financial inclusion, the number of bank accounts increased by about 100 million during 2011-13.

* Assistant Professor, B.V. Patel Institute of BMC & IT, Uka Tarsadia University

** Student, B.R.C.M. College of Business Administration, Surat



(Source: Pradhan Mantri Jan-Dhan Yojana, A National Mission on Financial Inclusion, 2014)

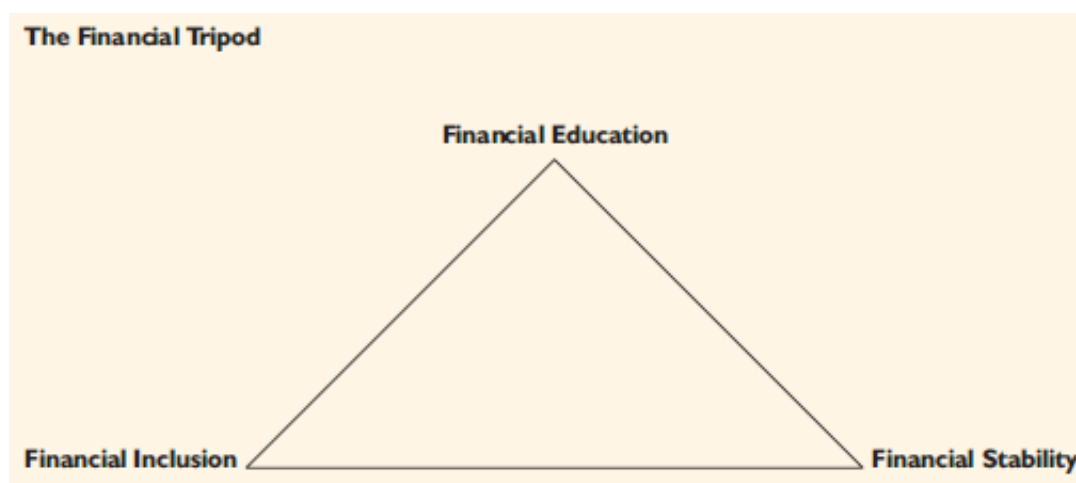
The Swabhimaan campaign, however, was limited in its approach in terms of reach and coverage compare to new scheme Pradhan Mantri Jan Dhan Yojana (PMJDY). Convergence of various aspects of comprehensive Financial Inclusion like opening of bank accounts, digital access to money (receipt/credit of money through electronic payment channels), availing of micro credit, insurance and pension was lacking. The campaign focused only on the supply side by providing banking facility in villages of population greater than 2000 but the entire geography was not targeted. There was no focus on the households. Also some technology issues hampered further scalability of the campaign. Consequently the desired benefits could not be achieved and a large number of bank accounts remained dormant.

Literature Review

Bagli (2012) has found that a strong positive association between the human development and the

financial inclusion of the states in India. He also found that it would be helpful to the governments or financial regulators or other bodies of policy-makers in near future to enhance financial inclusion but till date in financial inclusion the plight of the states in India is not commendable. He has also concluded that the mass financial literacy and awareness among the marginalized sections of people are absolutely necessary to achieve financial inclusion.

Sri Narendra Modi, Hon'ble Prime Minister of India (2014) in report of PMJDY indicated few challenges in implementing mission. In that one of the challenge was related to Brand awareness and sensitization about channel of Business Correspondent Banks Outlets and Rupay Cards which is important to achieve a "demand" side pull effect. In this report it is also mentioned about the financial tripod for financial inclusion, in which financial education is one of the important mainstay.



(Source: Pradhan Mantri Jan-Dhan Yojana, A National Mission on Financial Inclusion, 2014)

Chowhan & Pande (2014) concluded that by bringing low income groups within the perimeter of formal banking sector; financial inclusion protects their financial wealth and other resources in exigent circumstances. Financial inclusion also mitigates the exploitation of vulnerable sections by the usurious money lenders by facilitating easy access to formal credit. To mitigate such sufferings, the Pradhan Mantri Jan Dhan Yojna lies at the core of Govt of India development philosophy of Sab Ka Saath Sab Ka Vikas. In projecting brighter future of PMJDY they further mentioned that its huge success will enable the Bank Managers to understand and utilize the opportunity provided by Financial Inclusion to their advantage, by participating in Govt's poverty alleviation programmes for weaker section, improving their CASA base, raising their deposit base through direct fund transfer scheme of the Govt. etc.

Kaur & Singh (2015) found that financial inclusion in India will help government and banker to reach at untapped potential of bottom of the pyramid section of Indian economy. They have also described that The widely acknowledged & successful launch of this PMJDY scheme also strengthens the resolve that when coordination, dedication, opportunism, commitment, formalization, dependence, trust, satisfaction, cooperation and continuity is provided by all the constituents and stakeholders, a framework of construct is created which acts as a dominant force for accomplishment of the mission.

Raval (2015) in his research mentioned about importance of inclusion of people of low income or deprived class in economic development. PMJDY is such an initiative in this direction by the government of India. He also studied that an initiative to cover "excluded segment" can be successful if government is backed with efforts of private sectors and involvement of people beyond just policy formation of government.

Balasubramanian (2015) has focused on importance of financial literacy focusing on saving habit among poor. He has build decision tree model indicated that the number of earning members, family size, average monthly income and nature of employment are the deterministic independent variables which influence the regular saving behavior of the poor.

Research Methodology

Rational and Objective for the Study:

The motive of financial inclusion - PMJDY is also modest and noble like Swabhimaan. Financial inclusion is initiated by RBI in year 2005 and new government has actively resumed it in August 2014. In literature review we found that many researchers has evaluated PMJDY and its' support from private players but awareness related studies are not done rigorously. All the objectives and features of PMJDY are striking, but unless and until the end-users would not be aware and educated about all these schemes they could not contribute effectively. Thus, in this regard we have determined following objectives for the paper.

1. To study the new financial inclusion plan - PMJDY and its current status.
2. To study the awareness about PMJDY among rural customers.
3. To study various factors affecting level of awareness about PMJDY among rural customers.

Research Design:

To achieve above objective we have applied descriptive research design. It helps in describing the various aspects related to PMJDY and also assist in describing state of awareness about PMJDY and major determinants for its awareness among rural customers.

Population and Scope of the study:

As all potential rural customer of Surat city who can open their bank account under PMJDY scheme, the scope of study is limited to rural customer of Surat city during the year 2015

Sampling method and Sample size:

As population for the study can not determine definitely, it is difficult to determine sample frame, hence scientific probabilistic sampling could not be applied in our study. We have used non-probabilistic convenience sampling method to identify the respondents (potential as well as actual rural customer) for the study. Thus 105 respondents were selected using convenience sampling method who are eligible for PMJDY or who had already avail the said scheme.

Type and Sources of Data:

To meet the objectives we have used both primary and secondary data. Details of PMJDHY have been collected using available secondary data. Various articles and websites were visited to collect the information regarding the said scheme of financial inclusion. Primary data has been collected to study the level of awareness about PMJDHY among rural customers and major factors affecting it. To collect primary data we have prepared structured questionnaire.

Tools and Techniques for used for Data Analysis

To analyse secondary data we have used cross tabulation. For the hypothesis testing we have used chi-square test to justify the result of cross tabulation.

Limitations of the Study:

- It was difficult to identify actual or potential rural customer for PMJDY, one of the criteria is related to first bank account to avail benefit of PMJDY.
- As this study consist financial aspect of respondents, they were found quite hesitant to provide required information.
- Respondent were found lethargic towards responding answer related to banking services, it may be due to their lack of awareness or unfavourable tendency.

Findings and Analysis

Current Stat of Financial Inclusion

Data from Census, 2011 estimates that only 58.7 percent of the households have access to banking services. The present banking network of the country (as on 31.03.2014) comprises of a bank branch network of 1,15,082 and an ATM network of 1,60,055. Of these, 43,962 branches (38.2 percent) and 23,334 ATMs (14.58 percent) are in rural areas. According to World Bank Findex Survey (2012) only 35 percent of Indian adults had access to a formal bank account and 8 percent borrowed from a formal financial institution in last 12 months⁵.

Access to formal financial institutions has improved gradually but thousand of villages still lack a bank branch; less than 10 percent of all commercial bank credit goes to rural areas, where around 70 per cent of the total population lives⁶. Data from the RBI show that

only 46,126 out of 640,867 villages in India were covered by banks in March 2014. Thus the need for financial inclusion is beyond question.

New financial inclusion scheme - Pradhan Mantri Jan Dhan Yojana (PMJDY)

Mr. Narendra Modi, the current and 15th Prime Minister of India, on his 1st Independence Day speech i.e. on 15th August 2014, announced a new scheme called Pradhan Mantri Jan Dhan Yojna alias Prime Minister's People Funding Scheme. This scheme was officially launched on 28th August 2014. The prime purpose of this scheme is that every citizen of India should have easy access to open a saving bank account, thereby providing India financial freedom. The benefits of this scheme such as zero balance account, RuPay debit card, RuPay credit card, easy loan option is outlined keeping the financially backward classes of India in mind. This scheme gives them hope for a better tomorrow. In a run up to the formal launch of this scheme, the Prime Minister personally mailed to CEOs of all banks to gear up for the gigantic task of enrolling over 6.0 crore (75 million) households and to open their accounts. In this email he categorically declared that a bank account for each household was a "national priority".

In a speech the prime minister stated that once the father of nation removed the social untouchability from the country. In the current world the financial untouchability is a big concern and it separates people. Thus a bank account will be the first step to eradicate the financial untouchability from the system. Looking to the system from an economic point of view, the country like India comprises of a huge population. Each of the families living in India is the part of the economic cycle. So once the families have a bank account they get connected to the vehicle of economy. Thus when everyone will be connected, the economy of the country will run at a greater pace. Thus this step can be a source to a better economic country.

Due to the preparations done in the run-up, as mentioned above, on the inauguration day, 1.5 Crore (15 million) bank accounts were opened. The Prime Minister said on this occasion- "Let us celebrate today as the day of financial freedom." By September 2014, 3.02 crore accounts were opened under the scheme, amongst Public sector banks, SBI had opened 30 lakh accounts, followed by Punjab National Bank with 20.24 lakh accounts, Canara Bank 16.21 lakh accounts, Central Bank of India

15.98 lakh accounts and Bank of Baroda with 14.22 lakh accounts. It was reported that total of 7 Crore (70 million) bank accounts have been opened with deposits totaling more than 5000 crore Rupees (approx 1 billion USD) as of November 6, 2014. And till 31st January, 2015 total 12.54 Crore accounts were opened under Pradhan Mantri Jan Dhan Yojana.

Objectives of PMJDY

Objective of "Pradhan Mantri Jan-Dhan Yojana (PMJDY)" is ensuring access to various financial services like availability of basic savings bank account, access to need based credit, remittances facility, insurance and pension to the excluded sections i.e. weaker sections & low income groups. This deep penetration at affordable cost is possible only with effective use of technology.

Features

- The first feature of the scheme states that recipient of the Jan Dhan Yojana will have a zero-balance account along with a RuPay debit card. Furthermore, account holders will get an accidental insurance cover of Rs. 1 lakh.
- Another feature of the Jan Dhan Yojana scheme states that by opening accounts on or before January 26, 2015 the account holder can receive a life insurance cover of Rs 30,000.
- The third feature of the Jan Dhan Yojana Scheme allows the account holder to avail loan facility from the bank. The account holder can get a loan of Rs 5,000. However, he/she can avail this facility only after six months of opening of the account.
- The National Payments Corporation of India (NPCI) has further introduced a new technology, whereby account holders can transfer funds as well

as track balance even with the help of a normal phone. Earlier this facility was available only with smart phones.

- Last but not the least, for smooth mobile banking facility for the poor all banks and mobile companies have joined hands. Now mobile banking will be made easy through National Unified USSD Platform (NUUP).
- Overall, the Jan Dhan Yojana Scheme aims to eradicate the 'Financial Untouchability' from the system. Although it is a daunting task, this is expected to be a stepping stone towards the better economy of the country.

PMJDY is a National Mission on Financial Inclusion encompassing an integrated approach to bring about comprehensive financial inclusion of all the households in the country. The plan envisages universal access to banking facilities with at least one basic banking account for every household, financial literacy, access to credit, insurance and pension facility. In addition, the beneficiaries would get RuPay Debit card having inbuilt accident insurance covers of Rs. 1 lakh. The plan also envisages channeling all Government benefits (from Centre / State / Local Body) to the beneficiaries accounts and pushing the Direct Benefits Transfer (DBT) scheme of the Union Government. The technological issues like poor connectivity, on-line transactions will be addressed. Mobile transactions through telecom operators and their established centres as Cash Out Points are also planned to be used for Financial Inclusion under the Scheme. Also an effort is being made to reach out to the youth of this country to participate in this Mission Mode Programme.

Analysis of Primary Data

Awareness banking and banking related services:

Do you visit Bank?			Are you having Bank account?		
	Frequency	Percent		Frequency	Percent
Yes	67	63.8	Yes	78	74.3
No	38	36.2	No	27	25.7
Total	105	100.0	Total	105	100.0

From the above table we can see that still rural market is not fully exploited through the various banking services even after introduction of PMJDY. Still more than 25% of the market is not covered as they don't have

any kind of bank account and even more than 36% hardly visit banks. All the respondents using banking services they only have savings and current account. They don't use any other banking services.

Source of Help	Frequency	Percent
Colleagues	52	49.5
Friends	50	47.6
Relative	43	40.9
Neighbours	35	33.3
Bankers	18	17.1
Any other	10	9.5

Above tables shows that bankers are least interested in helping their customer or they have been

failed in generating faith among rural customer for banking transaction.

What is the most admirable banking service, you have come across?		
	Frequency	Percent
Deposit	26	24.8
ATM	37	35.2
Fund Transfer	13	12.4
Online Banking	22	21.0
Loan	6	5.7
Any other	1	1.0
Total	105	100.0

From the above table we can say most admirable bank services, which attract rural customers are ATM, Deposit and Withdrawal and Online services.

It show that technology also affect rural consumer behaviour.

Awareness about various banking services

Banking Services	Well known	Moderate aware	Less aware
Deposit and Withdrawal	62.0%	25.7%	12.3%
Loan	52.4%	31.4%	16.2%
ATM Related Services	52.4%	16.2%	31.5%
Draft	51.4%	22.9%	25.7%
Online services	48.6%	22.9%	28.6%
Tax related services	40.0%	12.4%	47.6%
Reference	39.0%	13.3%	47.7%
Agency Work	35.2%	24.8%	40.0%
Fund Transfer	26.6%	37.1%	36.2%
Pension	26.7%	13.3%	60.0%

From the above we can say that though government has taken few initiatives to open savings account of rural people but still many of them are not at all aware about many of banking related services. Even it

has been found that about 12% of people are even not aware about basic services of the bank.

Awareness about Government Financial Inclusion Plans: PMJDY and Swabhimaan

PMJDY			Swabhimaan		
	Frequency	Percent		Frequency	Percent
Fully aware	26	24.8	Yes	18	17.1
Somewhat aware	41	39.0	No	87	82.9
Not aware at all	38	36.2	Total	105	100.0
Total	105	100.0			

From above data we can say still more than 75% of the rural customer do not have enough awareness about benefits about the PMJDY. But at least we can

say due to aggressive and positive campaigning about PMJDY, awareness about PMJDY is more compare to old financial inclusion plan Swabhimaan.

Do you feel banking services are needed for your growth?		
	Frequency	Percent
Not very useful	26	24.8
Somewhat useful	45	42.8
Very useful	34	32.4
Total	105	100.0

Still many of rural customers have not realized the importance of banking services. But about 75% of rural customers understand that banking services are useful their business.

H0: There is no significant relationship between understanding importance of banking services and awareness about PMJDY

H1: There is significant relationship between understanding importance of banking services and awareness about PMJDY

Hypothesis Testing:

Relationship between understanding importance of banking services and level of awareness about PMJDY

Level of awareness about PMJDY	Understanding about importance of banking services			Total
	Not very useful	Somewhat useful	Very useful	
Fully aware	12	9	5	26
Somewhat aware	6	21	14	41
Not aware at all	8	15	15	38
Total	26	45	34	105

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.915 ^a	4	.042
Likelihood Ratio	9.429	4	.051
N of Valid Cases	105		
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.44.			

From the p-value of Pearson chi-square test, which is less than 0.05, we can say that null hypothesis

can not be accepted. There is significant relationship between level of understanding about importance of banking services and awareness about PMJDY.

Would you like to learn more about banking transactions?		
	Frequency	Percent
Yes	31	29.5
No	74	70.5
Total	105	100.0

As it has been observed that the rural customers fill banking services are important for them but have lack of knowledge about various banking services. Hence we can say that their negative attitude towards learning could be one of the reasons for lack of awareness about PMJDY. But whether this attitude towards learning about banking transactions has significant relationship with awareness about PMJDY or not we have to check following hypothesis.

Relationship between attitude towards leaning more about banking transaction and level of awareness about PMJDY

H0: There is no significant relationship between liking towards learning about banking transactions and level awareness about PMJDY.

H1: There is significant relationship between liking towards learning about banking transactions and level awareness about PMJDY.

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.473 ^a	2	.789
Likelihood Ratio	.466	2	.792
N of Valid Cases	105		

From the above statistical value 0.789, which is more than 0.05, we can not reject null hypothesis. Thus, we can say that there no significant relation between attitude of rural customers towards learning about banking transaction and awareness about PMJDY.

Relationship between demographic factors of rural customer and their level awareness about PMJDY

Some time demographic factors like age, gender, occupation etc. may affect level of awareness.

Hence following is hypothesis testing about relationship between various demographic factor and level of awareness about PMJDY.

H0: There is no significant relationship between various demographic factors and level awareness about PMJDY.

H1: There is significant relationship between demographic factors and level awareness about PMJDY.

Pearson Chi-Square Tests:

Demographic Factors	Asymp. Sig. (2-sided)
Occupation	.100
Education	.091
Gender	.257
Age	.219

From the above statistical analysis and p-values, which are not less than 0.05 in each case, we can say that none of the demographic factor is significantly related to level of awareness of rural customer about PMJDY.

Relationship between various sources of information or help in banking related task and level of awareness about PMJDY

H0: There is no significant relationship between various sources of information for banking transaction and level awareness about PMJDY.

H1: There is significant relationship between information for banking transaction and level awareness about PMJDY.

Pearson Chi-Square Tests:

Sources	Asymp. Sig. (2-sided)
Friends	.379
Relatives	.430
Collogue	.277
Neighbour	.255
Banker	.550
Any other	.886

As asymp. Sig. p-values are more than 0.05, in all cases, we can not reject null hypothesis. Hence we can say that none of the source of information (friends, relatives, collogue, neighbor, bankers and others) for banking transaction is significantly related to level of awareness of rural customer about PMJDY.

Conclusion

In this study we have found that government is consistently working for the betterment of rural customer by taking initiative through various schemes. They are partially successful in increasing awareness about new financial inclusion plan PMJDY compare to old Swabhimaan. But still government is not able to affect the awareness level of rural customer about PMJDY significantly. In this study we have found that rural customers even do not have enough exposure to various banking services, on top they did not realize importance of various banking services. We also studied various factors like demographic factors (age, occupation, gender and education level), source of information etc in relation to level of awareness of rural customer about PMJDY, but none of the factor found significant. However we found that the major reason for the low level of awareness about PMJDY is lack of understanding about important role of banking services in financial betterment. Thus, for better outcome of financial inclusion plan government need to work on making rural customer aware about

importance of various banking services in improving their financial health.

Bibliography

- Bagli, S. (2012). A Study of Fianncial Inclusion in India. *RADIX International Journal of Economics & Business Management*, 1 (8).
- Balasubramanian, C. (2015). Predicting Regular Saving Behaviour of the Poor Uing Decision Trees - An Imprtant Input to Financial Incluion in India. *Scholedge International Jouranal of Managemnet & Development*, 2 (8), 16-30.
- Chowhan, S. S., & Pande, J. C. (2014). Pradhan Mantri Jan Dhan Yojana: A Giant Leap Towards. *International Journal of Research in Management & Business Studies*, 19-22.
- Kaur, H., & Singh, K. N. (2015). Pradhan Mantri Jan Dhan Yojana (Pmjdy): A Leap towards Financial Inclusion in India. *International Journal of Emerging Research in Management & Technology*, 4 (1), 25-29.
- Khunthilal, R. (2014). Pradhan Mantri Jan Dhan Yojana (PMJDY): A New Drive Towards Financia Incluion in India. *ZENITH International Journal of Business Economics & Management Research*, 4 (11), 10-20.

Name of the Banks taking part in the Pradhan Mantri Jan Dhan Yojana scheme (PMJDY). (n.d.). Retrieved January 2016, from <http://jandhanyojana.net/banks/>

PM launches Pradhan Mantri Jan Dhan Yojana. (n.d.). Retrieved January 2016, from www.narendramodi.in: www.narendramodi.in

Pradhan Mantri Jan-Dhan Yojana | Department of Financial Services | Ministry of Finance. (n.d.).

Retrieved January 2015, from <http://www.pmjdy.gov.in/home>

Raval, H. R. (2015). Shaping New India through Financial Inclusion in form of PMJDY. *International Journal of Research in Humanities & Social Sciences*, 3 (5), 34-38.

Sri Narendra Modi, Hon'ble Prime Minister of India. (2014). *Pradhan Mantri Jan-Dhan Yojana*. Ministry of Finance, Department of Financial Services. New Delhi: Government of India.

"A Study on DTH Usage, factors affecting on DTH usage and problems faced in Rural Area: A case from Gujarat"

Gautam R. Parmar* and Manish Nakum**

Abstract

DTH (Direct to Home) is one of the fastest growing service in rural India. The way of entertainment and watching television is in changing mode for rural. The present study aims to investigate the DTH usage and the factor considered while selecting the DTH services the study also investigate the problem faced by the rural DTH users. The study is conducted in Amreli district villages. Total 79 rural consumers were contacted. The study finds that the television has good penetration in the area. The major Factors consider while selecting the DTH service are Picture quality, DTH Installation , Price, Availability, Offers provided by service provider. The major problems faced by DTH users are Poor Signal, Picture quality, After sales service, Price Hike. The significant correlation found between Education and Kind of Television and size of television. The income of household has correlation between kind of TV and with size of the TV and Brand of service provider. The significant correlation also found between size of television and Expenditure on service, and Brand of service provider.

Keywords: DTH, DTH in Rural, Factors affecting on DTH, Rural Entertainment

Introduction

DTH is an acronym for 'Direct to Home' service. DTH is a digital satellite service that provides television viewing services directly to subscribers through satellite transmission anywhere in the country. (<http://www.videocond2h.com>) Direct to Home (DTH) service is one of the fastest growing service in India. India is on the path of digitalization. According to FICCI-KPMG report 2014, The number of TV households in India increased to 161 million in 2013, implying a TV penetration of 60 per cent. The number of Cable & Satellite (C&S) subscribers increased by 9 million in 2013, to reach 139 million.

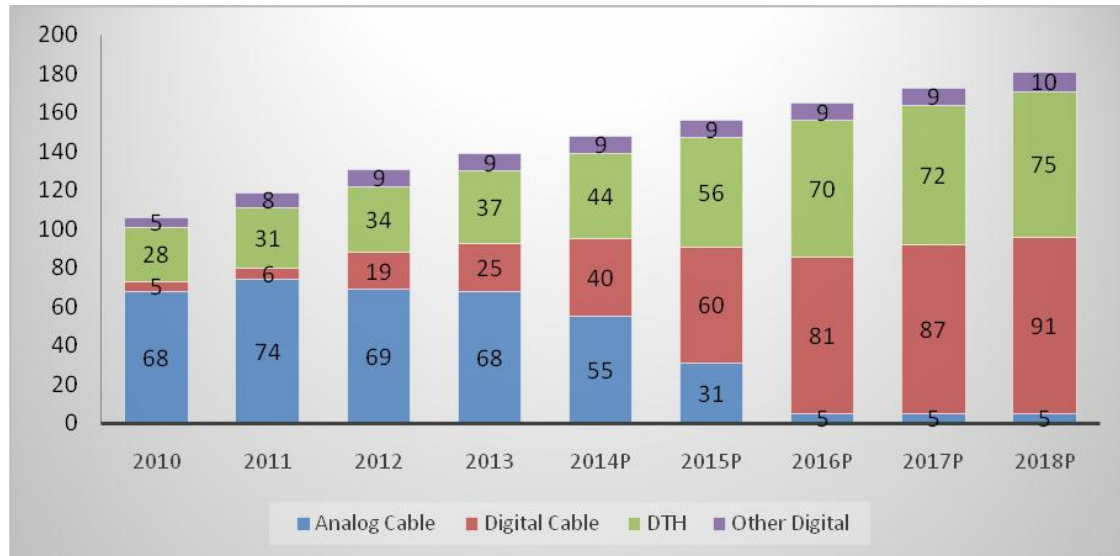
There are 69 % of population of India resides in rural area (Census of India, 2011). Rural India is on transformation phase and the lifestyle of rural population is also in changing mode. There are significant changes in the entertainment of rural population. According to NSSO report in 2011-12, nearly 50% of rural household possessed television sets. The size of Indian DTH industry is expected to reach US \$ 5.3 billion by 2020, three times more than the current market size. (<http://www.ruralmarketing.in>) Both urban and rural digital growth is mainly coming from pay-DTH; the growth rate of the same is specifically higher in rural areas. The share of pay-DTH among all DTH households has been 86% for urban compared to 64% for rural areas. (<http://www.moneylife.in/>)

According to FICCI-KPMG report 2011, rural households with a monthly income of less than Rs 3000 are also purchasing DTH. Rural households are finding value for money in the entertainment, service and picture quality that DTH is offering and are purchasing their very first color television sets. (<http://www.broadbandcablesat.co.in>.)

* Gautam R. Parmar, Assistant Professor, ASPEE Agribusiness Management Institute, Navsari Agriculture University, Navsari

** Manish Naum, ASPEE Agribusiness Management Institute, Navsari Agriculture University, Navsari

Fig 1: No. of Cable & Satellite Subscribers



Source: Adopted from KPMG in India analysis, Industry discussions conducted by KPMG in India

Note: (1) DTH figures for 2011 and 2012 have been re-stated taking into consideration the change in the way industry calculates net subscribers (2) DTH figures are net of churn (3) Figures are rounded to the nearest integer and may not add up exactly to column totals

As the above figure shows the no of DTH subscribers are increasing year by year and the same growth is also predicated. According to report in 2013 25 millions DTH subscribers were there. According to TRAI report, Total numbers of registered and active subscribers being served by private DTH are 70.33 million & 39.13 million respectively, as on 30th September, 2014. At present, apart from free DTH service of Doordarshan of Prasar Bharati - a public broadcaster, there are 6 private DTH Operators. DD's Free dish is biggest game changer, a free DTH service reaches an estimated 18 million home making it bigger than Tata-Sky and Dish TV. (<http://www.mid-day.com>).

.For most of the DTH channels their share in the rural market is higher when compared to urban areas. (Priyanka, 2014) DTH has become popular in rural areas because it always gives the consumers a variety to choose from and pick accordingly (Memdani,2012)

Review of literature

Reddy (2013) studied on "Factors motivating customers towards DTH services in Andhra Pradesh" by surveying 500 respondents using convenient random sampling technique and find out factors for selecting DTH using ranks, the study concluded that Price was ranked first by the selected sample respondents with the total score of 1400 and mean score of 2.8. More Channels

was ranked second with the total score of 1254 and mean score of 2.5. Picture clarity and Uninterrupted Services occupied same position with the total score of 1150 and mean score of 3.5. Sound Effect occupied fifth with the total score of 650 and mean score of 5.

Sutha & Jayanthi (2013) studied on "A comparative study on the various Direct-to-homes (DTH) Service providers in Chennai " and concluded that More channels, more transparent payments, interactive services, superior video quality, living in a CAS notified area, due to bad service from cable operators are reasons for selecting DTH.

Sridurga (2015) studied on " A Study On Consumer Behaviour And Satisfaction Towards Sun Direct DTH With Special Preference To Erode District " and find out that The majority (44%) of the respondents are getting below 75 channels. The majority (52%) of the respondents are using the period 1-3 years. The majority of the respondents are giving their opinion clarity of channels and are preferred entertainment package. The majority (36%) of the respondents are recharge in our account monthly through cash. The majority (42%) of the respondents are problem faced at no signal. The majority (74%) of the respondents are facing the problem through to customer care. The majority (40%) of the respondents are satisfied and good about the customer care service.

Srikant & Pannaga (2013) studies on "A Study On Customers Perception Towards DTH Services" and found that respondents preferred DTH services as it offers more number of channels in various languages and is ranked first among all other reasons. Picture Clarity is ranked second and is better than cable TV which is followed by Effective Sound which has been ranked the third and Price and Uninterrupted Services hold the fourth and fifth rank respectively. It was also found that most of the respondents are highly satisfied with the number of channels offered and picture clarity. The subscribers are satisfied with the sound effect. The study also investigate on problems faced by subscribers and found that the respondents are facing Disk Installation Problems, technical issues, Recharge and renewal of subscription fee, face Signal Problems and the poor picture clarity.

Sharma and Rajput (2012) studied on "Customer Satisfaction Towards Service Quality Of Direct To Home (DTH) With Special Reference To Gwalior And Chambal Sambhag" by applying factor analysis seven factors which affecting on DTH customers satisfaction were drawn. The factors are Reliability, Convenience, Assurance, Responsiveness, Network Quality, Tangible and Empathy.

Raj and Shukla (2015) studied on "Service Quality And Behaviour Intentions Of DTH Users" and found strongest association between service quality and Network Quality, propensity to recommend and Tangibles, switching intentions and price and customers' complaining behaviour and Service Operations.

Malarvizhi. V and K.T.Geetha (2014) studied on "Customer's Satisfaction on DTH and Cable TV Services : A Comparative Study in Coimbatore City" by applying factor analysis and found that 'satisfactory number of channel', 'rewinding option and 'uninterrupted services' and explains nearly 31 percent of the variance. 'Adequate number of channels' 'no payment for extra channels', explains only 15 percent of the variance. Low subscriptions amount' and explains 13 percent of variance

Significance of the study

The penetration of technology in various sectors put Rural India is in transforming phase, the lifestyle and preferences of the rural India are also changing rapidly. The penetration of television, telephone and DTH is increasing in rural India in such scenario it is necessary to know the usage and attitude for the technology, the present

study investigate the DTH usage and the perception, attitude of rural consumers towards the DTH and the problems faced by DTH users.

Research Methodology

The present study was descriptive in nature. The primary data were collected from Amreli district of Gujarat using structured questionnaire as research tool by applying convenience sampling technique and secondary data were obtained from government reports, journals, websites etc. The study conducted with following objectives

Objectives

1. To investigate Television usage of rural consumers.
2. To study the factors consider while selecting the DTH service by rural consumers.
3. To study the Problems faced by DTH users.

To fulfil the stated objectives for present study, structured questionnaire was used. The questionnaire contains questions related to demographic profile of respondent such as gender, age, education etc and the research questions. Total 79 rural household (respondents) were contacted for the study in the Amreli district of Gujarat.

Data Analysis.

The collected data were coded, tabulated and analysed with help of computer software. The statistical tools employed for present study are frequencies, percentage, mean, Pearson Correlation Analysis and Simple linear regression analysis.

Table : 1 Demographic Profile of Respondents

Particulars	Frequency	Percent
Age of Respondents		
Below 25 Years	2	2.5
25 - 50 Years	67	84.8
Above 50 Years	10	12.7
Total	79	100.0
Gender of Respondents		
Male	79	100.0
Education of Respondents		
Illiterate	5	6.3
Below SSC	41	51.9
SSC	25	31.6
HSC	4	5.1
Diploma	2	2.5
Graduate	2	2.5
Total	79	100.0
Marital Status of Respondents		
Single	1	1.3
Married	78	98.7
Total	79	100.0
Member of Family		
2	4	5.1
3	11	13.9
4	10	12.7
5	35	44.3
6	13	16.5
7	6	7.6
Total	79	100.0
Income Source of Respondents		
Agriculture and Allied	59	74.7
Private Job	15	19.0
Govt Job	1	1.3

The Table no. 1 describe about the demographic profile of the respondents, out of the total surveyed 79 respondents, 84.5 % respondents having age 25 to 50 years while 12.7 % respondents were having age above 50 years. All the respondents were male. Majority of respondents have either Below SSC (51.9 %), SSC (31.6 %) level education. The 6.3 % respondents were illiterate. Out of the total respondents 78 respondents were married. Majority of respondents (44.3 %) have 5

members in their house. In surveyed area 74.7 % respondents engaged with Agriculture and allied activities while 19 % respondents do private job. The 68.4 % respondents were earning below 15000 per month and 31.6 percent respondents earning 15000 to 30000 Rs. Per month. Majority of respondent were having Pakka house (58.2 %) and 41.8 % respondents have semi pakka house while no respondents living in Kaccha house.

Table 2 : Television and DTH Usage

Particulars	Frequency	Percent
Television		
Yes	61	77.2
No	18	22.8
Total	79	100.0
Reasons of Not having Television		
Not Useful	2	11.1
Not Affordable	3	16.7
No Need	13	72.2
Total	18	100
Type of Television		
Basic Colour TV	37	60.66
LCD	14	22.95
LED	10	16.39
Total	61	100.0
Size of Television		
Below 25 Inch Screen	35	57.38
More than 25 Inch Screen	26	42.62
Total	61	100.0
Television Services		
Antenna	0	0
Cable	15	24.60
DTH	46	75.40
Total	61	100.0
Expenditure of the services		
No Expenditure	27	44.26
1-250	34	55.74
Total	61	100.0
Brand of Services		
DD Direct +	27	58.70
AirTel	8	17.39
TataSky	8	17.39

In the study television usage of respondents was investigate the outcome shown in above table. Out of the total respondents 77.2 % household have Television while 22.8 % household did not having the television. The reasons behind not using television were Not Useful (5.9 %) Not Affordable (17.6 %) No Need (76.5 %). Out of the 77.2 % household having television, 60.66 % had basic colour television, 22.95 % respondents have LCD television and 16.39 % respondents have LED television. The 57.38 % Household had television below 25 inch size while 42.62 % Household had television above 25 inch size. The 75.40 % of television users using DTH services and 24.60 % respondents using Cable services, while none of the respondents use antenna. The 55.75 %

of television users spend 1- 250 per month for the services. The study also investigates the service provider preferred by respondents. The 58.70 % respondents use DD Direct +, 17.39 % respondents use AirTel, 17.39 % respondents use TataSky while 6.52 % use Videocon as DTH service provider. So, 41.30 % respondents use the paid DTH services. The preferred time for the television was between 20:00 to 24:00 (44.26 %) and 12:00 to 16:00 (40.98 %) in day time.

Factors consider while selecting the DTH service

The respondents were asked to rate the various factors consider while selecting the DTH service on point scale of 1 to 5. Where 1 is Always and 5 is Never.

Table : 3 Factors consider while selecting the DTH service

Descriptive Statistics				
Parameters	N	Mean	Std. Deviation	Rank
Picture quality	61	1.11	.321	1
Price	61	1.70	.527	3
Availability	61	1.72	.756	4
No. of Channels	61	2.26	.681	6
Brand Image	61	2.49	.698	8
No of Regional Channels	61	2.54	.673	9
Advertisements	61	2.61	.842	11
No. of Service provider	61	2.70	.919	14
Offers	61	2.02	.975	5
Installation	61	1.23	.616	2
Recommendation from retailers	61	2.62	.778	13
Known Person Recommendation	61	2.62	.711	12
After sales service	61	2.46	.828	7
Children Demand	61	2.57	.694	10
A-La-Karte	61	2.84	.757	15
Valid N (list wise)	61			

Based on the responses the mean was calculated and the factors were ranked the most affecting factor is picture quality (1.11) followed by Installation (1.23) , Price (1.70), Availability (1.72), Offers provided by service provider (2.02), No of channels provided by service provider (2.26), After sales service (2.46), Brand

Image (2.49), No. of Regional channels (2.54) , Children demand (2.57), Advertisements (2.61), Recommendation by known person (2.62), Recommendation from retailers(2.62), No. of service provider available (2.70), A-La-Karte (2.84).

Table 4 Problem faced by DTH users.

Descriptive Statistics			
Parameters	N	Mean	Std. Deviation
Poor Signal	61	2.67	.651
Picture quality	61	3.03	.816
Installation	61	3.23	.844
After sales service	61	3.03	.836
Basic package cost	61	3.26	.835
A-La-Kart	61	3.30	.691
Audio & Visual quality	61	3.18	.904
Unwanted channel	61	3.10	.943
Price Hike	61	3.05	.884
Calls and Message from Company	61	3.10	.651
Valid N (list wise)	61		

Respondents were asked to rate the problem faced while using the DTH on the five point scale where 1= Always and 5= Never. Mean is calculated for the parameter and find out that problem faced by respondents in descending order (from most affecting to least) affecting were Poor Signal (2.67), Picture quality (3.03), After sales service (3.03), Price Hike (3.05), Calls and Messages from company (3.10), Unwanted channels (3.10), Audio & Visual quality (3.18), Installation (3.23), Basic package cost (3.26), A-La-Karte (3.30) . In

general it is observed that respondents were not open up to show the problems faced by them while using DTH.

Correlation Analysis

The Karl Pearson correlation coefficient was calculated to find out the correlation between various parameters. In below table shows the correlations between different variables. Shown correlations are significant at the 0.01 level (2-tailed) or significant at the 0.05 level (2-tailed).

Table 5: Correlation Coefficient

Correlations									
		Education	Income	Type of House	Years of using TV	Kind of TV	Size	Expenditure on service	Brand
Education	Pearson Correlation	1	.415**	.254*	.004	.481**	.331**	.317*	.350*
	Sig. (2-tailed)		.000	.024	.974	.000	.009	.013	.017
Income	Pearson Correlation	.415**	1	.521**	.435**	.638**	.527**	.447**	.699**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
Type of House	Pearson Correlation	.254*	.521**	1	.511**	.448**	.415**	.396**	.514**
	Sig. (2-tailed)	.024	.000		.000	.000	.001	.002	.000
Years of using TV	Pearson Correlation	.004	.435**	.511**	1	.243	.142	.228	.353*
	Sig. (2-tailed)	.974	.000	.000		.059	.277	.078	.016
Kind of TV	Pearson Correlation	.481**	.638**	.448**	.243	1	.586**	.500**	.652**
	Sig. (2-tailed)	.000	.000	.000	.059		.000	.000	.000
Size	Pearson Correlation	.331**	.527**	.415**	.142	.586**	1	.635**	.692**
	Sig. (2-tailed)	.009	.000	.001	.277	.000		.000	.000
Expenditure on service	Pearson Correlation	.317*	.447**	.396**	.228	.500**	.635**	1	.881**
	Sig. (2-tailed)	.013	.000	.002	.078	.000	.000		.000
Brand	Pearson Correlation	.350*	.699**	.514**	.353*	.652**	.692**	.881**	1
	Sig. (2-tailed)	.017	.000	.000	.016	.000	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed).									
*. Correlation is significant at the 0.05 level (2-tailed).									

The Education has positive moderate correlation with Income ($r=0.415$), with type of house ($r=0.254$), with Kind of Television ($r=0.481$) with size of television ($r=0.348$) with Expenditure on service ($r=0.317$) with brand ($r=0.350$). The income of household has positive correlation with type of house ($r=0.521$) with Years of using television ($r=0.435$), with kind of TV ($r=0.638$), with size of the TV ($r=0.527$), with Expenditure on service ($r=0.447$), with Brand ($r=0.699$). The type of house has positive correlation with Years of using television ($r=0.511$), with kind of TV ($r=0.448$), with size of the TV ($r=0.415$), with Expenditure on service ($r=0.396$), with Brand ($r=0.514$). The years of using television has positive correlation with Brand ($r=0.353$). The Kind of television has positive correlation with size of the TV ($r=0.586$), with Expenditure on service ($r=0.500$), with Brand ($r=0.652$). The size of television has positive correlation with Expenditure on service ($r=0.635$), with Brand ($r=0.692$). The expenditure on service has strong positive correlation with brand of DTH.

Regression Analysis

The regression analysis was carried out to find out the variances explained by various variables in selecting the brand of DTH player

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n$$

Here Y (Dependent variable is Brand). The independent variables were Age, No of Child, Years using TV, Type of House, Income and Type of TV

The value of R square obtained is 0.609. It shows that the 60.90% variance in the dependent variable (Brand Selection) explained by below model. The ANOVA table indicates that the model can accurately explain variation in the dependent variable. Here the significant value (0.000) explains that the probability is very low that the variation explained by the model is due to chance.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.780 ^a	.609	.547	.667

a. Predictors: (Constant), Kind of TV, Age, Child, Time using TV, Type of House, Income

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	26.326	6	4.388	9.855	.000 ^b
Residual	16.919	38	.445		
Total	43.244	44			

a. Dependent Variable: Brand

b. Predictors: (Constant), Kind of TV, Age, Child, Time using TV, Type of House, Income

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.894	1.156		-.774	.444
Age	.033	.401	.008	.082	.935
No of Children	-.026	.146	-.020	-.178	.860
Income	.913	.285	.456	3.198	.003
Type of House	.373	.290	.179	1.287	.206
Years using TV	-.134	.213	-.084	-.629	.533
Type of TV	.321	.137	.330	2.345	.024

a. Dependent Variable: Brand

For the present model slope (Constant) obtained is -0.894. The Age of respondent, Family Income, Type of House and Type of TV has positive effect on brand selection while No of children at home and years using TV has negative effect on Brand Selection.

Conclusion

The present study focuses on the DTH usage in rural area as well as the factors affecting on DTH. The study reveals that the major occupation in rural is agriculture, television and DTH has good penetration in rural area. The DD Direct + is preferred DTH service and preferred time for watching television is afternoon and evening. The major Factors consider while selecting the DTH service are Picture quality followed by Installation , Price, Availability, Offers provided by service provider, No of channels provided by service provider , After sales service, Brand Image. The problems faced by DTH users are Poor Signal, Picture quality, After sales service, Price Hike, Calls and Messages from company, Unwanted channels, Audio & Visual quality. The selection of brand is affected by factors like Kind of TV, Age, Child, Time using TV, Type of House, Income.

References

- FICCI-KPMG. (2011). FICCI-KPMG Indian Media and Entertainment Industry Report 201.
- FICCI-KPMG. (2014). FICCI-KPMG Indian Media and Entertainment Industry Report.
- GoI. (2011). Census of India.
- Jaggaiah, P. P. (2014). Vanijya Sammelana The International Conference on Recent Trends in Business Management & Tourism. Post Graduate Department of Commerce (pp. 167-170). Bengaluru: Post Graduate Department of Commerce, Sitadevi Ratanchand nahar Adarsh College.
- K.T.Geetha, D. V. (2014). Customer's Satisfaction on DTH and Cable TV Services : A Comparative Study in Coimbatore City. Indian Journal Of Applied Research , Volume : 4 Issue : 6 pp. 116-118.
- KumarReddy, S. S. (July 2013). Factors motivating customers towards DTH services in Andhra Pradesh. IJSR - International Journal of Scientific Research , Volume 2 , Issue : 7 PP.256-257.
- L.Jayanthi, A. S. (2013). A comparative study on the various Direct-to-homes (DTH) Service providers in Chennai. Indian Journal of Applied Research , Volume : 3 ,Issue : 7 , PP.146-147.
- M.Sridurga. (2015). A Study On Consumer Behaviour And Satisfaction Towards Sun Direct Dth With Special Peferennce To Erode District. International Journal in Management and Social Science , Vol.03 Issue-03, PP.717-722.
- Memdani, L. (2012). An Overview Of Digitalization Of Rural India And Its Impact On The Rural Economy.

Abhinav- National Monthly Refereed Journal Of Research In Arts & Education , Volume No.1, Issue No.6 pp.12-15.

Naresh K. Malhotra, S. D. (2010). Marketing Research : An Applied Orientation . Pearson Education India.

R. Srikant, V. P. (2013). A Study on Customers Perception towards DTH Services. International Journal Of Research In Computer Application & Management , Volume No. 3, Issue No. 06

Sharma, U. S. (2012). Customer Satisfaction Towards Service Quality Of Direct To Home (Dth) With Special Reference To Gwalior And Chambal Sambhag. Radix International Journal Of Reserch In Marketing , Volume 1, Issue 9 Pp.1-18.

Shukla, L. R. (2015). Service Quality And Behaviour Intensions Of Dth Users. International Journal of Advanced Research in Management and Social Sciences , Vol. 4 . No. 7 pp. 124-138.

TRAI. (2014). The Indian Telecom Services Performance Indicators. New Delhi: Telecom Regulatory Authority of India.

Websites

<http://www.broadcastandcablesat.co.in>

<http://www.mid-day.com>

<http://www.moneylife.in>

<http://www.ruralmarketing.in>

<http://www.videocond2h.com>

www.researchgate.net

Issues and Challenges faced in Rural Market Development by (Power Transmission Division) J.K. Fenner India Ltd.(Gujarat Branch)

Pooja Sharma*

Introduction

The rural market has been growing steadily over the past few years and is now even bigger than the urban market. About 70 per cent of India's population lives in villages. More than 800 million people live in villages of India. 'Go rural' is the marketer's new slogan. Indian marketers as well as multinationals, such as Colgate-Palmolive, Godrej and Hindustan Lever have focused on rural markets.

Thus, looking at the opportunities, which rural markets offer to the marketers, it can be said that the future is very promising for those who can understand the dynamics of rural markets and exploit them to their best advantage. As a result of the Green Revolution in agriculture and White Revolution in dairy and other developmental activities implemented through the Five Year Plans, the productivity, prosperity and disposable incomes of the rural population have improved. Thus, the standard of living and life-styles of Indian rural people have also changed for better living. This situation has generated demand for a variety of fast moving consumer products, consumer durables and services. In the past, rural marketing was reckoned only as marketing of agricultural produce. Because of special interest taken by the Government, many regulated markets have been established in our country to facilitate proper marketing of farm produce. Adoption of scientific and commercial farming popularized the use of inputs like chemical fertilizers, pesticides, cattle and poultry feeds, high yielding varieties of seeds, and also tractors, tillers, other farm equipments etc.

Company which has taken to study is JkFenner(India)Ltd. Corporate office is at Chennai and here study is about its Gujarat Branch JK Fenner(India)Ltd.- Since 1987 when JK Fenner India Ltd came into the J.K. Organisation's fold, it has made steady progress and become a high growth entity. JK Fenner India manufactures Industrial and Automotive V-Belts, Oil seals, Engineering Products, and a whole host

of new products providing total Mechanical Power Transmission and Sealing Solutions.

Objectives:

- To understand the concept of rural marketing
- To understand the potentiality of Rural Market especially in context of Gujarat.
- To discuss the industries covered by JK Fenner (India) Ltd.
- To discuss challenges facing by JKFenner India Ltd in Gujarat state.

Methodology of the Study

The study is a descriptive method. The Secondary data were collected from different sources, such as, text books, magazines, articles and websites. A preliminary study in the form of informal interviews with key persons of company.

What is Rural Marketing?

Rural marketing is a process of developing, pricing, promoting, and distributing rural specific goods and services leading to desired exchange with rural customers to satisfy their needs and wants, and also to achieve organizational objectives.

The main reason why the companies are focusing on rural market and developing effective strategies is to tap the market potential, that can be identified as follows:

1. Large and scattered population:

According to the 2001 census, 740 million Indians forming 70 per cent of India's population live in rural areas. The rate of increase in rural population is also greater than that of urban population. The rural population is scattered in over 6 lakhs villages. The rural population is highly scattered, but holds a big promise for the marketers.

* Asst.Professor, GLS(JP Shah)IBA,Ahmedabad(Gujarat)

2. Higher purchasing capacity:

Purchasing power of the rural people is on rise. Marketers have realized the potential of rural markets, and thus are expanding their operations in rural India. In recent years, rural markets have acquired significance in countries like China and India, as the overall growth of the economy has resulted into substantial increase in purchasing power of rural communities.

3. Market growth:

The rural market is growing steadily over the years. Demand for traditional products such as bicycles, mopeds and agricultural inputs; branded products such as toothpaste, tea, soaps and other FMCGs; and consumer durables such as refrigerators, TV and washing machines has also grown over the years.

4. Development of infrastructure:

There is development of infrastructure facilities such as construction of roads and transportation, communication network, rural electrification and public service projects in rural India, which has increased the scope of rural marketing.

5. Low standard of living:

The standard of living of rural areas is low and rural consumers have diverse socio-economic backwardness. This is different in different parts of the country. A consumer in a village area has a low standard of living because of low literacy, low per capita income, social backwardness and low savings.

6. Traditional outlook:

The rural consumer values old customs and traditions. They do not prefer changes. Gradually, the rural population is changing its demand pattern, and there is demand for branded products in villages.

7. Marketing mix:

The urban products cannot be dumped on rural population; separate sets of products are designed for rural consumers to suit the rural demands. The marketing mix elements are to be adjusted according to the requirements of the rural consumers.

Potentiality of Rural Market especially in context of Gujarat.

Mahatma Gandhi's statement that "India lives in her villages" was apt considering that over 620 million

people live in the more than half a million Indian villages. It is, therefore, interesting to assess the current situation in rural India, and analyse macro-level patterns and trends while appreciating the fact that differences do exist at the micro level.

At present, rural income constitutes 56 per cent of the total income and is growing at the rate of 5.6 per cent; urban income, on the other hand, is growing by only 5.4 per cent annually. Nearly Rs 14,000 crore was invested in the development of the rural sector during the Seventh Five-Year Plan. This led to increased rural disposable income. The relatively low cost of living as compared to that in the cities has also increased the value of this income.

A recent survey by the National Council of Applied Economic Research reveals there are 33 million households in rural India with a monthly income of Rs 1,000 or more. Interestingly, there are only 25 million urban households in this bracket. Monthly rural expenditure averages at approximately Rs 175 per person on consumer goods, but as much as 25 per cent of them spend Rs 215 and more each month. This is not much less than the urban per capita average monthly consumer expenditure of approximately Rs 266.

Exposure levels Television has been a major cause of an explosion in awareness levels, which has complemented the rapid changes on the economic front. Access to new information and knowledge has become a part of daily life, at least among the affluent. Today nearly 75 million rural adults are exposed to television regularly and many more to radio. A significant number of them are aware of developments beyond the confines of their villages.

The second major catalyst has been the increase in literacy levels and consequent migration of sizeable chunks of the population to cities and towns. Such migrants bring back on trips to their villages all the experience of urban living.

The third element that has influenced rural consumption patterns is the social change that has affected the age-old practice of investing in land. A significant number of people are choosing to invest in consumer durables rather than in land. The development of communication systems, both road and telecommunication, has provided the necessary foundation for increased economic activity.

As Gujarat, at present, contribute highly in GSDPA through agriculture, the measure driving factors are due to irrigation i.e. Sardar-sarovar project- which caters about 1800 villages), roads, power. These essential factors plays a key role to make Gujarat more potentially strong, globally.

GRIMCO (Gujarat Rural Industries Marketing Corporation Ltd.) is established on 16th May, 1979 under Companies Act, 1956. It is fully owned and promoted by Govt. of Gujarat under Cottage & Rural Industries Sector.

GRIMCO is working for providing employment to the artisans of Cottage & Village industry.

Execution of various schemes introduced by various Department of the Government.

iii) Industries Covered by JK Fenner India Ltd.

J.K. Fenner (India) Limited is a member of the JK Organization which ranks among the top Industrial houses in India for over 100 years. The name "Fenner" has been synonymous with Mechanical Power Transmission and Sealing Solutions. Fenner commenced operations in India in 1929 and put up their first manufacturing unit at Madurai in Tamilnadu in the year 1956. Currently there are 7 manufacturing units over 5 locations.

The product lines cover V-Belts, Oil seals, Moulded Rubber Components and Engineering Products for applications in both Industrial and Automotive mechanical power transmissions. The Industrial segment would address major sectors like Steel, Cement, Coal, Sugar, Power, Paper, Textiles, Food processing, Agriculture and many other.

J.K. Fenner India's products have been synonymous with quality & reliability in Mechanical Power Transmission Engineering across the globe for over 140 years offering not only the best of products but also complete solutions. Our range of products viz. Belts, Pulleys, Couplings, Variable Speed Drives, Clutches & Gear Boxes has become the industry bench-mark over the years being manufactured in state-of-the-art facilities accredited with various Quality Certifications

Automotive Belts and Oilseals form an important part in almost all vehicle segments. Belts are used in a variety of applications for driving radiator fans, water pumps, alternators air conditioning compressor etc.

Oil seals are used as a sealing medium for oil/ fluids in various automobile applications such as engine, transmission, wheel, front fork, power steering etc.

Fenner has recently launched a range of new products under the brand name "JK Pioneer" - Bearings, Hoses, Rice Rolls and chains for the Industrial Segment and Engine Mountings, Centre Joint Rubbers and Suspension Bush Kits for commercial vehicles and passenger cars in the Automotive Segment. Industries covered by company in Gujarat region is divided in three territories-

- Saurashtra
- North+Central Gujarat + Kutch District
- South Gujarat

List of Industries covered in Saurashtra-

- Brass and Metal(Jamnagar)
- Marine Industry(veraval)
- Steel rolling mills(Bhavnagar)
- Agriculture thresher manufacturers(Jasdan)
- Ginning and Oil Industry at Surendra Nagar and Rajkot
- Ceramic and Paper Industry at Morvi
- Cement Plant (Rajkot and Amreli)
- Machine Tool manufacturing at Rajkot
- Agricultural Pumps
- CNC(Computer Numerical Control)Manufacturing Rajkot.

List of Industries covered in North+South+Kutch-Baroda and surroundings-

- 1) Engineering/Machinery Manufacturing(OEMs)
 - Construction Equipments
 - Crushers
 - Foundry
 - Paint
 - Packaging
 - Chemical
 - Crain

- Food Processing
- Sugar/Paper Machine Manufacturing
- Pumps/Fans/Blowers/Compressors

2) Process Industry

- Pharmaceutical
- Chemical
- Bearing
- Flourmills
- Cold drink

3) Automotive Industries(Halol)

4) Plastic Recycling(Halol)

5) Road Construction equipments (Sevalia/Dhansura)

6) Rice Mills/Dal Mills (Dabhoi)

Anand-Anand is known for following big organizations-

1. Elecon

- Material handling
- Gearboxes/Gear
- Mining Equipments

2. IDMC(Indian Dairy Manufacturing Co.)

- Dairy Equipments

3. Amul Dairy

- Dairy Product

4. Anupam/Oswal/Shati

- Crains

5. Furnace

6. Paint

7. Crusher

8. Boll Mill

9. Chemical

Nadiad-Wooden Industry

Kheda-Rice Mills

Ahmedabad- Ahmedabad is a place where one can find

all manufacturer of machinery and tools.It is Hub of OEMs.

- Engineering OEMs
- Textile Industry
- Chemical Industry
- Rice and Dal Mills(Sanad and Bawla)
- Ceramic and Agriculture (Gandhinagar)

Gandhinagar- Ginning/oil and Engineering units

Mehsana-

- Ceramic Machinery Manufacturing
- Ginning & Spinning (Textile & Process)(Vijapur and kadi)
- Cotton seed and cotton Industry
- Road Construction Equipment
- Thresher Manufacturing(Unjha and Vees Nagar)

Palanpur- Pumps and Agriculture Industry

Kutch-

- Steel Industry
- Wooden Industry(600 Units)
- Power and Port Industry
- Cement Industry & China Clay Industry

South Gujarat-

- Sugar(Surat),Paper(Vapi),Pumps OEM(Valsad)
- Packaging Manufacturing(Vapi)
- Textile & Looms(Surat)
- Chemical (Ankaleshwer)
- Power and Ports
- Petro chemicals
- Bio Science
- Diamond(Surat)

IV. Challenges Faced by JK Fenner (India) Ltd

Rural population is scattered over a large land area. And it is almost impossible to ensure the availability of a brand all over the country. District fairs are periodic and occasional in nature. Manufacturers and retailers

prefer such occasions, as they allow greater visibility and capture the attention of the target audience for larger spans of time. Advertising in such a highly heterogeneous market is also very expensive. Sales people also need special skills to handle the customer. Some problems and challenges are listed down as follows-

Issues and Challenges at Saurashtra territory -

1. Low Cost High Potential- Customer usually prefer low cost products Because of industrial development in Gujarat market is developing but still premium product of fenner facing the competition.
2. Fragmented Market Structure-In saurashtra area market structure is so fragmented players who have low cost strategy to penetrate like- Shakti,Rajendra&Laxmi such local players are nominating the market other low cost Chinese players are there like SWR and Dongile.
3. Entry of Chinese Players-Gimplex,endura,SWR and Dongile is threat for the company
4. Perception Problem- People have certain mind set that some industries are specific product will work fenner wont work like in brass industry only twisted belt will work which is only a perception not reality.
5. Internal Competition-As it is majority segment is low cost market and company is having both premium & economic brand in belt-"Poly F Plus PB" is premium brand which is having 26 dealer's and covering all territory whereas "Ecodrive" is economic brand which is having only one distributor.when some customers who demands for fenner in such cases Ecodrive people telling about Ecodrive only not telling about premium brand so it becomes a challenge in front of dealers.

North+Central+Kutch Area's Challenges

1. Price Issue-Highly competitive market so bargaining power of buyer is so high.
2. Competition-level of competition is so high availability of substitute products and competition with Rathi,Elecon,Pix,SKF,Contitech is very challenging.
3. Delivery Issue in remote areas-As the above description tells that its coverage is so vast any so many industries are situated at remote location so delivery on time is a concern.

4. Project delays in big organizations-This territory covers Power and Ports also so if their projects gets delayed the entire sales cycle gets delayed.
5. Unorganized Channels-Dealers do not keep their sales force updated while competitors started focusing on that about keeping updated as well as training..
6. Collection of Payment-After agreeing on payment terms it always get delayed,still collection of payment is an issue of concern.
7. Company warehouse is not available for engineering product-Fenner is having its warehouse for belts only but for engineering products like-pullys,coupling,gearboxes company is having central warehouse which is at Hyderabad.When company is not having its warehouse and these products are high value products and its carrying cost is high so distributor keeps limited inventory so the market reach is difficult or negligible for upcountry market so it's a opportunity loss for the company.
8. Dealers are less active in Kutch area-They do not move to the market and meeting customers hence they are not able to generate inquiries and in Industrial marketing it is important to meet customers on regular basis.

Issues and Challenges at South Gujarat territory-

1. Lack Of Availability Of Timing Belt-Company keeps it in large range but still not able to meet with demand because of high lead time.
2. High consumption & High Expectations- In this territory high consumption of products are existing but the problem is customer need that products on low prices.
3. New Product Development & New Market development-At sea cost areas there sea food farmers are having their aerators to grow sea creatures company has designed their own aerator which will consume 40% less power so it's a challenge how company will make them switch on the basis of power saving characteristics.
4. Do not have strong stockiest for engineering products- company is not having good stockiest who can keep good stock to supply at textile industries.

Recommendation & Suggestions- Few suggestions are listed out are-

1. Company should emphasis on demand generation activities specially in upcountry market to create awareness such as Road shows, Van Campaign etc.
2. To increase the number of technical seminars in industries covering potential customers of different segments.
3. Conducting user awareness programme such as- Drive check campaign to make user aware about Do's & Don't related to power transmission drive maintenance ,Distributing gift articles to users,
4. To focus on promoting other products also available in range to existing customers who are buying one or two products of the company in nutshell provide entire basket of the products.
5. Sign boards can be distributed to retail outlets.
6. Dealers should keep trained staff who can visit the market and meeting customers frequently to get regular inquiries.
7. Should come up with the strategy so that untouched market can be identified and m share can be increased.
8. Pricing strategy should be upcountry market specific and low cost market.

Conclusion:

After having all these description we can understand that if one want to survive in market its not possible by ignoring the rural market because geographically if we will see the location of the industries which the company is covering its in rural and outskirt area of the cities.

And to resolve certain problem like at saurashtra where low cost belt is required so company has introduced Ecodrive belt to compete the market, take part in exhibitions and ddeveloping secondary sales channel.

References

1. Rural Marketing Strategies,Issues and challenges- Dr.T.V.Malik,Dr.J.Jothi k rishnan.
2. Rural Marketing: Indian Perspective by Awdheshkumarsingh
3. Rural Marketing Challenges and Opportunities by BalramDogra
4. WWW.Jkfenner india.com
5. www.yourarticlelibrary.com
6. Rural Marketing Potential in India - An Analytical Study by Anil Kalotra
7. A Study of Rural Consumer Market in Gujarat Draws Out Lesson for Companies by Dr.Naresh K Patel
8. www.grimco.co.in

A Study on Banking Outreach in Rural Area of Tapi District

Ms. Radhika Desai*

Abstract

Banking outreach means an effort to bring banking services or information to people where they live. Study is based on primary data and collected through structured questionnaire from rural area of Tapi district. Data used in this study is collected from 200 sample households. Main objective of this study is to measure banking outreach in rural area of Tapi district. Also this study focuses on to analyse relationship of income of house hold with holding of bank account and usage of banking services. A well analysis it is suggest that there is relationship of income of house hold with bank account and usage of banking service.

Keywords: Baking outreach, Banking services, Chi square test

Introduction

The Indian banking system consists of 26 public sector banks, 20 private sector banks, 43 foreign banks, 56 regional rural banks, 1,589 urban cooperative banks and 93,550 rural cooperative banks, in addition to cooperative credit institutions. The rural population of India remains significantly under-penetrated, and it is essential to leverage technology to reach this unbanked population. More than half of India's population lack formal bank accounts, and the majority of villages lack last mile banking services. Indian banks are increasingly focusing on adopting integrated approach to risk management. Banks have already embraced the international banking supervision accord of Basel II. According to RBI, majority of the banks already meet capital requirements of Basel III, which has a deadline of March 31, 2019. Most of the banks have put in place the framework for asset-liability match, credit and derivatives risk management.

Rising incomes are expected to enhance the need for banking services in rural areas and therefore drive the growth of the sector; programmes like MNREGA have helped in increasing rural income aided by the recent Jan Dhan Yojana. The Reserve Bank of India (RBI) has relaxed its branch licensing policy, thereby allowing banks to set-up new branches in tier-2 to tier-6 centres, without prior approval from RBI. It has stressed the need to focus on spreading the reach of banking services to the un-banked population of India.

RBI set up the Khan Commission in 2004 to look into financial inclusion and the recommendations of the commission were incorporated into the mid-term review of the policy (2005-06) and urged banks to review

their existing practices to align them with the objective of financial inclusion. RBI also exhorted the banks and stressed the need to make available a basic banking 'no frills' account either with 'NIL' or very minimum balances as well as charges that would make such accounts accessible to vast sections of the population.

The harsh reality in India is that of its 660,000 cities, towns or villages with a population of 1000 or more, only 5% have a commercial bank branch. While there may be 900 million mobile phones operating in a population of 1.2 billion people, Anand Sinha, deputy governor of the Reserve Bank of India, says that India is largely under banked. Only 13% of the population has a debit card. For credit cards that number shrinks to just 2%. India's banking base remains alarmingly low.

Non-urban India accounts for more than 70% of the country's population, and it is these people that represent "the largest banking opportunity in the world", according to Uday Kotak, managing director of Kotak Mahindra Bank.

Literature Review:

Atul Raman conducted study on "Financial Inclusion and Growth of Indian Banking System" in year 2012. Study was conducted with objective to access the Indian experience in the field of Financial Inclusion. It is mention in the paper that financial inclusion have enough scope for economic growth, raising living standard of people, equality etc.

Rama Pal and Rupayan Pal conducted study on "Income Related Inequality in Financial Inclusion and Role of Banks: Evidence on Financial Exclusion in India" in year 2014. In this paper authors have analysed income

* MBA, Ph. D (Management) Pursuing Assistant Professor, B. V. Patel Institute of BMC & IT, Uka Tarsadia University

related inequality in financial inclusion across sub national regions in India using survey data and it is linked to state - level factors. Main aims behind this study was to study income related inequality in financial inclusion, to apply the concepts of concentration curves and concentration index in the context of financial inclusion, to provide empirical evidence of the household's propensity to use formal financial services in a developing country using a representative data set and to provide an assessment of the role of banking services to promote financial inclusion, particularly among the poor households. In result of the study it is state that financial exclusion is disproportionately higher among the relatively poor households compared to their richer counterparts. It is also state that the level of financial inclusion and estimated concentration index of financial inclusion are lower in rural sectors compared to that in urban sectors.

K.S. Ranjani and Varadraj Bapat did study on "Deepening Financial Inclusion Beyond Account Opening: Road Ahead for Banks" in year 2015. The study was conducted across 550 respondents in Maharashtra who belonged to the poor and marginalized section of society and who were borrowers of microfinance institutions to ascertain whether they had bank accounts and what their perceptions about banks were. In this study they used factor analysis to understand the perception of people toward banks and micro finance institutions. In factor analysis they have covered four area i.e. (1) Readiness of the poor to use banks for their financial needs, (2) Perceptions about banking system in terms of documentation requirements, loan processing time, and flexibility of repayment, (3) Need for alternate financial service providers and (4) Dependability on other sources of funds such as friends and relatives moneylenders. In survey respondents were asked about having bank account and result shows that higher percentage of respondents don't have bank account. Further respondents were asked about whether they have approached for bank loan and result shows that majority of respondents have not approach for loan and who have approached for loan from many of them didn't get loan due to several reasons like lack of documentation, absence of guarantor and absence of security. Further Bartlett's test and communalities test were applied result of tests shows that respondents had a hesitation in approaching banks and perceived difficulties in terms of documentation requirements, loan sanction procedure being lengthy and time consuming, and repayment terms being inflexible and respondents

perceived inability to depend upon any other informal routes such as friends and relatives in times of need.

V. Leeladhar did study on "Taking Banking Services to the Common Man - Financial Inclusion" in year 2006. In study it is mention that scope of the financial inclusion is expanded in two ways first is through state-driven intervention by way of statutory enactments (for instance the US example, the Community Reinvestment Act and making it a statutory right to have bank account in France) and second is through voluntary effort by the banking community itself for evolving various strategies to bring within the ambit of the banking sector the large strata of society. Author also state consequences of financial inclusion like it may lead to increased travel requirements, higher incidence of crime, general decline in investment, difficulties in gaining access to credit or getting credit from informal sources at exorbitant rates, and increased unemployment, etc. In this study it is said that banks need to redesign their business strategies to incorporate specific plans to promote financial inclusion of low income group treating it both a business opportunity as well as a corporate social responsibility. They have to make use of all available resources including technology and expertise available with them as well as the MFIs and NGOs.

Chandan Kumar and Srijit Mishra conducted study on "Banking outreach and household level access: analyzing financial inclusion in India" in year 2011. Main aim of this study was to measure and understand financial inclusion by looking at supply of (banking outreach indicators such as number of deposit and credit accounts, number of bank branches, average deposit and credit amount per account and credit utilized) and demand for (indicators of household level access such as the proportion of households having saving, credit and insurance facilities) financial services. In this study state that actual situation of financial inclusion either based only on banking outreach or only household level access is very difficult to measure. It is also state that both data sources have their own limitations. The information was limited because data from formal sources like co-operatives and post-offices could not be used and also excluded data from informal sources. Data source looked into household level information on access or usage for saving, credit and insurance from formal sources and saving and credit from informal sources.

Objectives of the study:

1. To analyse availability of banking services and banking product in rural area of Tapi district.
2. To measure the awareness of banking services and product in rural area of Tapi district.
3. To measure the usage level of banking services in rural area of Tapi district.
4. To analyse the relationship of Income of house hold with holding of bank account and usage of banking services.

Research Methodology:

This study is conducted in Tapi District. For the data collection non probability sampling - convenient sampling technique is used. Structured questionnaire were used to collect primary data. 200 questionnaires were used for the study purpose. Data were analysed through Chi-square test and frequency distribution. SPSS software were used to analyse the data.

Data Analysis:**Table: 1 Reach of Banking Service**

Financial Services	Reach of Banking Services		
	Not aware	Aware but not using it	Using it
Saving Deposits Account	1	39	61
Current Account	38	59	3
Fixed Deposits Account	28	44	29
Recurring Deposits Account	47	41	13
Zero Balance Account (ZBA)	49	40	12
Overdraft (OD)	67	32	2
Kisan Credit Card (KCC)	79	17	5
General Credit Card (GCC)	67	33	1
Cheque Book	30	27	43
ATM/Debit Card	25	28	48
Internet Banking	60	25	16
Mobile Banking	71	19	11
Mutual Fund	77	18	6
Life Insurance Product	47	33	21
Money Transfer	78	17	6
Locker Service	55	36	10
Financial Advisory Service	69	17	15
Personal Loan	1	74	26
Two Wheeler Loan	25	64	12
Home Loan	22	62	16
Gold Loan	58	42	0
Micro Finance	89	11	0

From the above table it is observed that saving deposit account have highest reach in Tapi district and on the other hand services like micro finance and gold have lowest reach as people are not aware about this banking services.

Table 2: Availability of Bank:

Availability of Bank			
Particulars		Frequency	Percentage (%)
Nearest bank	SBI	84	42
	BOB	90	45
	DB	26	13
Distance to Bank	2 km	10	5
	4 km	50	25
	5 km	47	23.5
	6 km	20	10
	7 km	5	2.5
	8 km	25	12.5
	9 km	10	5
	10 km	15	7.5
	12 km	5	2.5
	15 km	13	6.5

Highest number of respondent i.e.45% said that BOB is nearest bank form their HH, 42% respondents said that SBI is nearest bank from their house hold and Bank of Baroda is nearest bank for 13% of respondents.

Table 3: Relationship between income of house hold and holding of bank account

Ho: There is no relationship between income of house hold and holding of bank account

Ho: There is relationship between income of house hold and holding of bank account

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	43.345 ^a	3	.000
Likelihood Ratio	60.658	3	.000
Linear-by-Linear Association	34.352	1	.000
N of Valid Cases	200		

From the above table it is observe that null hypothesis is rejected and alternative hypothesis is accepted. It means that there is relationship between income of house hold and holding of bank account.

Table 4: Relationship between income of house hold and usage of financial service

Ho: There is no relationship between income of house hold and usage of financial service.

H1: There is relationship between income of house hold and usage of financial service.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	274.962 ^a	30	.000
Likelihood Ratio	248.392	30	.000
N of Valid Cases	200		

From the above table it is observe that null hypothesis is rejected and alternative hypothesis is accepted. It means there is relationship between income of house hold and usage of financial service.

Conclusion:

From this study it is conclude that reach of saving account is highest as it has highest usage ratio. It is observe that public sector bank are nearer to respondent's house hold. Overdraft, kisan credit card, general credit card, internet banking, mobile banking, mutual fund, money transfer, financial advisory service and micro finance has very low awareness among the rural house hold and services like saving account, fixed deposit account, cheque book, ATM/Debit card, personal loan, two wheeler loan and home loan have high level of awareness among the rural house hold. This study also reveals that there is relationship of income of house hold and holding of bank account and usage of financial service.

Reference:

Books

- 1) Pathak Bharati, Indian Financial System, Pearson Publication, Fourth Edition(2015)
- 2) Research Methodology, C.R. Kothari, 2nd edition (2004), New Age International Publication, New Delhi.
- 3) Cooper,D., &Schindler,P.(2007) Business research methods, Ninth edition,The McGraw-Hill Companies, New delhi

Research paper:

- Raman, A., *Financial Inclusion and Growth of Indian Banking System*. IOSR Journal of Business and Management,(May-June 2012) pp, 2012: p. 25-29.
- Pal, R. and R. Pal, *Income related inequality in financial inclusion and role of banks: Evidence on financial exclusion in India*. 2014.
- Ranjani, K. and V. Bapat, *Deepening Financial Inclusion Beyond Account Opening: Road Ahead for Banks*. Business Perspectives and Research, 2015. 3(1): p. 52-65
- Leeladhar, V., *Taking banking services to the common man-financial inclusion*. Reserve Bank of India Bulletin, 2006. 60(1): p. 73-77.
- umar, C. and S. Mishra. *Banking outreach and household level access: analyzing financial inclusion in India*. in *13th Annual Conference on Money and Finance in the Indian Economy*, Mumbai, India. 2011.

Risk Minimization through ISEF Algorithm and Snake model in Dental Care Services

A J Solanki*

Abstract

In order to minimize the risk of patient, the raw data have been obtained directly from x-ray acquisition device that may yield a comparatively poor image quality representation. In case of medical images human involvement and perception is of prime importance that may result into wrong judgement increasing chances of financial, physical and functional risk. It is a difficult task to interpret fine features in various contrast situations [5]. Dentists interpret the dental x-rays using their knowledge, perception and experience. So there is a chance of error in deciding the right medical treatment. Nowadays digital dental radiographs, in which enhancement is done automatically, are available but the system are very costly. Algorithm presented in the present study will give alternate solution to this problem. It includes X-ray imaging & its processing for identifying the exact location & depth of damage in affected tooth. The study attempt to relate image segmentation using ISEF algorithm and active contour model to detect and diagnose the dental caries in case of decayed with an objective to minimize the risk of patient.

Keywords: Lesion, Enamel, RCT, caries, dentine, pulp, ISEF, dental radiograph, dentistry, Canny edge detection algorithm, Snake model

Introduction

The process of extracting features, collecting & analysing the useful image information for clinical diagnostics of teeth is the prime need of today's medical science [1]. In this domain of dental image processing, most of the research done is beneficial for forensic science experts for the purpose of human identification. Moving a step ahead in this domain of dentistry the diagnosis of dental diseases from digital dental x-rays is being beneficial and helpful for both doctor as well as patient. Bardia Yousefi et al. in 2012 improved the visibility of digital dental x-ray for teeth, bone and canals using Laplacian transform along with morphological operation. Wavelet transforms and Bayesian classifier is used to classify teeth and canals from resultant image [2]. ^atefan Oprea et al. in 2008 performed dental caries classification based on the edge detection. The dental x-ray image is segmented into individual tooth and then it is converted into binary image of the tooth. The edge detection gives the outline of the dental cavity. The number of carries affected pixels is determined. The carries is classified as pulpal if black caries region is adjacent to the white border enclosing the tooth. If there exists two or more number of black regions and the width of the black region is less than 2 mm then it is Enamel carry [3].

Prof. G.A. Kulkarni et al. in 2011 proposed two degree differential gray scale method for dental image recognition. The two degree differential method isolated the un-matched part of the two images and gave a satisfied

similar rate when the matching location was found. If the matching location was not found, this method enhanced the difference and reduced the similar rate [1]. EyadHaj Said et al. in 2008 performed gray scale stretching transformation for enhancement. Morphological filtering like top-hat and bottom-hat filters were used for segmentation. 2-D modified wavelet kernels were used to detect boundaries of individual tooth [4].

Dental caries is a major oral health problem in most industrialised countries. The early manifestation of the caries process is a small patch in enamel at the tooth surface. The destruction spreads into the sensitive part of the tooth beneath the enamel called dentine. The weakened enamel then collapses to form a cavity and the tooth is progressively destroyed. Infection of the dental pulp will take place if dental caries are not treated at proper time. Classification of dental diseases is decided on the basis of certain criteria, such as based on either the caries lesion is within the enamel, dentine or caries lesion touches the pulp. Dental caries is visible in the x-rays. Image processing techniques will help check the x-rays and detect the depth to which the caries lesion is present and then classify the type of caries present in the dental x-rays. Dental treatment is also dependent on this classification. If caries is developed up to the enamel, it is classified as enamel caries and if caries extended up to the dentine then it is classified as dentinal caries. In above two cases, filling is the best solution. And if caries extended up to the pulp then it is known as pulpal caries, RCT (Root Canal Treatment) is the required treatment.

* A J Solanki Assistant Professor B & B Institute of Technology, Vallabh Vidyanagar

In this paper, two optimal edge detection techniques have been applied, ISEF (Infinite Symmetric Exponential Filter) and active contour model. The paper has been divided in to six parts. Section 2 gives the detail explanation of ISEF edge detection technique. In section 3 discuss about active contour model. Section 4 gives the result of both the techniques.. Section 5 gives comparison between the result obtained from ISEF and active contour model and section 6 concludes the paper.

Risk associated with Dental Treatment

All health care services are intended to improve or maintain the health of those receiving them. [5] One of the most important measures of the effectiveness of such service is judgement of doctors to diagnose correctly and decide correct treatment to minimize the financial, functional and physical risk of patient.

In case of medical treatment especially in case of dental treatment human involvement and perception is of prime importance that may result into wrong judgement increasing chances of financial, physical and functional risk. It is a difficult task to interpret fine features in various contrast situations [6]. Dentists interpret the dental x-rays using their knowledge, perception and experience. So there is a chance of error in deciding the right medical treatment. Nowadays digital dental radiographs, in which enhancement is done automatically, are available that help to minimize the risk of patients. Wrong interpretation of dentist may result into unsatisfactory performance outcomes, monetary loss, unexpected costs, wasting of time, consequences of delays, personal injury and personal fear.

In dental care services some the credence attributes are hard to evaluate even after consumption of treatment. Patient is forced to believe or trust that certain task have been performed at the promised level of quality. Patient expect to know precisely that why do they go for particular treatment because they lack the necessary expertise themselves. [7].

II. EDGE DETECTION USING ISEF [10]

There are many edge detection techniques, available in the literature but Shen Castan algorithm is the optimal edge detector[10] . Edge detection of caries affected tooth is done by ISEF (Infinite Symmetric Exponential Filter).

TABLE I : ISEF Algorithm

Sr.No	Steps
1	Apply ISEF Filter in X direction
2	Apply ISEF Filter in Y direction
3	Apply Binary Laplacian Technique
4	Apply Non Maxima Suppression
5	Find the Gradient
6	Apply Hysteresis Thresholding

Shen Castan Infinite Symmetric Exponential Filter is an optimal edge detector. First the whole image will be filtered by the recursive ISEF filter in X and Y direction respectively which can be implemented by using following equations:

Recursion in x direction:

$$y_1[i, j] = \frac{(1-b)}{(1+b)} I[i, j] + b y_1[i, j-1], j = 1 \dots N, i = 1 \dots M \dots \dots (1)$$

$$y_2[i, j] = b \frac{(1-b)}{(1+b)} I[i, j] + b y_1[i, j+1], j = N \dots 1, i = 1 \dots M \dots \dots (2)$$

$$r[i, j] = y_1[i, j] + y_2[i, j+1] \dots \dots \dots (3)$$

Recursion in y direction:

b=thinning factor (0<b<1)

$$y_1[i, j] = \frac{(1-b)}{(1+b)} I[i, j] + b y_1[i-1, j], i = 1 \dots M, j = 1 \dots N \dots \dots (4)$$

$$y_2[i, j] = b \frac{(1-b)}{(1+b)} I[i, j] + b y_1[i+1, j], i = M \dots 1, j = 1 \dots N \dots \dots (5)$$

$$v[i, j] = y_1[i, j] + y_2[i+1, j] \dots \dots \dots (6)$$

Subtract the filtered image from the original image to obtain the Laplacian image. In the filtered image, there will be zero crossing in the second derivative at the location of an edge pixel because the first derivative of the image function should have an extreme at the position corresponding to the edge in image. Non maxima suppression is used for thinning purpose for false zero crossing. The gradient is either a maximum or a minimum at the edge pixel. If the second derivative changes sign from positive to negative, it is known as positive zero crossing and if it changes sign from negative to positive, it is known as negative zero crossing. Positive zero crossing will be permitted to have positive gradient and negative zero will be permitted to crossing to have negative gradient. All other zero crossing has been considered as false zero crossing. Thresholding is applied on gradient

image. One cutoff is used in simple thresholding but Shen-Castan suggests for Hysteresis thresholding in which two cut offs are used. Thresholding is applied on the output of an edge detector to decide significant edges. Noise will create spurious response to the single edge that will create a streaking problem. Streaking is defined by breaking up of the edge contour caused by the operator fluctuating above and below the threshold.

Hysteresis thresholding is used to eliminate streaking problem. Individual weak responses usually correspond to noise, but if these points are connected to any of the pixels with strong responses, they are more likely to be actual edge in the image. Such connected pixels are treated as edge pixels if their response is above a low threshold. The ISEF algorithm is given in table I.

III. AREA SELECTION USING SNAKE MODEL

The active contours replica (also called snakes) was first introduced by Kass, Witkin, and Terzopoulos (1987) for objective boundary identification. It is defined by an energy function. The energy functional, which is minimized is a weighted combination of internal & external forces. The internal forces serve to impose a piecewise smoothness constraint. External forces are responsible for putting the snake near desired local minimum. By minimizing the energy function, each snake contour point iteratively finds its new situation to move toward object boundaries. The model planned in Kass et al. (1988) performs a global investigation to minimize the energy function. Later, a number of techniques were proposed to decrease the computational complexity of snakes (Williams & Shah, 1992; Lam & Yan, 1994; Mirhosseini & Yan, 1997).

The contour is described in the (x, y) plane of an image as a parametric curve

$$(s) = (x(s), y(s)) \quad \text{----- (7)}$$

Contour is said to take an energy (E_{snake}) which is defined as the sum of the three energy terms.

$$E_{snake} = E_{internal} + E_{external} + E_{constraint} \quad \text{----- (8)}$$

The energy terms are described cleverly in a way such that the final location of the contour will have a minimum energy (E_{min}). Therefore our difficulty of obtaining objects decreases to an energy minimization difficulty.

Internal Energy (E_{int})

Internal energy depends on the intrinsic property of the curve and addition of elastic energy and bending energy.

Elastic Energy ($E_{elastic}$)

The curve is care for as an elastic rubber band possessing elastic potential energy. It dispirit extending by introducing tension

$$E_{elastic} = \frac{1}{2} \int_s \alpha(s) |v_s|^2 ds \quad \text{----- (9)}$$

where,

$$v_s = \frac{dv(s)}{ds} \quad \text{----- (10)}$$

Weight (s) permits us to control elastic energy beside diverse parts of the contour. used for many applications & responsible for shrinking of the contour.

Bending Energy ($E_{bending}$)

The snake is also considered to behave like a thin metal strip giving rise to bending energy. It is defined as sum of squared curvature of the contour.

Total internal energy of the snake can be defined as

$$E_{bending} = \frac{1}{2} \int_s \beta(s) |v_{ss}|^2 ds \quad \text{----- (11)}$$

$$E_{int} = E_{elastic} + E_{bending} = \int_s \frac{1}{2} (\alpha |v_s|^2 + \beta |v_{ss}|^2) ds \quad \text{----- (12)}$$

External energy of the contour (E_{ext})

It is obtained from the image. Define a function $E_{image}(x, y)$ so that it obtain on its smaller values at the features of interest, such as boundaries

$$E_{ext} = \int_s E_{image}(v(s)) ds \quad \text{----- (13)}$$

IV. RESULTS AND DISCUSSION

A. Results of Shen Castan's Algorithm:

Dental treatment is dependent on the caries development up to the enamel, dentine and pulp region.

For this diagnosis following technique as briefed in Table-II can be suggested. The detail description of the same is explained below it.

TABLE II: SUGGESTED TECHNIQUE

Sr. No.	Steps
1	Acquire digital dental images.
2	Convert image in to gray scale image.
3	Apply morphological and filtering operations for image enhancement.
4	Extraction of caries affected tooth from image.
5	Edge detection using ISEF (Infinite Symmetric Exponential Filter).
6	Detection and decision based on caries extension inside the tooth

Dental x-ray images are RGB images, so to reduce the complexity level and time consumption, these images are converted into gray scale images.

Image enhancement is the required task for dental x-ray image as step 3 of table I suggests. In periapical view. three main classes of "objects"; teeth, gum, and air have been classified. An area with "bright" gray scales (except for the pulp tissue) consists tooth area while areas with "mid-range" gray scales consists gum area, and "dark" gray scales indicates air. For better segmentation,[13] it is desirable to convert poor quality dental x-rays in to considerable degree of contrast between the dominant gray scales used in capturing the different classes of objects.[7] Top-hat and bottom-hat filters are applied on the original image to achieve an enhanced and desired image for further processing [6],[9]. Step 4 of table II is caries affected tooth extraction. caries affected tooth from the dental X-rays have been extracted by image cropping operation, so that caries affected area can be visible more properly.

CONCLUSION

Two different techniques have been used for edge detection of caries affected tooth. Using Shen Castan Edge detection method, Edge of the caries affected tooth has been found but caries affected tooth have to be selected manually from periapical dental image. Whereas active contour model is a semi automatic approach in which one has to select initial points around the interested area and define iterations. It will find out caries affected area automatically. Both these techniques will reduce the risk of service users as the diagnose and treatment

decision will based on scientific method. Risk because of error in the judgment of doctors can be minimizing with the help of model based decision. Hence scientific model based decision will be helpful to reduce the chances of error and lead to more rational decision. Consequently it will minimize patient's risk also. Further study can be carried out to test the practical applicability of such model based decision in medical treatment. Judgment based on the experience of doctors is inevitable in deciding the treatment; it cannot not be completely replaced by such model based decision. However such model based decision help doctors to ensure the treatment and help to win the trust of patient. In case of health care services it is very essential to establish the credential of services. Sometime for patient it is hard to evaluate even after consumption of treatment that whether this treatment was required or not. Patient expect to know precisely that why do they go for particular treatment because they lack the necessary expertise themselves. It will be easy for patients also to understand reasons for treatment that reduced their perceived risk. Application of such model requires acceptance among doctors and their willingness to adopt such model. It will possible only when such model based application is simple and user-friendly.

References

- [1] G.A.Kulkarni , A.S.Bhide, D.G. Patil, S.S.G.B.C.O.E. & T., Bhusawal (2012), "Two Degree Greyscale Differential Method for Teeth Image Recognition", International Journal of computer Application.
- [2] B. Yousefi , H. Hakim, N. Motahir, P. Yousefi1, M. M.Hosseini (2012), "Visibility Enhancement of Digital Dental X-Ray for RCT Application Using Bayesian classifier and Two Times Wavelet Image Fusion", Journal of American Science, pp 7-13.
- [3] S. Oprea, C. Marinescu , I. Lita, M. Jurianu, D. A. Vi?an, I. B. Cioc (2008), " Image Processing Techniques used for Dental X-Ray Image Analysis" , Electronics Technology, ISSE, pp 125-129
- [4] E. H, said, G. Fahmy, D. nassar, H. Amar (2004), "dental X-ray image segmentation" Biometric Technology for Human Identification, Proceedings of the SPIE, Vol. 5404, pp. 409-417.
- [5] Mark S. Blumberg (1986), Risk Adjusting Health Care Outcomes, A Methodlogloical Review Medical Care Research and Review, 43:351-393.

- [6] S. Kiattisin, A. Leelasantitham, K. Chamnongthai, K. Higuchi (2008), " A Match of X-ray Teeth Films Using Image processing Based on Special Features of Teeth" , SICE Annual Conference, pp 35-39
- [7] Christopher Lovelock, Jochen Wirtz and Jayanta Chatterjee (2011), Services Marketing, Pearson.
- [8] S. Dighe, R. Shriram (2012), "Pre-processing, Segmentation and Matching of Dental Radiographs used in Dental Biometrics", International Journal of Science and Applied Information Technology, Volume 1, No.2, pp 52-56, May - June 2012
- [9] R. B. Tiwari, Prof. A. R. Yardi (2006), "Dental x-ray image enhancement based on human visual system and local image statistics"., International Conference on Image Processing, Computer Vision and Pattern Recognition, pp 100-108
- [10] O. Nomir, M. A. Mottaleb (2005). "A system for human identification from X-ray dental radiographs," Pattern Recognition, pp 1295 - 1305.
- [11] S. L. S. Abdullaha, H. A. Hambalia, N. Jamilc (2012), "Segmentation of Natural Images Using an Improved Thresholding-based Technique", International Symposium on Robotics and Intelligent Sensors 2012 (IRIS 2012), pp 938-944
- [12] C. K. Modi, K. J. Pithadiya, J. D. Chauhan, K. R. Jain (2009), " Comparative study of Optimal edge detection algorithms for liquid level inspection in Bottles", International conference on Emerging Trends in Engineering and Technology , pp 447-452.
- [13] E. H. Said, D. E. M. Nassar, G. Fahmy, H. H. Ammar (2006). "Teeth segmentation in digitized dental X-ray films using mathematical morphology," IEEE Transactions on information forensic and security, vol. 1, Issue. 2, pp. 178-189, June.
- [14] O. Gormeza, H. H. Yilmazb (2009), " Image Post Processing in Dental Practice", European Journal of Dentistry , October, - Vol.3.
- [15] S. Shah, A. Abaza, A. Ross, H. Ammar (2006), Automatic Tooth Segmentation Using Active Contour Without Edges", In Biometric Consortium Conference, 2006 Biometrics Symposium: Special Session on Research at the, pp. 1-6. IEEE.
- [16] M. Analoui. "Radiographic image enhancement (2001), Part I: spatial domain techniques", Dento maxillofacial Radiolog, 30, pp 1-9.