

PROCUREMENT STRATEGY IN SUPER MARKETS: A CASE OF CHOPPIES CHAIN STORES

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ABSTRACT

The purpose of this study was to investigate the challenges faced by the procurement department at Choppies Chain stores in Botswana which is one of the leading retail organisations in the region. The organisation has grown over the years and managed to expand across the country of Botswana. The main focus was to identify the strategies used by the Choppies procurement department and they overcome with the challenges as well to assess the importance of strategic procurement at the department. Given the current projected and increasing importance of the procurement function in contributing to firm profitability, it is important for firms to employ a systematic means of which procurement practices can contribute to the attainment of corporate objectives. The researchers collected both primary and secondary data. Primary data was collected using questionnaires and interview covering the significance of the procurement strategy of Choppies. The results viewed that Choppies indeed values procurement as a function and the strategies employed by the organisation can actually be standardised.

INTRODUCTION

Today's dynamic food industry generates a highly competitive environment for food manufacturers and food retailers alike. Part of this ever-changing environment includes consolidation, new retail formats, and globalization (Kraig, Kellie, Whipple, Mollenkopf, & Peterson, 2007). Procurement is identified by Mdlambo & Njerekai (2012) as the nerve centre of all retail activities because at the centre of the success of retail organisation is the procurement function. Procurement is a complex process and this has been worsened by the fact that procurement within retail organisations involves thousands of products and it is increasingly carried out at a more global scale (Mdlambo & Njerekai, 2012). The activities involved in procurement increase its complexity. Reardon, Timmer, Barret and Berdegu (2003) said that the decisions related to purchasing of products for retail shelves lies on the procurement officers in the supermarket. The increasing importance of the procurement function in contributing to firm profitability, firms need to employ a systematic means of deciding which procurement practices will contribute most to the attainment of corporate goals. Today, procurement plays a far more strategic role than it used to a few decades ago due to diverse factors (Rimkūnienė, 2013). This thus gives this research paper its purpose and significance. The study on Choppies is used because of its reputation across the region in food retailing.

PROBLEM STATEMENT

Choppies headquarters is a central sourcing of materials for the Choppies stores. The distribution centres which negotiate price and enter into agreements with suppliers and charge fees for delivery and handling. Currently there are centralised distribution centres, located in Gaborone, Francistown, Lobatse (Botswana) Zimbabwe, South-Africa, Kenya, Zambia and Tanzania. This has enabled rapid expansion of new stores in Africa. The company's top 200 products are delivered in bulk to the distribution centres and then distributed to the stores. Other products are delivered from the source to the stores directly for instance, perishables (Mokgethi, 2011). Although this is a good initiative to grow the organisation, challenges are inevitable because the more the businesses grow the high the challenges and risks (Gebauer & Arie Segev, 2001). The research intends to examine or evaluate the strategies used by Choppies supermarket to reduce the challenges they face under their procurement department. This is a way of trying to find out what is it that Choppies is doing which can help other upcoming as well as existing firms to grow in terms of procurement. This research also allows for further studies by others researchers and scholars in the field of procurement with a concentration on food retailing.

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RESEARCH OBJECTIVES

- Examine the procurement challenges faced by Choppies Chain stores.
- Assess the procurement strategies used by Choppies Chain Stores to curb the challenges faced.
- To advocate for standardised procurement strategy for Choppies Chain stores.

SCOPE OF STUDY

This research is a purposeful evaluation Choppies procurement strategy, because it is ranked one of the biggest Chain stores across the region. Procurement is quite inevitable in retailing and this organization carries the procurement process on a daily basis. Challenges are to be expected within an organisation's procurement, what is important is whether the company has identified these challenges and more importantly how do they deal with these challenges which automatically require them to have a procurement strategy. The research thus gives a greater concentration on the procurement challenges and strategies in retail stores using Choppies as a case study.

LITERATURE REVIEW

Choppies, which is the largest local Chain stores / supermarket chain, is a major organisation to market for local suppliers. Given the lack of manufacturing capacity in Botswana, the majority of products are imported. This appears to be coordinated through large-scale distribution agents like CA Sales and Distribution, Global Holdings, and Safari. These agents are exclusive distributors for certain suppliers, although it appears that there is some degree of competition to become an agent for a supplier. Distribution agents procure products from main suppliers on behalf of supermarkets (Reena & Shingie, 2017).

The procurement methods and requirements of supermarkets have important implications on suppliers. Internationally, supermarkets have moved away from spot purchases to adopting specialized procurement agents, dedicated wholesalers, or procuring directly from farmers and processors. This gives them direct influence over pricing, quantities, terms of delivery, and product quality. This also has the adverse effect of shrinking the supply base by using only **preferred suppliers** (Reena & Shingie, 2017). This is one of the procurement strategies that organisations can create for themselves. Having specialised procurement agents improves the overall performance of the organisation because these people are experts in their field therefore they can make better decisions as well make improvements where necessary.

Another strategy is that modern supermarket chains globally are also moving towards using their own centralized Distribution Centres to supply stores in the chain and are shifting away from the traditional store- by-store procurement and supply practices.(Reardon, Timmer, Barret, & Berdegu, 2003)Assert by writing that there is a trend toward **centralization of procurement**. As the number of stores in a given supermarket chain grows, there is a tendency to shift from a per-store procurement system, to a distribution centre serving several stores in a given zone, district, country, or a given region (which may cover several countries). This is accompanied by fewer procurement officers and increased use of centralized warehouses.

Reena and Shingie (2017) purpot that procurement officers seek to maintain diversity, year-round availability and products with assured quality and safety levels. They also lament that private infrastructure such as shipping equipments among suppliers and distributors is usually inadequate. This is a great challenge to the procurement office because it then becomes a hinderance to achieving procurement goals.(Reardon, Timmer, Barret, & Berdegu, 2003), Choppies distribution center uses a procurement strategy of using a core purchasing cycle. This is where they order from a group of regular vendors and use **outsourcing procurement** for their larger purchases. The company chooses an optimum mix of vendors who can provide the best prices on agreed terms. Although this procurement strategy seems to be working for the organization, challenges are inevitable. This is because as the business grows procurement is challenged and certain aspects of it such as replenishment plan are challenged and there is a need for changes (Reardon, Timmer, Barret, & Berdegu, 2003).



The challenges of procurement as outlined by (Isheke, 2007) include corruption, lack of professionalism, lack of skilled personnel, globalization, supplier related challenges, costs reduction. According to (Mumassabba, 2015) globalization attribute the rapid movement of goods and services across national borders. Further advocates that firms which cannot adapt to the global forces sooner or later lose their significance and struggle to survive but those who adjust and change as the globalization proceeds convert global opportunities into strategies that strengthens and makes them continuously relevant dealing with the threats from the environment more successfully. It was said that procurement needs to be practiced by experts in organizations and that firms should ensure that it is not done by other functions, it should rather be treated as an independent function. It was said that in order to achieve greater business success organisations should give more attention for long-term strategic benefits that are accessible through knowledge based buyers-suppliers relationship management, combined efforts between different functional divisions and increased focus on business intelligence (Rimkūnienė (2013).

METHODOLOGY

The sources of information for the research are both secondary and primary data. The primary data was collected through questionnaires and interviews and some consultations. Secondary data was also collected from brochures, advertising materials and company official records.

Interviews are advantageous in the sense that they assist in gaining an insight and context into a topic and allow the respondents to describe what is important to them. Thus it enables the interviewer to analyse the data more easily and make good conclusions (Finn & Jacobson, 2008). Semi-structured interviews consist of several key questions that help to define the areas to be explored, but also allows the interviewer or interviewee to diverge in order to pursue an idea or response in more detail (Gill, Steward, & Chadwick, 2008). The semi-structured interview was administered at Choppies distribution centre specifically to the procurement department. Most of the information was obtained through Question/Answer format which was concluded in the process of highlighting the importance of procurement.

Educational background of the employees who are involved in Procurement

The education levels of employees show that 2 of total respondents are degree holders, 2 are diploma holders and 6 are secondary school. The results suggest that there is a need to improve training and development so as to provide room for career advancement in order to boost the education of the group. The study conducted by Isheke (2007), complement the fact that higher level of education will always reduce challenges in procurement.

The purpose of the question was to get an understanding of whether the employees clearly understand their roles and duties in the department. The questionnaire was given to 10 personnel. 8 members agreed that they do understand what is going on the department whilst 2 said the contrary as they are new in the department and they are undergoing training.

Challenges Faced by Procurement Department

Choppies Group has the highest retail market in Botswana and is listed on the Botswana Stock Exchange, it has more than 4500 employees, and despite this, it has gone through challenges of its own in recent years internally and externally. These challenges if not addressed might hamper the growth and progression of the company. In random checking during consultation with few staff, the challenges which were present in both the questionnaire and interview include among others lack of training was suggested by 9 staff, communication issues were highlighted by 6 members, lack of involvement of subordinates in the decision making process was informed by 5 members and supplier issues were raised by 10 members. The problems arise when a local supplier has signed the contract and does not comply and does not deliver as per the contract. Another issue raised concerning local suppliers and the selection process, which they said was long and time consuming in the sense that potential suppliers do not bring relevant documents and samples of their products and do not comply to the quality standards of Choppies or with the Botswana Bureau of Standards. When asked about globalisation as a challenge during the interview, the Chief buyer said that in their department, globalisation is more of an advantage rather than a challenge. This is because it helps them in market expansion and also creates more employment. Global procurement acts as a source of competitive innovation; provide opportunity for attracting the best talents for competitive advantage; provide opportunity to procure products of high quality and ensures stable supply of goods for competitive advantage (Mumassabba, 2015). One of the challenges that



seemed to be bothering the manager the most is that of lead time. It was indicated that suppliers did not deliver at the right time and having agreed to deliver at a particular time and they would do otherwise. This slow responsiveness disturbs the orders of the day. This is because, the procurement department receives orders from Choppies stores and promises to deliver the right quantities, at the right time and place but this is hindered when the suppliers do not deliver to the Choppies warehouse at the right time.

Are you Aware of the Procurement Strategy in your Department?

This question was directed to the employees and not to management. A strategy should be communicated to the whole department and be in line with the overall company strategy (Gebauer & Arie Segev, 2001). Out of the employees who gave the responses, 31% said that they are not aware of any strategy as they are new, but other 69% said that they understand the procurement strategy.

Strategies of the Department

In order to realise their degree of understanding of the strategy, participants were asked to explain the strategy. One of the participants handling local potential suppliers explained the importance of contract management which is a good strategy. If a supplier's product is approved the company will be listed on the Choppies database, only then can they start trading. It is important that the signed supplier abides by the contract and failure to do so results in removal of the supplier's company from database and therefore cannot trade. This on its own is a strategy which emphasises of contract management. The supplier has the obligation of delivering accordingly without failure.

Another strategy is the use of information technology. Choppies created a platform for the public which basically gives information on the management, store location, financial stand and all of their products. The website is a way of bringing the company to the people. The chief buyer also mentioned the use of software such as Enterprise Resource Planning (ERP) which he said played a significant role in improving efficiency. ERP integrates internal and external management information across the entire organization, embracing finance/accounting, manufacturing, sales and service and Customer Relationship Management. Its purpose is to facilitate the flow of information between all business functions inside the boundaries of the organization and manage the connections to outside stakeholders (Kiragu, 2012). Technology is another way of advertising the organisation which brings about another strategy of advertising.

Choppies invested enormous funds on advertising its products. Sponsoring events and radio and television programmes is a way of exposing the organisation as mentioned in the interview. Choppies has done a tremendous job in taking the company to the public as it has become a household name and a company to reckon with in terms of competition. This implies that procurement and marketing departments work together in doing this. It is thus important for different functions within the organisation to work together for business improvement by recognising each other's significance in achieving organisational goals and objectives.

Investing in logistics is another strategy of Choppies. The organisation has planted warehouses across the country and has about 200 vehicles to improve efficiency. Choppies has competitive advantage over its peers in key areas such as geographical foot print, distribution network and customer base, in-house logistics, supply, and distribution, and bulk purchasing power. Procurement is not only about purchasing but also meeting customer requirements which promotes responsiveness and efficiency.

Choppies distribution centres use a procurement strategy of using a core purchasing cycle. This is where they order from a group of regular vendors and use outsourcing procurement for their larger purchases. The company chooses an optimum mix of vendors who can provide the best prices on agreed terms. As the number of stores grew they have established distribution centres serving several stores in a given zone or district. This is accompanied by increased use of centralized warehouses which increases control of procurement cost as well as other costs associated with decentralising. The procurement manager was quite confident and indicated that the choppies negotiation skills were quite good and helped in striking good deals and getting everything done. A good negotiator has good perceptive skills and intuition.



Are the Strategies Yielding the Anticipated Results?

Most participants seemed to be pleased with the strategies put in place, indicating that if the strategies did not work, the organisation would not be where it is today. They also appreciated that there is always room for improvements because not everything is perfect. 8 participants agreed that the strategies were yielding the good results while the 2 responded otherwise. The research intended to examine the strategies used by Choppies supermarket with a concentration on procurement and at the same time finding out the challenges faced by the department as well as how they overcome them. **The study was guided by the objectives** and the outcomes of the study are as follows:

What are Challenges Faced by the Choppies Procurement Department?

It has been observed that Choppies procurement department has challenges like any other organisation would. Some of the challenges they mentioned are supplier related such as the supplier's failure to deliver accordingly, internal communication problems, lack of skilled labour and lack of involvement of other staff members in the decision making process. These issues can bring about serious problems within the department and can even hinder growth. There is a need to attend to such challenges as soon as possible.

How does Choppies Procurement Department Curb the Challenges they Face?

The department seemed to have been coping with the challenges that they have very well although some of the solutions have not been implemented yet. The management and suppliers communicate regularly to avoid supply issues and to keep the relationship stable. Communication channels such as e-mails and making calls are the key communication tools used in the department as they are faster and save costs. It is however important that the department improves its internal communication through holding meetings regularly as already indicated above. Management must realise the importance of having a good relationship with employees and understand the importance of improving their skills.

What is the Strategy(s) used by the Procurement Department?

The management identified quite a number of strategies applicable to the department. These strategies include the use of information technology, investment in advertising, investment in logistics, contract management, and the core purchasing strategy as well as managerial skills of negotiation and analytical skills. These strategies are applicable to the procurement department and can also apply to the organisation at large because some decisions taken in strategy design and implementation require the blessings of executive committee. It is evident that the strategies are working for the organisation looking at its growth and the position of retail business in the region. Further, the department suggested that it's important to improve supplier relationship. In the process of consultation, 8 people said that they should be involved in the decision making process of the department, 9 suggested regular departmental meetings to improve communication and 9 said that they would like to go on training and skills development programmes.

How important is the Procurement Strategy to the Organisation?

It is important to applaud the organisation on realising that procurement plays an integral part in the organisation and thus should be an independent function. The activities carried out in the procurement department ensure flow of goods, services and information across the retailing business. By looking at the growth of Choppies stores in Botswana over a period of time and the extension of stores to some countries in the region, it could be assumed that the procurement strategy has hot immense value in the process.

CONCLUSION

The changing nature of the retail industry indicates that skills such as the ability to see the big picture, the ability to think outside the box, cross-functional coordination, team work and strong communication skills are critical to the success of today's global and highly complex business environment. Skills such as business process improvement, the ability to plan and prioritise, decision-making and leadership will become increasingly important as the organisation develops and matures. Procurement must be integrated with the other aspects of logistics functions within the organisation, such as Warehousing, Distribution, Finance, and human resources. It can be concluded that organisation



must make strategy development a priority and find ways to create a competitive advantage. Procurement can be used as leverage in the creation of the overall company strategy. Therefore team-work is an important factor in achieving the set procurement goals and strategies which is possible by the tool of communication. It is quite possible that if management can put in extra effort the strategies outlined can definitely be standardised.

RECOMMENDATIONS

The research indicated that there are significant skills shortages in the procurement industry. It will be necessary to have Purchasing staffs proficient in computer skills, team building, and business procedures. Supplier performance measurement is another component that the department can take into account. In addition to evaluating supplier contracts on a regular basis to ensure performance and compliance from vendors, procurement departments should also be looking for ways to improve their lasting relationships with them. The department should improve communication by team building workshops. The management should involve the staff in meetings with suppliers so that they can be given the platform for better negotiation with suppliers. The organization should strategically locate their stores across the country. Placing many stores in an area can bring about problems with the organization and control of processes may be difficult and become too complex. The organization therefore should place stores in a more convenient way without increasing cost and not compromising customer service.

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GREEN MARKETING AND IT'S IMPORTANCE IN PRESENT ERA

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ABSTRACT

As the ecological issues are getting worse, the consumers' concerns about the environmental protection have led to the diversification in consumer buying approach towards a green lifestyle. Therefore, firms are taking action to develop potential ecological approaches in the green market industry. Green marketing and green product development are useful techniques that are used by firms to increase competitive advantages and stand a chance of gaining the satisfaction of consumers in order to achieve the firm's mission and vision. Green marketing and green product development have various benefits to firms in terms of increasing the sustainable environmental benefits and to increase the awareness of brand image of the firm.

This study focuses on the concept of green marketing and green product development, the different consumer consumption in regards to green marketing and green product development, and lastly examines the problems that firms have faced when they have failed to implement green marketing and green product development.

KEYWORDS

Green Marketing, Green Product Development, Consumption, Environmental Benefits etc.

INTRODUCTION

In case, we love the environment that alone cannot lead to the concept of green marketing. Producing the right product with appropriate packaging, rendering the services with the corporate culture and creating an impact on the environment & the world around us is important.

Green marketing is a concept that says why the customer should buy our product. Along with the selling & advertising concepts, the seller should focus on various concepts like:

- Recyclable Packing,
- Sustainable Designing,
- Modification in the Production Process,
- Upgrading Advertising,
- Toxins Free Products,
- Chemicals Free Products.

According to the American Marketing Association, green marketing is the marketing of products that are presumed to be environmentally safe. The concept of green marketing came into existence during late 1980's & 1990's.

Therefore green marketing includes broad categories as recyclable packing, sustainable designing, modification in the production process, upgrading advertising, toxin free products and chemical free products.

If this concept as to be better understood by a layman, green marketing includes all such product-marketing strategies that will not cause any harm to the environment & it can be eco friendly product.

Any such concept that can cause minimal effects on the environment by its usage can come under the preview of green marketing. It also covers not only the consumer products but also the industrial goods as well as service sectors. All such organizations who can bring in the balance in ecology without causing any kind of damages to the ozone layer.

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As a part of corporate social responsibility, it is the duty of the seller to make the best products available to the ultimate consumer without disturbing the ecological environment in the world. Striking the right balance between the ecology and consumers is important. The ecosystem needs to be protected instead of damaging it by the wealth creators. It also becomes the responsibility of each & every individuals & corporate to protect our environment as compare to three decades before. Therefore, it becomes the essential responsibility of all public and private owned organizations to provide such products & services to the end users without causing any damage to the environment.

According to American Marketing Association – “Green marketing is the marketing of products that are presumed to be environmentally safe.”

According to Polonsky, 1994 – “Green or Environmental Marketing consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment.

So any such products that are manufactured and distributed to the ultimate consumers without causing any kind of damages to the environment and by creating benefits to the environment, can create a kind of greenness in the eye of consumers and therefore they will choose all such products and will pay more for green products compared to less green products.

FEATURES OF GREEN MARKETING

Customer Consciousness: Any organizations can market their products to customers only if the customers are aware of the usage of such products. So it becomes important for any manufacturer of product or service to reach their customers with required information on eco-friendly basis.

Stimulate Buyers: It becomes the responsibility of marketer to market the given product to the customer on commercial & ethical basis, because it will be highly challenging to sell the product just based on eco-friendliness.

Translucence: Marketer should be genuinely & transparently marketing the product to the customers, the business policies must be ethical.

Contemplate Pricing: Due to higher cost of production, the cost of products may increase automatically. However, it becomes the obligation of marketer to keep the prices as low as possible, because not all can afford.

Customer Engagement: Customer involvement should be made by the marketer, so that they can feel themselves as a part of the product decision making & understand the related issues.

MERITS OF GREEN MARKETING

With the changes and increase in technology & population, there is tremendous increase in the production of goods & services, which in turn causing harm to the society & environment through its residuals. There is a lot of damage caused to people, animals, plants and other small creatures. The goods produced also are not the original products, because it comprises of lots of chemicals within it. So it becomes very important to each one of us to protect the environment for our future generations and that is where the concept of green marketing takes lots of importance.

The concept of green marketing has taken shape due to the increased concern from the people to have a healthy environment around them. There is lot of knowledge & awareness among the people to keep the environment safe for their future generations and to make best use of the resources available in the economy.

Positive Environmental Impact: If the marketer can create an better environment, then definitely they can explore better possibilities & enter into new markets. Any alternative methods that can reduce the emission of toxic substances can be best practiced, such as usage of solar panels by all households and corporate. The advantages of green marketing can be having car pooling, using organic products at workplace & recycling at work. Less or better packaging, paperless



policies, recycling ink cartridges, planting trees, reducing your carbon footprint. Every organization should work for the betterment of the society & educate the consumers on green marketing products advantages.

Reduction in Cost: Increasing profits & decreasing cost are the two main motives any organization to be successful. Reducing the waste equals can benefit organizations better. LED lights, use of natural lighting, water conservation policies, and mandatory recycling and hybrid company vehicles save money on utilities, fuel and office supplies. With all such go green activities an organization can create the best impact in the minds of stakeholders like supplies, customers, financial institutions, government and others.

Creates an Competitive Edge: The corporate social responsibility of your organization will be at its peak, which can further create a niche position for your organization and you can be the responsible leader in the respective industry. Instead of concentrating only on the organizations profits, the marketer should dedicate himself in promoting the social & ecological benefits of the products & services. The future-safe markets include biomaterials, green buildings, personal transportation, smart grids, mobile applications and water filtration.

Maximum Utilization of the Available Resources: Resources are in scarce, therefore it become the responsibility of each individuals in the organization to put them into best use.

Sustain Customers: Customers are well educated & conscious about environment, if the green products are made to reach the consumers, then such organizations can sustain for a long time in this competitive world.

BEST EXAMPLES OF CORPORATES WITH GREEN MARKETING CONCEPT

Organizations are conscious about the environment, therefore it has become the basic responsibility of all organizations to develop the concept of green marketing in all their products and services to sustain & win the expectations of customers. There are few such organization who are playing the lead role in this context, following are the developments made by the organizations with respect to green marketing concept.

IKEA: IKEA's invested in sustainability throughout its entire business operations, including things customers can readily see and things they cannot. It starts with their supply chain, where the Swedish furniture-maker has sourced close to 50 per cent of its wood from sustainable foresters and 100 per cent of its cotton from farms that meet the Better Cotton standards, which mandate reduced user of water, energy and chemical fertilizers and pesticides.

Unilever: The Company's Sustainable Living Plan sets targets for sourcing, supply chain and production on everything from energy and water use to treatment of suppliers and communities where they operate. When it was first adopted in 2010, CEO Paul Polman said he wanted to double the company's business while halving its environmental impact in just 10 years. It's made amazing strides: three quarters of Unilever's nonhazardous waste does not go to landfills and the share of its agricultural suppliers that use sustainable practices has tripled. The United Nations awarded the company's CEO its Champion of the Earth Award in 2015 for his efforts toward reaching this goal.

Panasonic: It moved its North American headquarters from suburban Seacaucus, New Jersey to a LEED-certified building in downtown Newark by Penn Station, an intentional move to eliminate the need for employees to drive to work and reducing their carbon footprint. They are also collaborating with several companies to make a demonstration Sustainable Smart Town in Japan centered on sustainability.

New Belgium Brewing: The brewery diverts 99.8 per cent of its waste from landfills. In addition to making energy efficiency integral to their brewing process, they are also an outspoken advocate for climate change action and signatories to both the BICEP pro-climate business coalition and the Brewery Climate Declaration.

Nike: Like, Patagonia, it also uses post-consumer recycled materials in some of its products, including its 2011 World Cup jerseys. It has also redesigned its boxes to reduce packaging, committed to eliminating chemical discharges, invested in energy efficiency in its factories and more. Nike is also collaborating with NASA and other government agencies to spark innovation in chemistry to green the processing of raw materials into goods.



Proctor & Gamble: Laundry detergents are also touting energy savings. Proctor & Gamble's (P&G) newest market entry, Tide Coldwater, is designed to clean clothes effectively in cold water. About 80 to 85 percent of the energy used to wash clothes from heating water.

ITC: ITC has been 'Carbon Positive' for three years in a row sequestering/ storing twice the amount of CO₂ than the Company emits. It has been 'Water Positive' six years in a row creating three times more Rainwater Harvesting potential than ITC's net consumption. It has obtained close to 100% solid waste recycling.

HP: Hindustan Petroleum owns a massive e-waste recycling plant, where enormous shredders and granulators reduce four million pounds of computer detritus each month to bite-sized chunks the first step in reclaiming not just steel and plastic but also toxic chemicals like mercury and even some precious metals.

Maruti Suzuki: The Company has been promoting 3 R since its inception. As a result, the company has not only been able to recycle 100% of treated wastewater but also reduced fresh water consumption. The company has implemented rainwater harvesting to recharge the aquifers. Also, recyclable packing for bought out components is being actively promoted. The country's largest car manufacturer had managed to slash energy consumption per car at its Gurgaon factory by 26 per cent over the past six years, while its carbon dioxide (CO₂) emissions during car manufacturing processes has come down 39 per cent in the past five years.

GREEN MARKETING MIX

Any kind of implementation to safeguard and sustain the present environment, 4p's of green marketing are required.

4p's of green marketing mix are:

Green Product: Consider products that consume more energy, use toxic chemicals, cannot be recycled, and use extensive packaging. Such products are a threat to the environment as they lead to environmental degradation and pollution. On the other hand, products that help in saving energy, use natural ingredients, are recycled, or use reduced packaging make contributions to the environment. Therefore, those products that are produced in harmony with the environment are known as 'green products'. Production of green products is based on green technology. Green products help in saving natural resources and subscribe towards sustainable future.

Green Place: Green place relates to the distribution of green products without doing any harm to the environment. This is achieved through efficient utilization of fuel and energy and arranging for logistics with the least emissions.

Green Price: Production of green products requires modification in the production processes and this necessitates expenditure. Cost increase results in increased price point of green products that makes acceptability of the product in the market difficult. The gap between the price of a green product and a non-green product is known as 'pricing gap'. Price impediments can be tackled either by lowering the price point of green products to make it contiguous with the prevailing products in the market or by enhancing the perceived value of the green products.

Green Promotion: Green promotion entails increasing the sensitivity of consumers towards green products as well as promoting the products in an environment-friendly manner like using social networking sites to post profiles related to green marketing. Nike with its 'Better World' campaign launched its first 100 per cent recycled television advertisement, which was recycled by reusing and remixing film of its earlier campaigns.

CHALLENGES FOR ADOPTION OF GREEN MARKETING

Need for Standardization: It is found that only 5% of the marketing messages from "Green" campaigns are entirely true and there is a lack of standardization to authenticate these claims. Regulatory & control bodies should be nominated.

New Concept: Awareness among the masses is less, so initiative needs to be taken to create more awareness among the mass.



Patience and Perseverance: The investors and corporate need to view the environment as a major long-term investment opportunity, the marketers need to look at the long-term benefits from this new green movement. It will require a lot of patience and no immediate results. Since it is a new concept and idea, it will have its own acceptance period.

Avoiding Green Myopia: The first rule of green marketing is focusing on customer benefits i.e. the primary reason why consumers buy certain products in the first place. Do this right motivate consumers to switch brands or even pay a premium for the greener alternative? It is not going to help if a product is developed which is absolutely green in various aspects but does not pass the customer satisfaction criteria. This will lead to green myopia.

CONCLUSION

All the basic amenities are been provided to the human by the natural environment, therefore it becomes very important to protect our environment & bring necessary awareness among all individuals about green marketing concept.

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ANALYSIS OF COMPONENTS INFLUENCING MAKING OF HANDICRAFT PRODUCTS IN EASTERN UTTAR PRADESH

Dr. Dilip Kumar⁴ Dr. P. V. Rajeev⁵

ABSTRACT

As we know that, the handicraft has been a most diversified and wide available crafts in different states of India. It is the second highest employment-generating sector after agriculture and it is mostly cottage-based production. The artisans of the crafts have played crucial responsibility to produce quality products for the market, but the production part of the craft sector has been facing numerous problems, which adversely affect the entire sector. In this study, we attempt to investigate the prominent issues related to the production section of the crafts, which influence the handicraft sector. The major influencing factors of the production section are fundamental support, manufacturing prospects, Information diffusion, procurement procedure and Additional obstructions. These factors help to build up an elementary framework for the production of the crafts products and provide competitiveness to the products in the markets.

This paper is divided into five sections. The first section discusses about the production section of the handicraft. The second section includes review of literature regarding different parameters of the production involved in manufacture. The third section deals about the objectives, research method, and the next part deals with data analysis and interpretation. The last section incorporates the findings and conclusions.

KEYWORDS

Production, Artisans, Factors, Influence, Handicraft, Training etc.

INTRODUCTION

Indian handicraft sector is among the oldest sectors of the country, spread throughout the country with different customs and traditions. It has a legacy as a crown of a king in the world market for the quality and diversities of craft products. Indian handicraft had the world's largest diversified products, which attracted the customers throughout the world and fulfilled their demands according to their choices. India was the world largest handicraft products exporter and foreign exchange earner in the world market. The producers of handicrafts are generally scattered in various parts of the country, mostly in the rural area. Handicrafts sector has a great potential to provide jobs to the existing millions of artisans and to the fresh entrants in the sector. The most common problems, which influence the overall development, are lack of education, absence of market intelligence, low capital, poor exposure to new technologies and poor institutional framework (Annual Report, Ministry of Textile, 2018). The ministry of textile started many developmental programs like social interventions, technological interventions, marketing interventions and financial intervention to promote handicraft by developing artisans' clusters into professionally managed and self-reliant community enterprise (Annual Report, Ministry of Textile, 2017).

Zhu Yihao and Zhu Yuning (2010) in their studied found that pessimistic factors like large design flexibility, pathetic and complex production process, lack of involvement of contemporary manufacturing system adversely influence the production of craft items. M. L. Meena (2011) found that ergonomic factors have harmfully exaggerated the working condition of artisans in handicraft sector. Ergonomic factors talk about scientific studied of association between artisans and their functioning environment. The researcher tried to focus on the different factors, which pessimistically affects the efficiency of the workers. Sanjay Mahapatra (2011) said that there is an obligation to improve the producing

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condition of artisans in their houses. In organized producing centers, artisans earned better wages; quality of products is good but in unorganized places artisans were incapable to maintain the quality of products.

Handicraft is small scale and cottage based work, which helps to solve the social and economical problems of the artisans, and nearly 70 lakhs of workers are involved in the production of the craft. Most of the workers belong to the weaker section of society including women artisans. The production phase of the crafts has been playing a significant role in the overall growth and development of handicraft sector. There is a need to examine each sub-segment of the craft production, to identify its value creation contribution in the products. As we know that most of crafts products are exported in the world market from India, crafts should be produced as per the international standard. Domestic market of India is also a potential market and artisans should provide the products according to the tastes and preferences of the local customers.

More than 7 million of the crafts persons are working as a backbone of the craft sector and government should provide training to these people, so that they can use new tools and techniques in the production activities of the handicraft products. The production activity has been playing an important role to provide quality products to the customers.

REVIEW OF LITERATURE

The prime purpose of the literature review is to provide a fundamental knowledge topic and to find the research gaps, which provide the basic framework for the researchers for further work. According to the Neha Nagori (2012), rural artisans play a very important role in the production of handicraft products but workers are using the traditional methods, which adversely affect the overall productivity. They have no knowledge about the contemporary marketing techniques like, quality delivery, packaging and services after sales etc. Kumar and Rajeev (2013) discussed about the internet task regarding manufacturing process, production techniques, increased visibility of crafts items and facilitate the customer through different information of the crafts products. Blerin Kola (2012), conducted his studied in Uyghur's, with Turkin people and found that the web marketing played a significant role in selling of crafts items. He also said that increasing competition in crafts sector pressurized the artisans to produce quality and identical products for the market.

According to Mukherjee, et al. (2016) modern technology has been increasing the focus on the handicraft sector, which helps to renovate the total working style of the sector. The prime focus areas of crafts were product design, quality assurance, manufacturing methods and artisans training. In the same way David Makofsky (2013), examined the role of culture and experience of artisans in the crafts items but the market scenario has been changing continuously which adversely influenced the market demands. He concluded that the artisans should change the production techniques, so that they create and fulfill the demand of the markets. Ajay k. Garg, (2005) highlighted the consequence of quality management to all organization including handicraft sector and he suggested five dimensions like products or services quality, quality of total system of operation, attitude & its quality process, workers and management consciousness towards quality, which help to maintain and improve the quality of products.

Manufacturing has been a key element in handicraft sector; likewise Shaw (2011) described the whole procedure of manufacturing of "Bankura Horse" which comes under Terracotta crafts. It is one of oldest craft works in West Bengal which is concerned with specific caste/community people called "Kumbhkar" and they well known about all activities of works from homework of raw materials, mixing of clay appropriately, wheel work, drying, Handwork, Motifs work, final design, coloring, firing and testing and sorting. Artisan who worked in this field has faced different problems like old technique and design, lack of space, lack of quality and lack of raw materials etc. Abdusalam (2009) carried his work on design of web based marketing appliance for handicrafts operators in Kedah, in which information technology (IT) is a pioneering idea to be used in handicraft because its role is increasing day by day in manufacturing, banking, finance, Academic works etc., which help to make these sectors much more competitive and innovative. It also helps to make innovative changes in the handicraft field.

Similarly, Goyal et al (2005) emphasize on the role of quality management in handicrafts and the increase in quality conscious customers; increasing the importance of quality products in the present days. The data were collected from different manufacturing units of craft products. They divided the data based on five dimensions - quality of product or

service, quality of total system of operation, quality process, attitude & consciousness of management regarding quality and workers attitude towards quality, which help to maintain or improve quality of products.

STATEMENT OF THE PROBLEM

Manufacturing segment of craft products is the backbone of handicraft sector, which has been playing a significant function in the overall growth, and development of the sector. However, the Indian handicraft sector still uses the traditional methods for the production of crafts items, which adversely influence the effectiveness, and efficiency of the craft products. In the light of this problem, the present study attempts to investigate the key determinants, which influence the manufacturing phase of the handicraft sector.

OBJECTIVE OF STUDY

To determine the factors influences the making of handicraft products in Eastern Uttar Pradesh.

RESEARCH METHODS

The research paper is descriptive as well as exploratory. The population of the study included all the producers of handicraft products in Uttar Pradesh. The sample size was 384 handicraft produces in selected districts of the Uttar Pradesh. The districts were chosen through convenient sampling techniques. The primary data were collected through snowball sampling technique from the producers of the handicraft in selected districts. The secondary data were collected through research papers, monographs, annual reports, articles etc. The Cronbach's-alpha was used to check the reliability of the questionnaire, exploratory factors analysis method was used to identify the factors, which influence the production of the craft products.

ANALYSIS AND INTERPRETATION

The descriptive statistics depicted that, 91.80% respondents were male and 8.20% respondents were female. The average age of the artisans involved in the production of the handicraft was 40-50 years, which constituted 42.60%, followed by the age group of 55-60 years with 31.50% respondents and 23.40% producer's age group were 30-40 years. 53.60% respondents' family size was 5-8 members, 36% artisans family size was 9-12 members and 18.70% producers family size was 13-16 members in the family. 50% artisans had a monthly earning less than Rs.5000 per month and 24% producers were earning Rs. 10000 per month in the selected crafts in the handicraft sector.

Reliability Test

Table-1 Scale: All Variables

| Case Processing Summary | | | |
|---|-----------------------|-----|-------|
| | | N | % |
| Cases | Valid | 384 | 100.0 |
| | Excluded ^a | 0 | .0 |
| | Total | 384 | 100.0 |
| a. Listwise deletion based on all variables in the procedure. | | | |

Sources: Authors Compilation

Table-2: Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .898 | 22 |

Sources: Authors Compilation

A total of 384 complete responses were obtained out of 445 respondents approached. Reliability test was employed on the response received from manufactures of the handicrafts. The reliability of the data was checked by calculating Cronbach-alpha (α) which was found to be .898 ($> .7$), well within acceptable range and good for further statistical tools. The individual reliability of production factors such as fundamental support factor with 0.849($> .7$), manufacturers prospects with 0.842 ($> .7$), information diffusion with 0.794 ($> .7$), procurement procedure with 0.795 ($> .7$) and additional obstruction with 0.762 ($> .7$) support the further analysis.

Exploratory Factor Analysis

Table-3: KMO and Bartlett's Test

| | | |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .917 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 3356.042 |
| | Df | 231 |
| | Sig. | .000 |

Sources: Authors Compilation

Factor analysis through principal component analysis with varimax rotation method was applied on the manufactures production activities of handicraft products questionnaire and items with factor loading above 0.50 were considered to determine items clubbed into a single factor. Further, measure of sampling adequacy through KMO comes out to be .917 and Bartlett's test of Sphericity indicate the Chi-square of 3356.042 with $df= 231, p= .000<0.05$. These values indicate the appropriateness to proceed with factor analysis.

Table-4: Total Variance Explained

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 7.140 | 32.456 | 32.456 | 7.140 | 32.456 | 32.456 | 3.198 | 14.538 | 14.538 |
| 2 | 2.769 | 12.589 | 45.045 | 2.769 | 12.589 | 45.045 | 3.122 | 14.190 | 28.729 |
| 3 | 1.514 | 6.883 | 51.928 | 1.514 | 6.883 | 51.928 | 2.494 | 11.336 | 40.065 |
| 4 | 1.209 | 5.493 | 57.421 | 1.209 | 5.493 | 57.421 | 2.425 | 11.024 | 51.088 |
| 5 | 1.016 | 4.618 | 62.039 | 1.016 | 4.618 | 62.039 | 2.409 | 10.951 | 62.039 |

Extraction Method: Principal Component Analysis.

Sources: Authors Compilation

Five factors emerged prominently covering 62.039 percent variance. The identified factors were analyzed for a common thread and accordingly the naming of the factors was performed.

Table-5: Factors Identified

| S. No. | Factor | Variables |
|--------|-------------------------------|--|
| 1. | Fundamental Support | Government training helps in developing innovative ideas |
| | | Sector require technology up-gradation |
| | | Quality control during manufacturing |
| | | New dimension for handicraft due to direct involvement of government schemes |
| | | Ergonomic intervention required to reduce health problems |
| 2. | Manufacturer Prospects | Produce products according to the wholesalers |
| | | Products produced are unique or rare in markets |
| | | Handicraft with utilitarian value are high in demand |

| | | |
|----|--------------------------------|--|
| | | Wholesalers indifferent towards traditional and machine products |
| | | Convince wholesalers to purchase products manufactured |
| 3. | Information Diffusion | Modern marketing techniques help promote sales |
| | | Catalogues are provided to wholesalers for placing order |
| | | Products repository on website help wholesalers and customers |
| | | Manufactures details at tourist information centre promote sales |
| 4. | Procurement Procedure | Availability of seasonal raw materials |
| | | Availability of transportation facilities |
| | | Requirement of storage facilities of raw materials |
| | | Raw material sufficient to fulfill demands |
| 5. | Additional Obstructions | Young never pursue due to lack of opportunities |
| | | Accept single customized products- out of the way |
| | | Experience shortages of money |
| | | Involve family members in manufacturing process |

Sources: Authors Compilation

Table-6: Rotated Component Matrix^a

| | Component | | | | |
|--|-----------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 |
| Government training helps in developing innovative ideas | .754 | | | | |
| Sector require technology up-gradation | .746 | | | | |
| Quality control during manufacturing | .729 | | | | |
| Ergonomic intervention required to reduce health problems | .700 | | | | |
| New dimension for handicraft due to direct involvement of government schemes | .696 | | | | |
| Produce products according to the wholesalers | | .790 | | | |
| Handicraft with utilitarian value are high in demand | | .781 | | | |
| Handicraft with utilitarian value are high in demand | | .747 | | | |
| Wholesalers indifferent towards traditional and machine products | | .731 | | | |
| Convince wholesalers to purchase products manufactured | | .715 | | | |
| Modern marketing techniques help promote sales | | | .755 | | |
| Catalogues are provided to wholesalers for placing order | | | .725 | | |
| Products repository on website help wholesalers and customers | | | .709 | | |
| Manufactures details at tourist information centre promote sales | | | .675 | | |
| Availability of seasonal raw materials | | | | .714 | |
| Availability of transportation facilities | | | | .699 | |
| Requirement of storage facilities of raw materials | | | | .691 | |
| Raw material sufficient to fulfill demands | | | | .620 | |
| Young never pursue due to lack of opportunities | | | | | .735 |
| Accept single customized products- out of the way | | | | | .732 |
| Experience shortages of money | | | | | .729 |
| Involve family members in manufacturing process | | | | | .707 |
| Extraction Method: Principal Component Analysis. | | | | | |
| Rotation Method: Varimax with Kaiser Normalization. | | | | | |
| a. Rotation converged in 6 iterations. | | | | | |

Sources: Authors Compilation

According to the above table indicating the rotated component matrix, the first factor comprises of five items: Government training helps in developing innovative ideas, Sector require technology up-gradation, Quality control during manufacturing, Ergonomic intervention required to reduce health problems and New dimension for handicraft due to direct involvement of government schemes with a loading 32.456 % was named as 'Fundamental Support'.



The second factor consists of five items which includes: produce products according to the wholesalers, products produced are unique or rare in markets, handicraft with utilitarian value are high in demand, wholesalers indifferent towards traditional and machine products and convince wholesalers to purchase products manufactured with a loading 12.589% and factor was named as 'Manufacturer Prospects'.

The third factor consists of four items which involves: modern marketing techniques help promote sales, catalogues are provided to wholesalers for placing order, products repository on website help wholesalers and customers and manufactures details at tourist information centre promote sales with loading of 6.883% and factor was named as 'Information Diffusion'.

The fourth factor comprises of four items, which involves availability of seasonal raw materials, availability of transportation facilities, and requirement of storage facilities of raw materials and draw material sufficient to fulfill demand explaining 5.483% of variance and factor was named as 'Procurement Procedure'.

The fifth factor comprises of four items: young never pursue due to lack of opportunities, accept single customized products- out of the way, experience shortages of money and involve family members in manufacturing process explaining 4.618% of variance and factor was named as 'Additional Obstruction'.

CONCLUSIONS

The production phase/part of the handicraft plays a crucial role in the overall growth and progress of the handicraft sector. In this section, artisans or artisans have direct involvement from products designing to finished products. Indian handicraft sector should focus on training and training should be based on market demand, update technology, quality control system should be executed during productions and training should be based according to the crafts. The artisans should organize weekly meeting, in this meeting, they share their knowledge, problems, government schemes, exhibitions and market information about products.

The sector should also focus on modern marketing medium like television, magazine, news papers, internet and social media such as Facebook, Instagram, Wechat, Twitter etc. which can help increase awareness and motivate customers them to buy handicraft products. The producers should keep catalogues, website for retailers, customers for better decision making and information dissemination about the available products and upcoming items. Quality, transportation, storage, availability have an important role to continue the production of crafts products. The younger generation never pursues this work due to lack of career opportunities.

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**CONTRIBUTION OF TOURISM IN INDIA’S FOREIGN EXCHANGE RESERVE:
 AN ECONOMIC ANALYSIS**

Ajit Kadam⁶

ABSTRACT

This Article tries to analysis the travel and tourism contribution in India’s foreign exchange currency assets, foreign currency assets of any country indicate the country’s strength in external trade, nation will earn foreign currency through various way and foreign tiresome is the one among them, this paper looks into how much India is earring foreign currency through tourism, whereas Travel and Tourism average share in India’s foreign currency assets during 2000-01 to 2017-18 is 5.8 per cent, during 2000-01 it had share of 8.8 which is highest share in study period, (2000-01 to 2017-18) and hold 7.1 per cent in 2017-18. based on the findings suggestion for the policy maker is to making better and attractive domestic tourism will positively impact on India’s foreign currency assets.

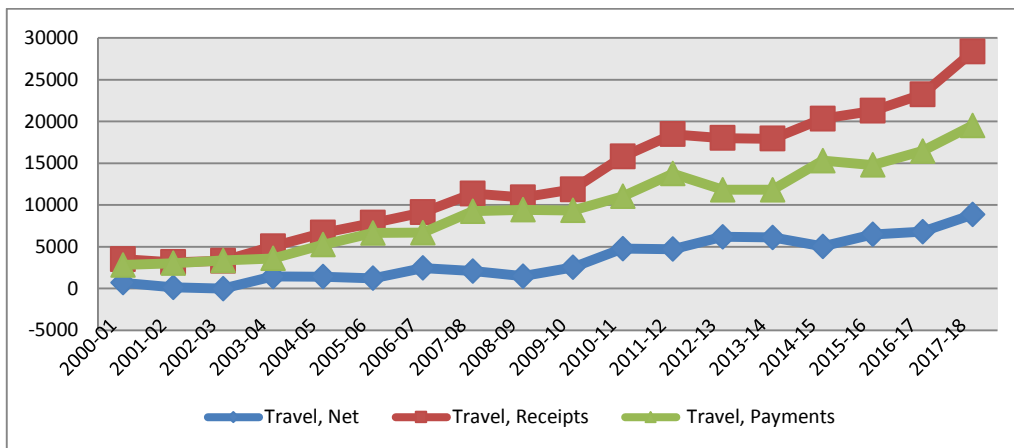
KEYWORDS

Travel And Tourism, Foreign Currency Assets etc.

INTRODUCTION

Foreign exchange reserve has been an important indicator of the growing economic activities in any countries. It represents the countries position in world economy, a country will earn foreign exchange reserve from various ways, especially service sector is contributing significant role in India’s foreign exchange reserve earning and tourism is the one among them, As one of the world’s largest economic sectors, Travel & Tourism creates jobs, drives exports, and generates prosperity across the world. In our annual analysis of the global economic impact of Travel & Tourism, the sector is shown to account for 10.4% of global GDP and 313 million jobs, or 9.9% of total employment, in 2017. hence in order to increasing in foreign currency assets its has significant role.

Graph-1: India’s Traveling Receipt, Payments, Net (In US Million \$)



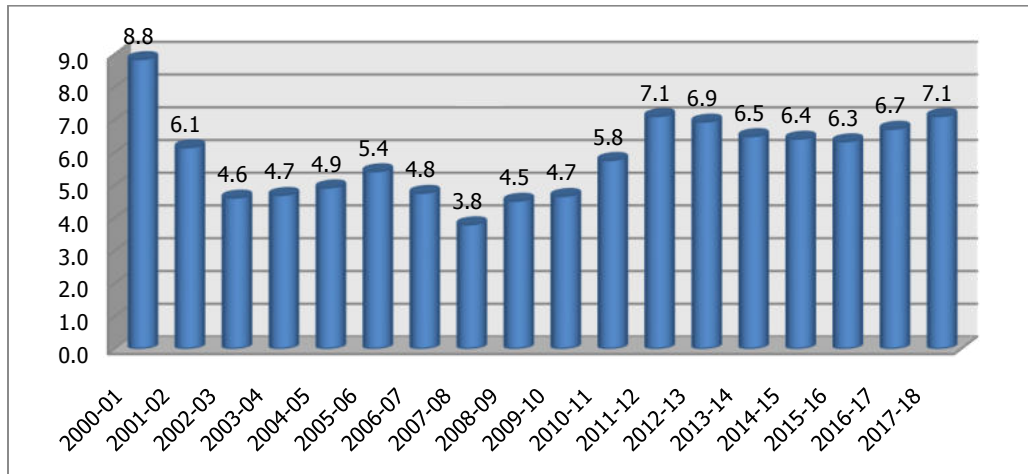
Sources: Hand book of Statistics on Indian Economy, 2017-18

Graph I describes the India’s travel receipt, payments, and net since 2001-02, by this we can understand the how much India is spending money and receiving money from international tourism, and how much India is getting benefit by

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tourism. India's traveling receipt and payments registered 12.1 and 11.4 respectively per cent CAGR, as a result of this India is earning a good amount of foreign currency assets by tourism, and hold the good share in the India's foreign currency assets, graph No II show the how much India is receiving foreign currency assets from international tourism.

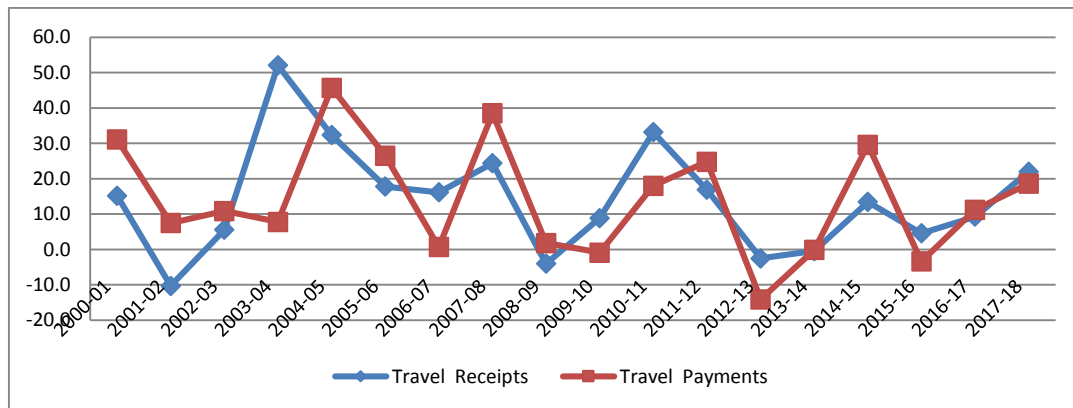
Graph-2: Travel Receipt share in India's Foreign Currency Assets (in percent)



Sources: Author Composition

India's foreign exchange currency assets has reached to 399442 US million dollar, from 39554 in 2000-01, around had register the 12.1percent of CAGR, there are several factor are contributing in this significant growth, likewise the tourism is the one of the sector which is contributing In this growth. Graph-II show the share of international tourism in India's foreign currency assets, during 2000-01 it had share of 8.8 which was quite good share, from the 2001-02 onwards its share has been declined, the graph III.a shows annual growth of the travel receipt, during 2004-05 period it has increased significantly, during next year 2004-05 2005-06 and 2006-07 it has been continuously declined.

Graph-3: Growth of India's Traveling Receipt and Payments Annual Growth Rate (In Percent)



Sources: Hand book of Statistics on Indian Economy, 2017-18

During 2008-09 India's travel receipt has been registered negative growth of 4 per cent this mainly due to 2007-08 global economic crisis, as result of this share of travel receipt came down to 3.8 per cent. Since then gradually it has increased and 7.1 percent in 2011-12 FY. Once again, in 2013-14, it has registered slight declined by 0.4 per cent however, it has registered 22 percent of growth over the last year, and hold the 7.1 percent of share in India's foreign currency assets.



CONCLUSION

Above the analysis shows Travel and Tourism has play significant role in India's forex reserve, and data clarify that's Travel and Tourism average share in India's foreign currency assets during 2000-01 to 2017-18 is 5.8 per cent, and 7.1 per cent was the highest share in foreign currency assets in 2011-12 and 2017-18 FY. However, policy maker needs to construe on the improvement of Travel and Tourism sector, which will be positive impact on the head of employment generation and income to the government.

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**FAILURE PREDICTION:
AN EMPIRICAL ANALYSIS OF SELECTED INDIAN BANKS**

Amarjeet Kaur Malhotra⁷ Ayan J. Malhotra⁸

ABSTRACT

Purpose: The axle of this study is to evaluate the financial distress or chance of failure in the selected Indian public and private sector banks by using Altman Z Score model.

Design / Methodology / Approach: Altman's z-score model evaluates and measures financial distress status of corporation, which helps in failure prediction. Five banks each in public and private sector category were selected to measure financial distress. Secondary data were collected from moneycontrol.com and economicstimes.indiatimes.com for the period 2013 to 2017.

Findings: Results indicate that the financial position of selected banks under study is safe means they are financially sound and there is no sign of financial distress than for one bank, hence no chance of financial failure. It can be concluded that there is no chance of failure in near future for any of the select bank since none of them falls under the zone having less than 1.10 Z-score except for Axis bank in the year 2017, where it is very close to this value, which means it is difficult to predict about this bank. However, certainly the bank management needs to pay a serious attention to improve upon its financial soundness.

Originality / Value: The study has attempted to measure the chance of failure or financial distress in selected Indian banks. This study has tried to address the most important concern of bank customers. The study is very significant in the current situation when the depth and width of NPAs are widening every passing day and have led to so much anxiety amongst bank customers in India. The study has used widely accepted Altman's Z-score model to measure the chance of financial failure.

JEL CODIFICATION: G21; G33

KEYWORDS

Financial Distress, NPAs, Financial Stability, Corporate Failure, Banking System etc.

1. INTRODUCTION OF STUDY

Failure prediction and bankruptcy prediction are two terms being coined in the accounting literature from long. The research works related to bankruptcy prediction can be actually divided into two categories: first category uses the phrase 'bankruptcy prediction' and second uses the term 'failure prediction'. Balcaen, Ooghe (2006) stated that most of researchers use the term 'failure prediction' but they actually mean 'bankruptcy prediction'. He further says that some studies that have used failure but actually mean bankruptcy are Zavgren (1985), Hambrick and D'Aveni (1988) and there is not even one supported theory of bankruptcy in the failure literature that would explain how firms go bankrupt. Therefore, most of the bankruptcy prediction studies are focused on finding empirically the best predictors of bankruptcy, without relying on any theory.

Irrespective of the choice for term made, it is imperative to predict the bankruptcy or failure at the earliest possible date. Dimitras et al. (1996) describes that failure of a firm has a high cost to the firm, to its stakeholders, to the society, and eventually to the country's economy. Aziz and Dar (2006) also emphasize upon the importance of bankruptcy prediction and say that corporate responsibility and liability are observed nowadays more cautiously, especially after

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the large and costly failures of WorldCom and Enron. Further, it is argued that if the early signs of financial distress are overlooked then it may lead to insolvency for a firm. Thus, timely and accurate prediction of financial distress is of utmost importance for all stakeholders.

Chen (2011) explains that more accurate financial distress prediction would certainly provide useful information for stakeholders such as shareholders, lenders, creditors, bankers, government, and even for the public. Dimitras et al. (1996) also argues in the same direction that bankruptcy prediction's role as an early warning system is important in preventing failure, but in addition, bankruptcy prediction is useful for decision makers in financial institutions in evaluating whom to co-operate with or to where to invest in. Fitzpatrick (1932) went further in his conclusion and says that there are five stages of business failure such as incubation, financial embarrassment, financial insolvency, total insolvency and confirmed insolvency.

Prediction models are used to check the bankruptcy or business failure and can be applied to modern economy to predict distress and bankruptcy of one, two and three years in advance (Sanobar Anjum 2012). Beaver (1966) is acknowledged as a pioneer who used financial ratios in corporate failure prediction. He recognized the importance of cash flow ratios and used univariate discriminant analysis method. Shortly after Beaver (1966), Altman (1968) introduced multiple discriminant analysis (MDA) to company's failure prediction modelling. Later Ohlson (1980) proposed the logit model. Most of the bankruptcy prediction models have been industry specific.

Altman (1968) chose five financial variables and the model-classified bankruptcy correctly for 95% of the firms. So both Beaver (1966) and Altman (1968) had models with high prediction accuracy. Dambolem and Khoury (1980) present that the first significant analysis on internal factors causing bankruptcy was Altman's (1968) statistical Z-score model. Even 50 years later Altman's Z-Score is still seen as a great indicator to predict bankruptcy (Lawrence *ET AL.* 2015). A number of studies can identify the importance of Z-score. Its widespread use is because of its simplicity and it can be calculated using only accounting information (Laetitia Lepetit, 2015).

Now, next question is why the banking sector has been chosen to study the financial distress. In India, banking sector is the most preferred avenue for investment. Mutual funds and stock investment are limited to institutional investors though witnessing now the entry of retail investors in the recent past. However, banking sector also faces many kinds of risks. Campbell (2007) states that banking sector faces various types of risk viz. credit risk, market risk, liquidity risk, foreign exchange risk, political risk, sovereign risk, interest rate risk, operational risk etc. and high intensity of risk leads to business failure. Now a days, financial stability has become the major issue for banking sector because there are some factors such as failure of management, external forces, competition, increasing portfolio of non-performing assets (NPA), escalating incidences of fraud, inability to comply with regulatory requirements etc. form the probability of risk and leads to financial distress.

Thus, the banking sector being the most preferred destination for Indian retail investors needs to be extra proactive in analyzing their financial statements because the financial distress would hit the financial strength and earnings of banks. Therefore, proper assessment of financial distress is required to save guard the longevity of banks on which the trust of masses is dependent. The next section of the paper talks about the motivation for the study. The third section reviews relevant literature and the fourth section frames objectives for the study. The next section discusses research method followed by findings in section six and the conclusions in section seven.

2. MOTIVATION FOR THE STUDY

The amount of NPAs in Indian banks has increased manifold during last two decades. If we refer to statistics in this regard then we can make out the depth and extent of the issue. The gross non-performing assets (NPAs) of all the banks in the country amounted to Rs 8,40,958 crore in December 2017, led by industry loans followed by services and agriculture sectors, government officials reported on March 9th 2018 (www.economicstimes.indiatimes.com, 2018). The increased level of NPAs in Indian banking industry has led to fear of technical bankruptcy in the mind of bank customers. Researcher wishes to measure this presumed financial distress in Indian banks by using Altzman Z score model. For carrying out this study, five public and five private sector banks had been selected from Indian banking industry. This will address concern of millions of Indian whose trust is now shattered and there is anxiety in the Indian Economy. This research would be of great interest to the government of India apart from the bank customers.

3. REVIEW OF LITERATURE

Fitzpatrick's (1932) was possibly the oldest study to predict corporate failure. Thus, he is the first person to have analysed the financial ratio in order to distinguish between active and inactive companies. The Univariate Analysis (UA) model had been used in his study, which includes 13 financial ratios to identify failure. Fitzpatrick's work was subsequently followed by studies that carried out by William Beaver. Beaver (1966) was a forerunner of corporate failure prediction models, applying a univariate model on 30 financial ratios in order to classify corporations as solvent or bankrupt at that time. Financial ratios can correctly recognize failure with a proportion of 78% for five years before bankruptcy (www.accaglobal.com, 2015). Wang and Campbell (2010) concluded that many researchers who have provided different techniques to help identify bankruptcy have used US corporations' data. It is reported that the Altman Z-score model (1968) and Ohlson's model (1980) are two models that are well accepted and commonly used at present.

Existing literature suggests that a several studies had been performed in the late 1960s to develop the failure prediction and financial distress models, which continues until this day. In general, after the financial crisis in 2008 the need for developing bankruptcy prediction models is needed more than ever. Researchers have examined many of the models in order to identify their ability to predict corporate failure. Examples of studies include Beaver (1966), Altman (1968), Deakin (1972), Ohlson (1980), Taffler (1983).

However, a complex issue was to decide how to interpret financial distress. Although failure does not necessary always lead to bankruptcy, Karels and Prakash (1987) state that financial failure is a necessary condition of bankruptcy. Thus, risk of financial failure has been taken as proxy of financial distress and therefore studying the risk of financial failure or financial distress is of paramount importance. On the other hand, in terms of forecasting corporate bankruptcies, there are some other studies, which have used logistic regression model as a standard to predict firm's failure. For example, Ohlson (1980) to predict company bankruptcy has utilized logistic regression analysis. His study has been adapted to United States companies to estimate and determine the probability of failure for each firm separately. He believes that the logistic regression model faces less criticism than the Multiple Discriminate Analyses (MDA) approach.

Altman (1968) extended Beaver's work in his study of corporate failure prediction models by employing the MDA model to the failure classification model (www.accaglobal.com, 2015). Thus, in the 1970s and 1980s (Altman, 1968; Altman & Lavalley, 1981), it was stated that the discriminant analysis MDA technique was extensively used for corporate bankruptcy studies. As well, according to Altman (2000), the MDA approach is considered a more familiar statistical mechanism, which was utilised to classify and to forecast corporate failure. After the spread of the Altman Z-score model, studies on this model increased widely. Examples of studies include Deakin (1972); Taffler (1982, 1983); Goudie (1987); Grice and Ingram (2001); and Porporato (2007). Thus, it has been decided to use Altman Z-model (revised in 1993) for the current study.

Further, there are not many evidences in the literature suggesting any India specific study been carried out in the recent past after these issues have emerged? Thus, there is a need for predicting the risk of financial failure by means of measuring financial distress well on time for helping stakeholders taking timely curative measures in relation to financial investments. This leads to formation of objectives for our study.

4. RESEARCH OBJECTIVES

The axle of this study is to evaluate the financial distress or chance of financial failure by using Altman's Z-Score model in the selected Indian public and Private sector banks. This model evaluates the corporate defaults and measures financial distress status of corporations. The primary objectives of this research are:

- To assess the financial distress in selected Indian public and private sector banks.
- To predict possibility of failure in selected Indian public and private sector banks by using Altman' Z-Score model.

5. RESEARCH METHOD

The present study is an attempt to assess financial distress or chance of failure in Indian banking sector through the application of Altman Z-score, which would help in estimating the financial health of selected banks. Descriptive and analytical approach has been used to achieve the objectives. Five public sector banks viz. State Bank of India, Punjab National Bank, Syndicate Bank, Bank of India and Canara Bank and five private sector banks viz. ICICI Bank, Axis Bank, HDFC, Yes Bank and Indusind Bank have been selected for the purpose of this study. The present study predicts Z score for 10 Indian banks for a period of 5 years from 2013-2017. Data for the present study were collected from secondary sources such as moneycontrol.com and bank's annual reports available on their websites. Revised Z-score model for non-manufacturer or emerging markets (1993) has been applied in this study.

5.1 Data Collection & Sampling

Data for a period of 5 years from 2013-2017 had been used and the same was collected from secondary sources such as moneycontrol.com and bank's annual reports available on their websites.

5.2 Sampling Strategy and Sample Size

All private and public sector banks working in India form the population for this study. However, a conscious attempt has been made to choose those public and private banks, which have highest business and maximum span of operations. Among the selected public sector banks, the State bank of India has highest number of branches in the country followed by Punjab national bank. Bank of India and Canara banks were amongst the newest public sector banks and doing good business in the country. Whereas the span and spread of private banks is limited to big cities only and ICICI and HDFC are oldest among those private sector banks which are doing maximum business. On the other hand, Yes and Indusind banks are though not that old but are growing very fast. Thus out of a total of 27 public and 22 private commercial banks operating in India; following five private and five public sector banks have been chosen for the purpose of this study:

A. Public Sector Banks

- State Bank of India (SBI)
- Punjab National Bank (PNB)
- Bank of India (BOI)
- Syndicate Bank (SB)
- Canara Bank (CB)

B. Private Sector Banks

- ICICI Bank
- Axis Bank
- HDFC
- Yes Bank
- Indusind Bank

5.3 Data Analysis Techniques

Quantitative data analysis had been carried by applying Altman's Z-Score revised Model (1993) apart from using tabulation, percentages and ratio analysis. The Altman's Z-Score Model has been discussed in the following section.

5.4 Altman's Z-Score Revised Model

The original Z-score model was constructed in 1968 for manufacturing firms where the Z-score is calculated by multiplying the coefficients by each of financial ratio. In the original model, linear combination of 5 common financial ratios has been widely used to predict financial distress. Altman's model has found 95.0% accuracy rate and called Zeta. This model is internationally accepted. Altman again developed the Z score for private companies in 1983. This

model was further developed for emerging market companies and for non-manufacturers in 1993. So, the revised model of 1993 having four ratios and corresponding coefficients, can be safely adopted for banking sector being a non-manufacturing sector. The model calculates the financial soundness of a business in terms of Z values as explained below:

Variables in the revised Z-score: $Z = 6.56 X1 + 3.26 X2 + 6.72 X3 + 1.05 X4$

Whereas:

Z = Overall score

X1 = Working Capital / Total Assets

X2 = Retained Earnings / Total Assets

X3 = Earnings Before Interest and Taxes / Total Assets

X4 = Book Value of Equity / Total Liabilities

Altman’s benchmark

Z Score > 2.60 indicates firms are in safe zone, Z < 1.10 means firms are in distress zone, Z score of 1.10 < 2.60 depicts firms are in grey zone and difficult to predict.

6. DISCUSSION ON Z-SCORE OF SELECTED PUBLIC SECTOR INDIAN BANKS

This section will discuss results based on Z-score model. Since, the present study is an attempt to assess the financial distress in selected Indian public and private sector banks using Altman’s Z-Score model. So, an average Z-score have been calculated for all selected public sector banks from 2013 – 2017 and the results have been presented here in this section.

Table-1: Calculation of Z-Score for State Bank of India

| Variables | 2013 (Rs. in Cr.) | 2014 (Rs. in Cr.) | 2015 (Rs. in Cr.) | 2016 (Rs. in Cr.) | 2017 (Rs. in Cr.) |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|
| X1=Working Capital / Total Asset | 0.756642093 | 0.76040486 | 0.735991645 | 0.767773496 | 0.682871918 |
| X2=Retained Earnings / Total Assets | 0.066765875 | 0.069308972 | 0.066840899 | 0.068358889 | 0.061120934 |
| X3=Earnings Before Interest & Taxes / Total Asset | 0.072346401 | 0.070277346 | 0.071344537 | 0.071485403 | 0.064493825 |
| X4=Book Value of Equity / Total Liabilities | 0.000465072 | 0.000440241 | 0.000390796 | 0.0003698 | 0.000312597 |
| Z Score | 5.667885019 | 5.686929149 | 5.525852146 | 5.740214312 | 5.112620759 |

Sources: Author Compilation

Table-1 shows that Z-score > 2.60 for State bank of India for five consecutive years from (2013 to 2017). According to Altman’s benchmark, this indicates that SBI is in safe zone. However, the Z-score is showing a gradual decline in the year 2017. Z-score has been calculated by multiplying the values of X1 to X4 by their prescribed coefficients as per the model. This can be concluded that SBI is in safe zone and there are no signs of financial distress.

Table-2: Calculation of Z-Score for Punjab National Bank

| Variables | 2013 (Rs. in Cr.) | 2014 (Rs. in Cr.) | 2015 (Rs. in Cr.) | 2016 (Rs. in Cr.) | 2017 (Rs. in Cr.) |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|
| X1=Working Capital / Total Asset | 0.712726952 | 0.725017825 | 0.735836451 | 0.749555391 | 0.7259765 |
| X2=Retained Earnings / Total Assets | 0.006660618 | 0.063746277 | 0.05822112 | 0.053865383 | 0.05348586 |
| X3=Earnings Before Interest & Taxes / Total Asset | 0.081801347 | 0.071847277 | 0.07116959 | 0.068081395 | 0.06651573 |

| | | | | | |
|---|--------------------|--------------------|--------------------|--------------------|------------------|
| X4=Book Value of Equity / Total Liabilities | 0.000762022 | 0.000676354 | 0.000632813 | 0.000603149 | 0.00060426 |
| Z Score | 5.210896983 | 5.447453666 | 5.495812071 | 5.550824787 | 5.3843899 |

Sources: Author Compilation

Table-2 shows that Z-score>2.60 of Punjab National Bank for five consecutive years from (2013 to 2017). Thus, according to Altman's benchmark this indicates that PNB is in safe zone. Further, the Z-score is showing a gradual improvement from 2014-16 with a slight decline in 2017. According to Altman's benchmark, this indicates that PNB is in safe zone. However, the Z-score is showing a gradual decline in the year 2017. Z-score has been calculated by multiplying the values of X1 to X4 by their prescribed coefficients as per the model. This can be concluded that PNB is in safe zone and there are no signs of financial distress.

Table-3: Calculation of Z-Score for Bank of India

| Variables | 2013 (Rs. in Cr.) | 2014 (Rs. in Cr.) | 2015 (Rs. in Cr.) | 2016 (Rs. in Cr.) | 2017 (Rs. in Cr.) |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| X1=Working Capital / Total Assets | 0.75925697 | 0.75958406 | 0.77215883 | 0.76908499 | 0.75942677 |
| X2=Retained Earnings / Total Assets | 0.05152755 | 0.05108265 | 0.04975141 | 0.0495090 | 0.0474361 |
| X3=Earnings Before Interest and Taxes / Total Assets | 0.06704208 | 0.0619383 | 0.0639633 | 0.0592009 | 0.0593914 |
| X4=Book Value of Equity / Total Liabilities | 0.0013182 | 0.0011217 | 0.0010758 | 0.0013400 | 0.0016851 |
| Z score | 5.60061242 | 5.56671298 | 5.65842979 | 5.6057658 | 5.53728716 |

Sources: Author Compilation

Z-score of Bank of India is greater than 2.60 benchmark of Altman's model and the same is true for all five years during the study period (2013 to 2017) as shown in table-3. Thus, according to Altman's benchmark this indicates that Bank of India is in safe zone. Further, the Z-score is showing a constant value for all the five years of study. This can be concluded that Bank of India is not facing any kind of financial distress.

Table-4: Calculation of Z-Score for Syndicate Bank

| Variables | 2013 (Rs. in Cr.) | 2014 (Rs. in Cr.) | 2015 (Rs. in Cr.) | 2016 (Rs. in Cr.) | 2017 (Rs. in Cr.) |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| X1=Working Capital / Total Assets | 0.7744172 | 0.7657954 | 0.7594573 | 0.7634853 | 0.7675746 |
| X2=Retained Earnings / Total Assets | 0.0429476 | 0.0433043 | 0.0389159 | 0.0333725 | 0.0399835 |
| X3=Earnings Before Interest and Taxes / Total Assets | 0.0724265 | 0.0683756 | 0.0681544 | 0.0683937 | 0.0717302 |
| X4=Book Value of Equity / Total Liabilities | 0.0288413 | 0.0256595 | 0.0224464 | 0.0234211 | 0.0309539 |
| Z score | 5.7371754 | 5.6513423 | 5.5904718 | 5.609365 | 5.680164 |

Sources: Author Compilation

Z-score of Syndicate Bank is also greater than 2.60 benchmark of Altman's model and the same is true for all five years during the study period (2013 to 2017) as shown in table-4. Thus, according to Altman's benchmark this indicates that Syndicate Bank is in safe zone. Further, the Z-score is showing almost the constant value for all the five years of study with a slight improvement in 2017.

Table 5: Calculation of Z-Score for Canara Bank

| Variables | 2013 (Rs. in Cr.) | 2014 (Rs. in Cr.) | 2015 (Rs. in Cr.) | 2016 (Rs. in Cr.) | 2017 (Rs. in Cr.) |
|-------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| X1=Working Capital / Total Assets | 0.6907968 | 0.7205251 | 0.7133910 | 0.7222436 | 0.7230539 |
| X2=Retained Earnings / Total Assets | 0.0558618 | 0.0495433 | 0.0488889 | 0.0475888 | 0.0487541 |

| | | | | | |
|--|------------------|------------------|------------------|------------------|------------------|
| X3=Earnings Before Interest and Taxes / Total Assets | 0.0800188 | 0.0783112 | 0.0772280 | 0.0769234 | 0.0711210 |
| X4=Book Value of Equity / Total Liabilities | 0.0110469 | 0.0096583 | 0.0089428 | 0.0100877 | 0.0105070 |
| Z score | 5.7371754 | 5.6476303 | 5.5904720 | 5.6014557 | 5.6801641 |

Sources: Author Compilation

Z-score of Canara Bank has been calculated using four variables of revised Altman model (1993). Table-5 shows that Z-score is greater than 2.60 benchmark of Altman’s model and the same is true for all five years during the study period (2013 to 2017). Thus, according to Altman’s benchmark this indicates that Canara Bank is in safe zone. Further, the Z-score is showing almost a constant value for all the five years of study and a conclusion can be drawn that there is no sign of financial distress in Canara Bank.

Table-6: Z-Score Based Ranks of Select Public Sector Banks for Five Years

| Sr. No. | Banks | Z-Score | Z-Score | Z-Score | Z-Score | Z-Score |
|---------|----------------------|---------|---------|---------|---------|---------|
| | | 2013 | 2014 | 2015 | 2016 | 2017 |
| 1 | State Bank of India | Rank 3 | Rank 1 | Rank 4 | Rank 1 | Rank 5 |
| 2 | Punjab National Bank | Rank 5 | Rank 5 | Rank 5 | Rank 5 | Rank 4 |
| 3 | Bank of India | Rank 4 | Rank 4 | Rank 1 | Rank 4 | Rank 3 |
| 4 | Syndicate Bank | Rank 2 | Rank 2 | Rank 3 | Rank 2 | Rank 1 |
| 5 | Canara Bank | Rank 1 | Rank 3 | Rank 2 | Rank 3 | Rank 2 |

Sources: Author Compilation

Thus, from Table-6, we can conclude that Public sector banks got Z value more than 2.6 means there is no chance of financial distress among banks. This proved that banks under observations could not face the chance of financial distress or insolvency. Altman Z-score suggest that banks are in safe zone as they secured more than 2.6. Another observation is that out of five banks, the Punjab National Bank has lowest values of Z-score during all the years of study. This is supported by the fact that PNB has highest level of non-performing assets and the cases as if NeeravModi and Chauski have just came into the knowledge of public domain.

6.1 Discussion on Z-Score of Selected Private Sector Indian Banks

This section will discuss results based on Z-score model. Since, the present study is an attempt to assess the financial distress in selected Indian public sector banks using Altman’s Z-Score model. So, an average Z-scores have been calculated for all selected banks from 2013 – 2017.

Table-7: Calculation of Z-Score for ICICI Bank

| Variables | 2013 (Rs. in Cr.) | 2014 (Rs. in Cr.) | 2015 (Rs. in Cr.) | 2016 (Rs. in Cr.) | 2017 (Rs. in Cr.) |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| X1=Working Capital / Total Assets | 0.611656605 | 0.633602427 | 0.652148906 | 0.715584161 | 0.733055602 |
| X2=Retained Earnings / Total Assets | 0.122003281 | 0.120713428 | 0.122170461 | 0.11846034 | 0.123507035 |
| X3=Earnings Before Interest and Taxes / Total Assets | 0.073350324 | 0.074214228 | 0.076714943 | 0.076505441 | 0.07599178 |
| X4=Book Value of Equity / Total Liabilities | 0.035901362 | 0.033233253 | 0.03655943 | 0.033495237 | 0.034022618 |
| Z score | 4.940808634 | 5.083572225 | 5.230284345 | 5.629699367 | 5.757866193 |

Sources: Author Compilation

Table 7 shows that Z-score>2.60 of ICICI for five consecutive years from (2013 to 2017). Thus, according to Altman’s benchmark this indicates that ICICI is in safe zone. Further, the Z-score is showing a constant improvement from 2013-17. According to Altman’s benchmark, this indicates that ICICI is in safe zone. This can be concluded that ICICI bank

is in safe zone and there are no signs of financial distress, which means the bank is financially sound. Further, the data shows a high value for working capital to total assets ratio. The value of EBIT to total asset is hovering around seven percent in all through these years and is somewhat stable, though not showing growth.

Table-8: Calculation of Z-Score for Axis Bank

| Variables | 2013 (Rs. in Cr.) | 2014 (Rs. in Cr.) | 2015 (Rs. in Cr.) | 2016 (Rs. in Cr.) | 2017 (Rs. in Cr.) |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| X1=Working Capital / Total Assets | 0.6478531 | 0.6861368 | 0.69822295 | 0.048651 | 0.03581004 |
| X2=Retained Earnings / Total Assets | 0.0990071 | 0.10217899 | 0.0989141 | 0.10323783 | 0.09611648 |
| X3=Earnings Before Interest and Taxes / Total Assets | 0.0813518 | 0.08159459 | 0.07751556 | 0.07888308 | 0.07655718 |
| X4=Book Value of Equity / Total Liabilities | 0.0014194 | 0.00127171 | 0.00106092 | 0.00093379 | 0.00083281 |
| Z score | 5.1208533 | 5.38381184 | 5.42482104 | 1.18678071 | 1.06359229 |

Sources: Author Compilation

Z-score of Axis Bank has been calculated using four variables of revised Altman model (1993).

Table 8 shows that Z-score is greater than 2.60 benchmark of Altman’s model for three years i.e. from 2013-15. However, there is sudden decline in the Z-score for the year 2016 and 2017. In fact, the score falls in grey zone for the year 2016 and in distress zone in 2017 as per the categories described by the Altman. This indicates as situation of financial distress or not been financially sound. The possible explanation for this could be that the NPAs for Axis bank are showing a great hike in the last two to three years, which incidentally is the same time when the Z-score is falling under grey category. Also important to mention that the ratio of working capital to total assets, which indicates liquidity position has gone down significantly, from 69% in 2015 to 48% and 36% respectively in the year 2016 and 2017. The book value of equity to total liabilities is also showing a noticeable decline. These factors should be a matter of concern to the bank.

Table-9: Calculation of Z-Score for HDFC Bank

| Variables | 2013 (Rs. in Cr.) | 2014 (Rs. in Cr.) | 2015 (Rs. in Cr.) | 2016 (Rs. in Cr.) | 2017 (Rs. in Cr.) |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| X1=Working Capital / Total Assets | 0.68720445 | 0.72484267 | 0.6961003 | 0.75119176 | 0.7297959 |
| X2=Retained Earnings / Total Assets | 0.09908987 | 0.09549837 | 0.11022593 | 0.10737976 | 0.11020498 |
| X3=Earnings Before Interest and Taxes / Total Assets | 0.083951 | 0.08220447 | 0.07791624 | 0.08033303 | 0.0766903 |
| X4=Book Value of Equity / Total Liabilities | 0.00130211 | 0.00106564 | 0.00089836 | 0.00075231 | 0.00063498 |
| Z-Score | 5.39661207 | 5.61982556 | 5.45029488 | 5.81850385 | 5.66275489 |

Sources: Author Compilation

Table 9 shows that Z-score of HDFC bank for five consecutive years from (2013 to 2017) is greater than 2.60. Thus, according to Altman’s benchmark this indicates that HDFC is in safe zone. Further, the Z-score is showing a constant improvement from 2013-17. Value of X1 and X2 indicate that HDFC has improved upon in liquidity as well as profitability, which could have increased the overall value of Z-score. This can be concluded that HDFC is financially sound and there are no signs of financial distress.

Table-10: Calculation of Z-Score for Yes Bank

| Variables | 2013 (Rs. in Cr.) | 2014 (Rs. in Cr.) | 2015 (Rs. in Cr.) | 2016 (Rs. in Cr.) | 2017 (Rs. in Cr.) |
|-----------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| X1=Working Capital / Total Assets | 0.460592409 | 0.505769669 | 0.558218118 | 0.594989841 | 0.652314899 |

| | | | | | |
|--|--------------------|-------------------|--------------------|--------------------|--------------------|
| X2=Retained Earnings / Total Assets | 0.054983077 | 0.062019548 | 0.082707029 | 0.08087737 | 0.100425826 |
| X3=Earnings Before Interest and Taxes / Total Assets | 0.08073266 | 0.087981475 | 0.080739127 | 0.077046214 | 0.072870203 |
| X4=Book Value of Equity / Total Liabilities | 0.003618618 | 0.003308053 | 0.003067774 | 0.002544604 | 0.002122618 |
| Z score | 3.747054057 | 4.11474172 | 4.477323862 | 4.687215973 | 5.098490441 |

Sources: Author Compilation

Table 10 depicts the calculation of Z score for the Yes bank over a period of five years. As we can see that z-score of Yes Bank for the five consecutive years from i.e.2013 to 2017 is greater than 2.6.According to Altman’s benchmark this indicates that the bank is in safe zone and there are no signs of distress. We can easily conclude that the bank is financially sound. The value of retained earnings to total asset ratio has gone double from 2013 to 2017, showing a constant rise every year. However, the book value of the equity to total liability ratio has slipped down from 2013 to 2017. Whereas, the liquidity position of the bank has improved as the value of the working capital to total assets ratio has risen from 2013 to 2017. Thus, we can say that the financial position of the bank is very sound with no sign of distress on any parameter of the model.

Table-11: Calculation of Z-Score for IndusInd Bank

| Variables | 2013 (Rs. in Cr.) | 2014 (Rs. in Cr.) | 2015 (Rs. in Cr.) | 2016 (Rs. in Cr.) | 2017 (Rs. in Cr.) |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| X1=Working Capital / Total Assets | 0.669372247 | 0.679711897 | 0.695117449 | 0.652065991 | 0.687005219 |
| X2=Retained Earnings / Total Assets | 0.096808169 | 0.097744431 | 0.092571551 | 0.122001908 | 0.112135171 |
| X3=Earnings Before Interest and Taxes / Total Assets | 0.086298327 | 0.086073771 | 0.082301556 | 0.075207599 | 0.071104747 |
| X4=Book Value of Equity / Total Liabilities | 0.007132653 | 0.006040039 | 0.004852179 | 0.004248199 | 0.003348197 |
| Z score | 5.294090612 | 5.362314676 | 5.41991497 | 5.185134799 | 5.353654399 |

Sources: Author Compilation

Table 11 shows that Z-score of IndusInd Bank for the five consecutive years from 2013 to 2017 is greater than 2.6.According to Altman’s benchmark this indicates that the bank is in safe zone, thus financially sound. The bank is keeping almost same ratio when it comes to liquidity as is indicative by the value of X1. However, it is evident from the data in table 5 that the bank has increased value of X2 in last two years. A mature firm is expected to have higher ratio than a beginner. Which is though not true for IndusInd Bank as the bank is not very old. The companies with low TA compared to RE are reported to have not used as much debt and have depended on the retention of profits to finance their assets (Altman, 2000). Moreover, the leverage of a company is also measured by this ratio. In the year 2016 and 2017, the bank has used more retained earnings than previous three years to fund its assets, which show less dependency on debt. Since, the rise in this ratio is not very significant, so we cannot make very conclusive inference out of this.

Table-12: Z-Score Based Ranks of Select Private Sector Indian Banks for 5 Years

| Sr. No. | Banks | Z- Score | Z- Score | Z- Score | Z- Score | Z- Score | Zone |
|---------|----------|-------------|-------------|-------------|-------------|-------------|------|
| | | 2013 | 2014 | 2015 | 2016 | 2017 | |
| 1 | ICICI | Rank 4 | Rank 4 | Rank 4 | Rank 2 | Rank 1 | Safe |
| 2 | Axis | Rank 3 | Rank 3 | Rank 2 | Rank 5 | Rank 5 | Grey |
| 3 | HDFC | Rank 1 | Rank 1 | Rank 1 | Rank 1 | Rank 2 | Safe |
| 4 | Yes | Rank 5 | Rank 5 | Rank 5 | Rank 4 | Rank 4 | Safe |
| 5 | IndusInd | Rank 2 | Rank 2 | Rank 3 | Rank 3 | Rank 3 | Safe |

Sources: Author Compilation



Table 12 shows that IndusInd, Yes and HDFC are maintaining constant ranks over the five years of study. However, the ICICI and Axis bank have shown a significant change in their overall rank under private sector banks category. ICICI has shown significant improvement in its rank, whereas the Axis bank has shown a significant decline in its rank amongst the selected private banks. IndusInd bank is though maintaining almost the same rank but falls in the last quadrant in overall ranking. However, we can't draw very conclusive idea from the above table but this much is very clear that almost all the banks than Axis Bank in private sector can be considered financially sound.

7. CONCLUSION

Results indicate that the financial position of selected banks under study is safe means they are financially sound and there is no sign of financial distress than for one bank, hence no chance of financial failure. The present study concludes that though all selected banks fall in 'safe Zone' as per Z-score criteria and there is not any chance of financial distress or failure but one bank falls under grey area. It can be concluded that there is no chance of failure in near future for any of the select bank since none of them falls under the zone having less than 1.10 Z-score except for Axis bank in the year 2017, where it is very close to this value, which means it is difficult to predict about this bank. However, certainly the bank management needs to pay a serious attention to improve upon its financial soundness.

Research is a never-ending thrust and it is very truly applicable here as well. There is a scope of future study where all the banks operating in Indian economy could be studied to draw more reliable results, since only ten selected banks have been studied in this research. Future researcher may use other existing models like logit or probit or ANN and compare it with the results drawn with the help of Altman's model. Foreign banks operating in Indian economy may be included in the study and a comparison can be made between Indian public and private banks with that of foreign banks. The scope of the study is limited to India considering only Indian banks have been selected for the purpose of this study. Further, the conclusions of the study are based on Altman Z-Score model and the model has few limitations, which are inevitable here.

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RETAIL FORMATS AND SHOPPERS ATTITUDE: A MALL PERSPECTIVE

Siby Linson⁹

ABSTRACT

The Indian retail market is among the top five retail markets in the world by economic value. As Kerala contributes a major share in the overall Indian retail sector and stands one among the major consumer states, it is very essential to study the customer's attitude towards different retailing formats. The Consumer dynamics in Kerala is changing and the retailers need to keep track this and formulate appropriate proactive planning to get the grip in this upcoming market. This study is an attempt to study the Shoppers attitude towards shopping malls in Thrissur District.

KEYWORDS

Retail Market, Shopper, Retail Formats, Shopping Malls, Shoppers Attitude etc.

INTRODUCTION

India is witnessing revolutionary changes in the Retail Sector. The Indian retail sector has emerged as the most dynamic and fast-paced industries due to the entry of several new players. India is the world's fifth largest destination in the global retail industry. Retail is the interface between the producer and the individual consumer buying for personal consumption. Consumer's needs are changing, competitors are entering the market arena, and technology is introducing new retailing methods in the industry.

Among the modern retail formats, Shopping malls contribute to business more significantly than traditional markets, which are viewed as a simple convergence of supply and demand. Shopping malls attract customers, providing enough time to make choices as well as a recreational means of shopping. Malls are not only a shopping place but also a place to rejuvenate, socialize, and entertain and to have fun. In big retail stores, you get everything under one roof from luxuries to necessities. Without any doubt, we can say malls have changed the shopping experience of Indians. Doing shopping in the burning heat of the sun has been replaced by airconditioned shopping. Shopping malls are bringing in a new culture in India, which are entirely different from the traditional cultural roots of shopping. Indian Malls offers an immense market opportunity because of increased income and changed lifestyle of middle-class families. Therefore, it is high time to study the attitude of customers who shop from Malls.

STATEMENT OF PROBLEM

The survival of fittest and fastest is the mantra of today's business game. To be competent in the retail business, the retailer must focus on the customer's buying experience. Shopping malls are of no exception to this strategy. While the shopping malls culture is growing at a rapid speed even in small towns, they are encountering various challenges to keep a hold on customers. Similarly, the customers are witnessing a novel shopping experience overall, that is highly distinctive to that of conventional shopping methods. Hence, the present study aims to study the attitude of customers of shopping malls in Thrissur district.

OBJECTIVES

- To study the opinion of shoppers towards shopping malls in Thrissur.
- To study the factors that influences customers to buy from shopping malls in Thrissur district.

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- To analyse the level of customer satisfaction towards various elements of marketing mix of shopping malls in Thrissur district.

METHODOLOGY

Sample Design

Universe: The whole customers of shopping malls in Thrissur District of Kerala State.

Sample Size: Sample size consisted of 50 samples selected from Thrissur district having shopping experience from five shopping malls.

Sampling Technique: For the study, judgement sampling, one of the non-probability sampling techniques was used. The researcher employed his own judgement in selecting samples in the sample frame.

Sources of Data & Data Collection Methods: Primary data was collected using questionnaires by conducting intercept interviews and secondary data was collected from books, journals, articles, internet and works of similar nature.

ANALYSIS AND PRESENTATION OF DATA

For analysing the collected data, statistical tools such as weighted average score methods and percentage analysis were used.

Table-1: Demographic Profile of Respondents

| Variables | Parameters | Frequency |
|-----------|-----------------------|-----------|
| Age | Less than 20 years | 13 |
| | 20-40 years | 15 |
| | 40-60 years | 12 |
| | More than 60 years | 10 |
| Gender | Male | 24 |
| | Female | 26 |
| Education | SSLC | 18 |
| | Intermediate | 16 |
| | Degree | 10 |
| | PG | 6 |
| Income | Below Rs.20,000 | 10 |
| | Rs.20,000 –Rs. 30,000 | 8 |
| | Rs.30,000 –Rs.40,000 | 14 |
| | Rs.40,000-Rs.50000 | 5 |
| | Above 50000 | 13 |

Sources: Primary Data

Table-2: Shoppers Opinion towards Shopping Malls

| Particulars | Percentage of Respondents | | | | | Total |
|--------------------------|---------------------------|----------|---------|-------|----------------|-------|
| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | |
| A. Opinion on Products | | | | | | |
| Reasonable Price | 16 | 8 | 40 | 32 | 4 | 100 |
| Better Product Quality | 0 | 0 | 12 | 64 | 24 | 100 |
| Wide Variety of Products | 0 | 0 | 24 | 56 | 20 | 100 |
| Display of Products | 0 | 0 | 40 | 48 | 12 | 100 |

| | | | | | | |
|---|----|----|----|----|----|-----|
| B. Opinion on Sales Promotion Techniques | | | | | | |
| Gift Coupon / Cards | 0 | 8 | 32 | 48 | 12 | 100 |
| Offers and Discounts | 0 | 16 | 0 | 72 | 12 | 100 |
| Offering Products for Trial Use | 16 | 28 | 28 | 20 | 8 | 100 |
| Credit Facilities | 40 | 16 | 36 | 8 | 0 | 100 |
| C. Opinion on Basic Facilities | | | | | | |
| Parking | 0 | 0 | 4 | 12 | 84 | 100 |
| Lift / Escalator | 0 | 0 | 4 | 20 | 76 | 100 |
| Space to Move Freely in the Shop | 0 | 8 | 4 | 48 | 40 | 100 |
| Trial Rooms | 0 | 12 | 24 | 16 | 48 | 100 |
| D. Opinion on Recreational Facilities | | | | | | |
| Games | 0 | 4 | 20 | 24 | 52 | 100 |
| Multiplex Theatre | 0 | 0 | 0 | 24 | 76 | 100 |
| Food Court | 0 | 0 | 8 | 12 | 80 | 100 |
| Rest Rooms | 36 | 12 | 16 | 4 | 32 | 100 |

Sources: Primary Data

Table-3: Motives of Visiting Shopping Malls

| S. No. | Motives | Age Categorization | | | | |
|--------|---|--------------------|-------|-------|----------|-------|
| | | Below 20 | 20-40 | 40-60 | Above 60 | Total |
| 1 | Recreational Shopping | 5 | 5 | 4 | 1 | 15 |
| 2 | Convenient Shopping | 3 | 4 | 3 | 4 | 14 |
| 3 | Good Quality Products at Reasonable Reasoning | 3 | 3 | 2 | 2 | 10 |
| 4 | Risk Free Shopping | 2 | 3 | 3 | 3 | 11 |
| Total | | 13 | 15 | 12 | 10 | 50 |

Sources: Primary Data

From the table it is clear that, out of 50 respondents, 15 respondents agree that the main motive behind visiting shopping mall is recreation. 14 respondents agrees it is convenience, 11 respondents agrees it is risk free shopping and 10respondents says it is quality products at reasonable price.

**Table-4: Factors that Influence Customers to Buy from Shopping Malls
 (The factors are rated as High (H)-3, Medium (M)-2, Low (L)-1)**

| Factors | Number of Respondents | | | Weight * Frequency | | | Total | Mean Score | Rank |
|---------------------------------|-----------------------|----|---|--------------------|----|---|-------|------------|------|
| | H | M | L | H | M | L | | | |
| Store Image | 16 | 32 | 2 | 48 | 64 | 2 | 114 | 2.28 | X |
| Open During Convenient Days | 28 | 22 | 0 | 84 | 44 | 0 | 128 | 2.56 | IV |
| Easy Access | 32 | 12 | 6 | 96 | 24 | 6 | 126 | 2.52 | V |
| Reliable And Dependable Product | 32 | 16 | 2 | 96 | 32 | 2 | 130 | 2.6 | III |
| Wide Selection and Variety | 28 | 20 | 2 | 84 | 40 | 2 | 126 | 2.52 | V |
| Products of Latest Fashion | 26 | 22 | 2 | 78 | 44 | 2 | 124 | 2.48 | VII |
| Numerous Brands | 40 | 8 | 2 | 120 | 16 | 2 | 138 | 2.76 | I |
| High Value for Money Spent | 24 | 18 | 8 | 72 | 36 | 8 | 116 | 2.32 | IX |
| Reasonable Pricing | 8 | 36 | 6 | 24 | 72 | 6 | 102 | 2.04 | XII |
| Good Interpersonal Relationship | 10 | 34 | 6 | 30 | 68 | 6 | 104 | 2.08 | XI |
| Flexible Billing Procedures | 24 | 26 | 0 | 72 | 52 | 0 | 124 | 2.48 | VII |
| Acceptance of Credit Cards | 40 | 6 | 4 | 120 | 12 | 4 | 136 | 2.72 | II |

Sources: Primary Data

From the above table, it is clear that, the most influencing factor to buy from shopping malls is availability of numerous brands. The least influencing factor is reasonable pricing.

Table-5: Ranking of Shopping Malls in the Order of Preference (1-5, 2-4, 3-3, 4-2, 5-1)

| Rank | Shobha City | | City Centre | | Selex Mall | | VMB Mall | | Mall of Joy | |
|-------|-------------|-----|-------------|-----|------------|-----|----------|----|-------------|-----|
| | F | W | F | W | F | W | F | W | F | W |
| 1 | 36 | 180 | 10 | 50 | 2 | 10 | 0 | 0 | 2 | 10 |
| 2 | 12 | 48 | 22 | 88 | 14 | 56 | 0 | 0 | 2 | 8 |
| 3 | 0 | 0 | 12 | 36 | 12 | 36 | 4 | 12 | 22 | 66 |
| 4 | 2 | 4 | 4 | 8 | 16 | 32 | 8 | 16 | 20 | 40 |
| 5 | 0 | 0 | 2 | 2 | 6 | 6 | 38 | 38 | 4 | 4 |
| Total | 50 | 232 | 50 | 184 | 50 | 140 | 50 | 66 | 50 | 128 |

| Malls | Mean Weight | Rank |
|-------------|-------------|------|
| Shoba City | 4.64 | 1 |
| City Centre | 3.68 | 2 |
| Selex Mall | 2.8 | 3 |
| VMB Mall | 1.32 | 5 |
| Mall of Joy | 2.56 | 4 |

Sources: Primary Data

Interpretation: The table shows preferences of shopping malls in Thrissur district. From the table it is clear that the most preferred mall by the respondents is Sobha City Mall, followed by City Centre. The least preferred mall is VMB Mall.

Table-6: Level of Customer Satisfaction towards Various Elements of Marketing Mix (Highly Satisfied-5, Satisfied-4, Neutral-3, Dissatisfied-2, Highly Dissatisfied-1)

| Elements | Number of Respondents | | | | |
|-------------------|-----------------------|----|----|----|----|
| | 5 | 4 | 3 | 2 | 1 |
| Product / Service | 6 | 34 | 10 | 0 | 0 |
| Price | 4 | 16 | 28 | 2 | 0 |
| Place | 28 | 14 | 6 | 0 | 2 |
| Promotion | 0 | 10 | 20 | 10 | 10 |

Sources: Primary Data

Table-7: Ranking of Satisfaction of Elements

| Elements | Weighted Mean | Rank |
|-------------------|---------------|------|
| Product / Service | 3.92 | II |
| Price | 3.44 | III |
| Place | 4.32 | I |
| Promotion | 2.6 | IV |

Sources: Primary Data

FINDINGS AND CONCLUSION

Out of 50 respondents, 88 percent agrees that products in the shopping malls are of better quality. 84 percent of respondents agree that offer and discount offered by shopping malls are good. 96 percent of respondents agree that shopping malls have good parking and lift facility.



Recreation and convenience are the main motives of visiting the shopping malls. The most influencing factor to buy from shopping malls is availability of numerous brands. The least influencing factor is pricing.

Customers are more satisfied towards place. The reason may be that they can purchase all at one place, but customers are not much satisfied with the promotion.

Out of the five malls selected for the study, Shobha City Mall is the most preferred mall, by the respondents followed by City Centre, third preference is given to Selex Mall, fourth for Mall of Joy and the least preferred one is VMB Mall.

CONCLUSION

India's retail infrastructure is undergoing a drastic change with many hi-fi supermalls, which are constructed, and operating in various cities. The mall concept has become the final word of shoppertainment. The Indian consumers are shifting and switching themselves in terms of personality, buying motives, interests, attitudes, beliefs and values when he or she is making a purchase from traditional shops to shopping malls. The study discovers that most of customers do prefer to shop at shopping malls, as it is a convenient place to buy anything they desire. The study revealed the factors that affect the customers at a shopping mall. The main factors affecting the malls are the availability of branded, quality and variety of product, open during convenient days, acceptance of credit cards.

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A NOVEL APPROACH FOR REGRESSION TESTING OPTIMIZATION

Krishna Kumar Sharma¹⁰ Dr. Ramesh Kumar¹¹

ABSTRACT

Out of many testing techniques and approaches are accessible in industry they should pick the most satisfactory one for their work. The decisions may differ dependent on kind of work, nature of work, area of work, span of work etc. testers expecting that the test hypothesis ought to talk about the different standards for choosing the ideal decision and mixes for getting the greatest bit of leeway.

The fundamental pre necessities of the all inclusive test hypothesis is that, in spite of negative hypothesis (testing can never be accurate) be certain practically speaking. Test hypothesis should respond to the inquiry like, what do we know in the wake of applying a given test strategy. Test group desire is that the all inclusive test hypothesis ought to talk about how to dynamically tune the testing strategy, what would i be able to expect by applying this test method to this circumstance, which techniques should I pick in the current conditions etc.

KEYWORDS

Testing, Strategy, Dynamic, Techniques etc.

INTRODUCTION

It is fundamental to know equality classes and their limits. Traditional limit tests square measure essential for checking the program's reaction to information and yield information. You will have the option to consider check cases as identical, in the event that you anticipate same outcome from 2 tests. Many tests structures indistinguishable classification in the event that you feel that:

- They all check same factor.
- If one check get gets a bug, the others in all probability can as well.
- If one check does not get a bug, the others probably will not either.

Tests square measure normally lumped into indistinguishable identicalness classes once:

- They include indistinguishable information factors,
- They end in comparable tasks inside the program,
- They affect indistinguishable yield factors,
- None power the program to attempt to do blunder dealing with or every one of them do.

Various people can examinations programs unique in means and thinks of various rundown of identical classes. This may help you to select check cases and stay away from burglary redundancy what is about indistinguishable check. You should run one or not many of the check cases that has a place with Associate in nursing comparability classification and leave the rest of. Underneath square measure some of the proposals for needing identicalness classes:

- Don't overlook equality classifications for invalid information sources,
- Organize your order into a table or a high level view,
- Look for differ of numbers,

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- Look for enrollment during a bunch,
- Analyse reactions to records and menus,
- Look for factors that must be equivalent,
- Create time-decided equality classifications,
- Look for variable groups that needs to figure to a specific qualities or change,
- Look for comparable yield occasions,
- Look for comparable usable conditions.

It is fundamental to know comparability classifications and their limits. Traditional limit tests square measure crucial for checking the program's reaction to information and yield information. You will have the option to consider check cases as comparable, on the off chance that you anticipate same outcome from two tests. Many tests structures indistinguishable class in the event that you believe that:

- They all check same factor,
- If one check get gets a bug, the others in all likelihood can as well,
- If one check does not get a bug, the others in all probability will not either.

Tests square measure ordinarily lumped into indistinguishable identicalness classifications once:

- They include indistinguishable info factors,
- They end in comparative tasks inside the program,
- They affect indistinguishable yield factors,
- None powers the program to attempt to do mistake dealing with or every one of them do.

Various people can investigations programs very extraordinary in means and thinks of various rundown of identical classifications. This may help you to choose check cases and evade robbery redundancy what is about indistinguishable check. You should run one or not many of the check cases that has a place with Associate in nursing identicalness class and leave the rest of. Underneath square measure some of the suggestions for needing comparability classes:

- Don't overlook equality classes for invalid data sources,
- Organize your order into a table or a high level view,
- Look for differ of numbers,
- Look for enrollment during a group,
- Analyse reactions to records and menus,
- Look for factors that must be equivalent,
- Create time-decided proportionality classifications,
- Look for variable groups that needs to ascertain to a specific qualities or shift,
- Look for proportional yield occasions,
- Look for proportional usable situations.

REVIEW OF LITERATURE

Huller utilized CT to check the base framework for satellite correspondences. *Burroughs et al* reportable anyway each the norm and power of convention testing were improved by CT, came out with partner degree equation for conquering the challenges of reasonable combinatorial checking in framework the executives test computerization. These investigates gave brilliant pointers to abuse CT. CT has conjointly been applied to elective applications. *White and Almezen* arranged a strategy that focused on client groupings of GUI items and decisions that work together, alluded to as Complete Interaction Sequences (CIS) that turn out an ideal reaction for the client. Partner degree exact examination of this strategy shows that an all around diminished check set will in any case notice the deformities inside the GUI. Future examination can organize testing related with the CIS testing for max benefit if testing time is restricted. *Burr* partner degreed *Young* created check cases to browse an email framework with AETG. We tend to conjointly investigated trials of the setup testing and in this way the program similarity testing with CT. *Lei et al* spoke



to a combinatorial testing strategy for correspondent programs. From the various past examinations, it appears that CT are regularly applied to a few assortments of frameworks. Nonetheless, every examination group followed its own testing method. We will in general accept higher testing results are frequently gotten by following a progressively functional testing methodology. Some undertaking should be committed to this subject.

Bryce et al made a few commitments on check age, disappointment assignment, and prioritization. Robert Emmet Sherwood introductory presented the CATS device that implemented a heuristic equation for pairwise inclusion. This group referenced 2 unadulterated science ways to deal with get covering cluster, that may be acclimated fabricate blended covering exhibit of solidarity two and covering cluster of upper quality, and acquainted numerous eager calculations with develop covering exhibits, blended level covering clusters, and one-sided covering clusters.

Colbourn later arranged the disappointment find and notice exhibit. Bryce and Colbourn arranged a settled thickness equation to get a check set for attempt astute testing and the following quality covering cluster. They at that point delineated the matter of check suite prioritization, arranged arrangements each producing organized check suites without any preparation and organizing existing check suites by combinatorial inclusion for GUI and web applications, partner degreed con-ducted an experimental investigation on organized CT with seeding and limitations.

RESULTS & DISCUSSION

Industry pack - Test Management for a Top-of-the-Stack Product

Industry Packs is a head-of-the-stack item in the Business Process Management (BPM) area. It gives pre-fabricated resources for the clients in the Banking, Insurance, Telecom, and Healthcare space. Huge numbers of the highlights gave by the Industry Packs has reliance on the stack items, for example, WebSphere Lombardi Edition, WebSphere Process Server etc. furthermore, subsequently testing of the Industry Packs likewise had reliance on these stack items. The Industry Packs group followed 'Nimble' philosophy for the item improvement, and 'Scrum' for the undertaking management. Rational Team Concert (RTC) was utilized as a joint effort device for run arranging, following and controlling since the selection of lithe approach.

Issue

- Complete manual testing of the item
 - o As the item gives the pre-manufactured resources for explicit businesses, there was no consistent theme over all industry areas to recognize the right path for computerization and henceforth practically the entirety of the test exercises were finished manual.
- Manual download and condition arrangement for the item.
 - o Downloading the stack manufacture, establishment and test condition arrangement was a finished manual procedure and this included part of manual exertion to play out.
- Traceability of the test cases and the client stories.
 - o Working with test following device (TTT), it was unrealistic for the group to follow the test case with the accounts and didn't give an unmistakable picture on which test case was executed for which story and whether it was the right test case for that specific story or not.
- Tracking the test status for numerous ventures.
 - o At times, there were more than 1 deliverable continuing for the group. A portion of the colleagues were chipping away at the fix pack while the remainder of the group was concentrating on the principle conveyance for the



arrival of the item. Following the general test status for every one of these ventures was troublesome assignment regarding the test status and this included a great deal of manual endeavors to recover the information from the TTT.

- Tracking the test progress (S-bend) by cycle
 - o As the group was utilizing TTT, it was troublesome and included parcel of manual endeavors to tell the arranged and real test information by cycle for every emphasis of the venture
- Tracking the test status of the individual test colleagues
 - o There was not a solitary dashboard accessible for the administration to take a gander at and distinguish and track the day by day status of the group by colleagues.
- Tracking the deformities on the reliant item
 - o As Industry Packs has reliance on other stack items, now and again surrenders raised on the stack item were setting aside long effort to determine and following them was difficult.

Arrangement

To address the difficulties of the group referenced over, the Industry Packs group did a great deal of conceptualizing, played out a worth stream planning exercise with the assistance of QSE group, found out about the new instruments in the test space and actualized it for the test the board. In light of the activity finished, the group got the underneath things to do for execution.

- Automate the manufacture download, introduce and condition arrangement process as it has the greatest ROI for mechanization
 - o Team chose to computerize the Build download, introduce and condition arrangement process as it had the greatest potential to improve the efficiency
- Use Lotus Automator for mechanization of the earth arrangement
 - o The group experienced the instruction meeting on utilizing the lotus automator and set it up for Industry packs item
- Use the Rational Quality Manager (RQM) for better test the board.
 - o Team moved from TTT to RQM and utilized RQM for test the board. Group made the Test Plan and Test plan for every cycle of the venture. As the RTC was coordinated with RQM, the group could relate the test case with the client stories in the RTC. The group made a typical dashboard for the whole test explicit information including the S-bend and the reports on the test status. In view of the activity accomplished for setting up the arrangement in the RQM, group had the option to address a portion of the difficulties determined previously.
- Innovative approaches to improve the test mechanization
- Instead of recording the situation and afterward utilizing it for testing, the group utilized the Rational Functional tester's Object guide and Script Assure highlights to computerize and check the arrangement situation of the item across various verticals. By utilizing these highlights, group was practically unaffected by change in the code as the items were planned and robotization didn't require the chronicle the situation. This helped spare time for the testing exertion and expanded the test adequacy.



o Team made java utilities for robotized testing of introduce check, business jargon confirmation and WS-I consistence confirmation.

- Cross Product Triage Calls for heightening the stack abandons

o Team heightened the stack surrenders in the triage calls to get the snappy deformity fixes from the basic items.

Quantifiable Results

In light of the activity taken to improve the test the board for Industry Packs, group had the option to address the difficulties indicated and really profited as far as test viability and profitability improvement. By and large, it improved the test the board for the Industry Packs. The following are a portion of the critical advantages and enhancements accomplished by the group.

- Improved Planning

o As the group had the option to make the test plan by emphasis and RQM was incorporated with RTC, this brought about better arranging when contrasted with the past circumstance where the group was utilizing TTT. This gave better perceivability of the test status.

- Traceability of the test cases and the client stories was accomplished

o As the RTC and RQM were coordinated, group had the option to distinguish the test cases executed for every client story. These test cases were looked into by the particular dev leads and endorsed by the approved partners.

- Improvement in test profitability via mechanizing the means with max return.

o As the group mechanized establishment and condition arrangement, this spared critical time for the group and improved the efficiency for the group.

- Ease of look and reuse of test antiques utilizing RQM

o It was conceivable to reuse of existing test relies utilizing RQM. Likewise, it was simpler to look through the test ancient rarities utilizing RQM as the group followed show for the test cases and test antiquities for each discharge.

- Single report to follow the test status for numerous activities

CONCLUSION

For an example of 6 test sets, the quantity of execution modes changed from 406 to 289, execution time was diminished by half, (111 hours) while inclusion improved.

For an example of 20 test sets the quantity of modes acquired utilizing CTD device was on normal 40-50 % not exactly the modes characterized physically.

As a general outcome, combinatorial test configuration helped us to significantly lessen our relapse testing exertion and make test arranging increasingly successful.

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ENFORCEMENT OF TRADEMARK AND PATENTS FOR VALUE ADDED AGRO PRODUCTS IN TAMIL NADU

Dr. A. Morarji¹² Dr. K. Ganesamurthy¹³

ABSTRACT

The developing country like India must provide greater emphasis on enforcement of Trade Mark and Patent in agricultural value added products. The Trade Mark relating to product, the grant provides exclusive right to prevent unauthorized persons from making, using, offering for sale, selling or importing the product in India. In case of Patents relating to process, the patentee receives an exclusive right to prevent unauthorized persons from using the process and offering for sale, selling or importing for those purposes the product obtained directly from the process in India. Product produced by the process is also to be protected. An adequate trademark system is very important to consumers in developing countries, because it permits these consumers to rely on a particular standard of quality associated with the trademark and identify the origin of the trademarked goods, rather than having no means of distinguishing goods from different sources.

Hence, the present study is to attempt the trademark and patents practice among the farmers. The outcomes of the importance given to the timing of marketing the produce and implementation of value addition, the significance difference among the farmers have been identified.

KEYWORDS

Trade Mark, Patent, Agriculture, Farmers, Value Addition etc.

INTRODUCTION

India for eternity confessed the substance of a strong Trade Mark and Patent system for the development of industry and commerce, which is evident for the amendments done to bring India at par with the modern world granted to Trade Mark and Patents rights to the people in our country is need of the Innovators and inventors from all fields of technology are keen on protecting their intellectual property. Intellectual property rights have significance in this era of day-by-day started business. The protection hour in particular the provisions related to Trade Mark and Patents in value added agro produces may not follow by producers.

The developing country like India must provide greater emphasis on enforcement of Trade Mark and Patent in agricultural value added products. The Trade Mark relating to product, the grant provides exclusive right to prevent unauthorized persons from making, using, offering for sale, selling or importing the product in India. In case of Patents relating to process, the patentee receives an exclusive right to prevent unauthorized persons from using the process and offering for sale, selling or importing for those purposes the product obtained directly from the process in India. Product produced by the process is also to be protected.

An adequate trademark system is very important to consumers in developing countries, because it permits these consumers to rely on a particular standard of quality associated with the trademark and identify the origin of the trademarked goods, rather than having no means of distinguishing goods from different sources. An adequate trademark system is very important to enterprises in developing countries because it permits them to develop domestic and foreign markets for their products. Without an adequate trademark system, it is very difficult to start a new business

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or introduce a new product line and to compete with established foreign and domestic enterprises. Hence, the present paper is to attempt the substance of trademark and patent in agricultural products.

KEY DEFINITIONS

A **Trademark, Trade Mark, or Trade-Mark** is a recognizable sign, design, or expression which identifies products or services of a particular source from those of others, although trademarks used to identify services are usually called service marks. The trademark owner can be an individual, business organization, or any legal entity. A trademark may be located on a package, a label, a voucher, or on the product itself. For the sake of corporate identity, trademarks are often displayed on company buildings.

A **Patent** is a form of intellectual property. A patent gives its owner the right to exclude others from making, using, selling, and importing an invention for a limited period, usually twenty years. The patent rights are granted in exchange for an enabling public disclosure of the invention. People who are employed to do research are often obligated by their employment contracts to assign inventions to their employer. In most countries patent rights fall under civil law and the patent holder needs to sue someone infringing the patent in order to enforce their rights. In some industries patents are an essential form of competitive advantage; in others they are irrelevant.

Value Added Products - A change in the physical state or form of the product (such as milling wheat into flour or making strawberries into jam). The production of a product in a manner that enhances its value, as demonstrated through a business plan (such as organically produced products).

NEED FOR STUDY

Trade Mark relating to product, the grant provides exclusive right to prevent unauthorized persons from making, using, offering for sale, selling or importing the product in India. In case of Patents relating to process, the patentee receives an exclusive right to prevent unauthorized persons from using the process and offering for sale, selling or importing for those purposes the product obtained directly from the process in India. Product produced by the process is also to be protected. Both Patent and Trade Marks' agricultural products will increase the value of the products and it is protect through the patents and Trade Mark of their invented products. This practice leads to sales and income their farmers.

STATEMENT OF PROBLEM

There is tremendous supply of fruits and vegetables in Sivagangai and Ramnadu districts of Tamil Nadu. Entrepreneurial avenues for value added products are increasing day-by-day. It is observed that there is lack of awareness of the minds of farmers regarding usage of Trademark and Patents. The farmers and producer companies procure the vegetables and fruits for selling due to the nature of the products they concentrate more on value addition for their income increase. In the present scenario most of the farmers engage themselves in producing value added products in fruits and vegetables without proper Trade Mark and Patents absence of the Trade Mark and Patents affect the not only growth of economy but also the health of consumers. Hence, the researcher is induced to take up the research in analyzing the value addition of their products and protect the rights through the getting patents and Trademark and the use of Trade Mark and Patents in their own produced value added products.

OBJECTIVES OF STUDY

The present study is confined to the following objectives.

- To study the Trade Mark and Patents practice among the farmers.
- To analyse and evaluate the need for Trade Mark and Patents for value addition of the agriculture products.
- To elicit the view of the farmers and Producer Company in complying the provision related to trademark pattern for their products.

HYPOTHESES

H₀₁: There is no significant difference between producer companies and farmers practice in production of value added products.

H₀₂: There is no significant difference between different agricultural products and its value added products preparation.

RESEARCH METHODOLOGY

In the present study, the descriptive and analytical type research designs will be administered. Since this research describes the view of the Farmers and producer companies who are engaged in preparation and sales of the value added products. It is descriptive in nature and this study will analyze the Problems of farmers in adhering the provisions relating to trademark and patterns.

Sampling Technique

The present study were covers Sivaganga and Ramanathapuram districts in Tamilnadu, which are engaged in agricultural activities and in the preparation of values added products. The study will cover two districts in which farmers and the producer companies who are engaged in value added products. The sample includes team of professionals including business experts, HR professionals and Government authorities who are related to IPR. It is proposed to use sampling technique simple random sampling.

DATA ANALYSIS AND INTERPRETATION

Value Addition of the Agricultural Products

The agricultural raw product is converted into valued products through obtaining trade mark and patents, its leads to reduce the wastage of overwhelming the stage of cultivating the agricultural products. The following steps in converting the raw products into the value added products.

Table.1: Trademark is Same As Brand

| S. No. | Particulars | Number of Respondents | Percentage |
|--------|-------------|-----------------------|------------|
| 1 | Yes | 315 | 75 |
| 2 | No | 110 | 25 |
| | Total | 425 | 100 |

Sources: Primary Data

It is implicit from Table-1 that 75% of the respondents opined that trademark is same as brand and 35% of the respondents opined that trademark is not same as brand.

Table-2: Necessity for Protection of Trademark

| S. No. | Particulars | Number of Respondents | Percentage |
|--------|-------------|-----------------------|------------|
| 1 | Yes | 325 | 76 |
| 2 | No | 100 | 24 |
| | Total | 425 | 100 |

Sources: Primary Data

It could be seen from above Table-2 that 325 respondents agreed the necessity for protection of trademark. 24% of the respondents have expressed that there is no necessity for the protection of trademark.

Table-3: Reasons for Popularity of Goods

| S. No. | Particulars | Number of Respondents | Percentage |
|--------|------------------|-----------------------|------------|
| 1 | Quality | 125 | 29 |
| 2 | Trade Mark | 150 | 35 |
| 3 | Brand Promotions | 125 | 29 |
| 4 | All the Above | 25 | 5.88 |
| | Total | 425 | 100 |

Sources: Primary Data

It is examined from table-3 that 35% of respondent agreed that trademark is used for the popularity of goods.

Table-4: Acquiring a Popular Trademark Promotes Market Access

| S. No. | Particulars | Number of Respondents | Percentage |
|--------|-------------|-----------------------|------------|
| 1 | Yes | 325 | 76 |
| 2 | No | 100 | 24 |
| | Total | 425 | 100 |

Sources: Primary Data

It is observed from the Table-4 the study that 76% of the respondents have opined trademark acquiring a popular trademark promotes market access. 24% of the respondents expressed negative opinion in this regard.

Table-5: Satisfactory Level Regarding the Search Process of Trademark

| S. No. | Particulars | Number of Respondents | Percentage |
|--------|-------------|-----------------------|------------|
| 1 | Yes | 185 | 43.52 |
| 2 | No | 240 | 56.47 |
| | Total | 425 | 100 |

Sources: Primary Data

From the Table.5, the survey disclosed the fact that 56% of the respondents have expressed that that are not satisfied with the search process for the registration of trademark. Only 43% of the respondents satisfied with the search process with regard to registration of trademark.

Table-6: Need for Publicity of Registered Trademark

| S. No. | Particulars | Number of Respondents | Percentage |
|--------|-------------|-----------------------|------------|
| 1 | Yes | 320 | 75.29 |
| 2 | No | 105 | 24.7 |
| | Total | 425 | 100 |

Sources: Primary Data

It is clear from the above Table-6 that 320 respondents have expressed the need for the publicity of registered trademark.

Table-7: Opinion Score Statement by Users

| S. No. | Particulars | Score |
|--------|------------------------|-------|
| 1 | Strongly Agree (SA) | 5 |
| 2 | Agree (A) | 4 |
| 3 | Disagree (DA) | 3 |
| 4 | Strongly Disagree (SD) | 2 |
| 5 | No Opinion (NO) | 1 |

Sources: Primary Data

From the Table-7, 27 statements - 5-point scale is used. The maximum total score is 425 X 5= 2125. The mean score range is classified as low score, if it ranges between 1-3 and for high score the value ranges between 4-5.

Table-8: Opinion Mean Score Point by Producers of Value Added Products

| S. No. | Score Range | Number of Respondents | Percentage |
|--------|-------------|-----------------------|------------|
| 1 | 1 to 3 | 148 | 35 |
| 2 | 3 to 4 | 276 | 65 |
| | Total | 425 | 100 |

Sources: Primary Data

It is clear from the above Table.8 that, the majority of the respondents (85.18%) gave the opinions with a mean score ranged between 3-4 regarding the trademark law. The remaining 14.82% of the respondents gave their opinion with a mean score value in the range of between 1-3 On the basis of the Mean score point, the top 5 statements with high score are shown in Table.7

Table-9: Trade Mark and Patents Practice Among the Farmers

| S. No. | Time of Marketing | Mean Score - Farmers | | | F-statistics |
|--------|------------------------|----------------------|--------|--------|--------------|
| | | Marginal | Small | Big | |
| 1. | Pre-harvest | 3.9146 | 3.0042 | 2.2541 | 3.1468* |
| 2. | At the time of harvest | 2.4041 | 3.1408 | 3.8863 | 3.3091* |
| 3. | Post-harvest | 1.8687 | 2.4562 | 3.9094 | 3.6174* |

Sources: Primary Data

Note: *Significant at 5 per cent level

The important Trade Mark and Patents practice identified by the marginal farmers is pre-harvest since its mean score is 3.9146 whereas among the small farmers, it is at the time of harvest since its mean score is 3.1408. Among the big farmers, it is both at the time of harvest and post-harvest since their mean scores are 3.8863 and 3.9094 respectively. Regarding the importance given to the timing of marketing the produce, the significant difference among the three groups of farmers have been identified in all three type of practices since the respective 'F' statistics are significant at the five per cent level.

CONCLUSION

The study was conducted the creativity and innovation and the new drivers of innovative the world economy. The agriculture is the main to occupation of many places in India. It has given an opportunity for the value addition the agriculturists to lead their income and protect the invented products in agriculture. It can be increase the demand and supply in proper way. The aspects of promoting customized marketing and marching towards value addition of better result to the farmers.

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REVVING UP KARNATAKA'S COCONUT PRODUCTION INDUSTRY

Nagendra N.¹⁴ Dr. Pralhad Rathod¹⁵

ABSTRACT

Karnataka, along with Kerala and Tamil Nadu accounts for almost 85 percent of the country's coconut output. Inadequate rains in Karnataka led to a rise in diseases and pest attacks in 2018-19, in the process recording the lowest productivity ever witnessed by the state. According to the Coconut Development Board, Andhra Pradesh (AP) registered the highest productivity in the country, at 13,563 nuts per hectare during the period. It is noteworthy that AP has been raising the tempo in the coconut cultivation space. One of the issues the coconut industry is confronted with is rather uncommon in the Indian scenario – in the domestic market, its output, namely copra, fetches almost 2.5 times what it fetches in the international market, in value terms. In this backdrop, the researcher set out to ascertain the factors that work against the growers in general. The researcher also sought to ascertain the measures needed to address the problems faced by the coconut industry. The investigation led the researcher to conclude that higher domestic prices stifle the exports of coconut products and reduce the consumption of coconut oil, among other things. Growers should not content themselves with mono-cropping practices since it dents productivity. Inter-cropping with cocoa, will go a long way in raising the fortunes of the growers and diversifying away the risk. Incidentally, the country's cocoa output is far less than the demand. The MSP (minimum support price) concerning ball copra that Karnataka specialises in, has not been computed scientifically and rationally, thereby placing the relevant growers at a disadvantage vis-à-vis the growers of milling copra. NAFED (National Agricultural Cooperative Marketing Federation of India Ltd) should raise its storage capacity and as well prolong the procurement period, to impart some stability to coconut prices.

KEYWORDS

Ball Copra, Cocoa, Consumption, Mono-Cropping, Productivity, Stifle, Tempo etc.

1.1 THEORETICAL BACKGROUND

Coconut palm (*cocos nucifera* linn, as it is technically called) is arguably the most useful palm in the world. Every part of the tree delivers value. Not surprisingly it is called *kalpavriksha*, the wish-fulfilling divine tree referred to in Hindu mythology. The dried kernel of coconut, called copra, is the richest source of vegetable oil. 65 to 70 per cent of the kernel contains oil, aptly called coconut oil. Coconuts are the fruit of the coconut palm tree, which originated in Southeast Asia, and were transported throughout the Pacific either by migrating Indonesians and Polynesians or on the drifting ocean currents. Coconut is propagated through seedlings raised from select seed nuts. Generally, nine-12-month-old seedlings are used for planting. Seedlings, which have six to eight leaves and 10-12 cm collar girth when they are nine-12 month old are chosen (Coconut Development Board, 2016). Kerala, Karnataka, Tamilnadu and Andhra Pradesh qualify as the leading states in the country in coconut production. Other states of the country boast of a me-too presence. The dried kernel of coconut, called copra, is the richest source of vegetable oil. 65 to 70 per cent of the kernel contains oil, aptly called coconut oil. The oil is popular in the country and elsewhere for edible purposes and industrial purposes.

1.2 STATEMENT OF THE PROBLEM

The country's coconut industry is not in the pink of health although the country is the leading producer of copra in the world. Karnataka is among the three states that lead in coconut production. Many factors have been working against the growers of coconut of late, although the domestic prices of copra are far ahead of the international prices of copra.

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To make matters worse, consumption of coconut oil in the country has been falling owing to the availability of other edible oil alternatives like palm oil. Hence the industry must be revamped through appropriate strategies.

1.3 REVIEW OF LITERATURE

In the following pages, the existing literature on the subject is briefly renewed.

- Coconut production fell to 21,384 million nuts compared with 23,798 million nuts in the previous year as per the Union agriculture ministry's third advance estimate. After sliding to a decade-low of 20,439 million nuts in 2014-15, coconut production had been steadily growing until last year. (Krishnakumar, 2019). The slump has been attributed to erratic weather patterns of heavy rains and drought as well as general neglect of the crop especially in Kerala, the top coconut producer in India. The state, along with Tamil Nadu and Karnataka, account for nearly 85 per cent of the country's total output.
- The 4.61 per cent increase in minimum support price (MSP) for the milling copra variety at INR9,960 per quintal for the 2020 season over the previous season has brought cheers to producers and the processing industry in Kerala and Tamil Nadu (Sajeev & Vishwanath, 2020). However, the producers of ball copra variety in Karnataka are disappointed with the 3.83 per cent increase at INR10,300 a quintal.
- Coconut plays an important role in the Indian economy. It contributes to India's GDP to the extent of about INR 15,000 crores. 72 percent of global production is accounted for by India. India's productivity is high too (Raghavi & Balaa, 2019). In India, Tamil Nadu tops the list in coconut productivity. However, production is high in Karnataka. Kerala tops in area. In India, almost 70 percent of the coconut is used for edible purposes.
- Tumkur is known as 'Kalpataru Naadu' or the 'land of coconuts'. The crop is grown extensively here (The New Indian Express, 2019). Coconut growers await a permanent solution to the agrarian and industrial crises facing Tumkur district. The crises have been triggered by water scarcity, power scarcity and a deficiency of basic infrastructure in industrial areas. While coconut is a major horticulture crop in the district, especially in Tiptur, Turuvekere, Chikkanayakanahalli, Tumakuru and Gubbi, growers have been incurring losses owing to pest attack and fluctuating prices.
- India is a signatory to W.T.O (CH, 2015). It calls for a liberalised EXIM policy that warrants dismantling of trade barriers. It would not be possible to curb coconut imports. It will have a negative impact on the coconut industry of the country if the production cost is not reduced to make it competitive at the international market. Thus, product diversification, application of stringent quality standards to coconut products and increased productivity are some of the ways to make this industry competitive.

1.4 RESEARCH GAP

The reviewed literature has captured the falling coconut output rather tellingly. As the researcher concerned implies, it has to do with the systematic risk, by and large. The systematic risk has been the erratic weather pattern characterised by heavy rains or drought. Another researcher has pointed out that the MSP declared in respect of ball copra has not been fair to coconut growers from South Karnataka, in particular. Yet another researcher has highlighted the fact that coconut plays an important role in the country's economy, contributing its own mite to the country's GDP. However, the learned researchers have not dwelt in depth on the factors that have worked against the coconut growers. Nor have they outlined measures that could address the problems faced by the coconut industry of the state. It is this gap the present study seeks to bridge.

1.5 SCOPE OF STUDY

The study confines itself to Karnataka's coconut industry in general and examines the status of the growers of coconut based in Tumkur district.



1.6 OBJECTIVES

The objectives of the study are to:

- Identify measures to address the problems faced by Karnataka's coconut industry.
- Identify the factors that have worked against the growers.

1.7 HYPOTHESIS PROPOSED TO BE TESTED

The study proposes to test the following hypotheses: "Higher price has reduced the consumption of coconut oil"

1.8 RESEARCH DESIGN

The following paragraphs furnish the research methodology.

1.8.1 Research Methodology

The study is descriptive in nature and has used the 'fact-finding' survey method.

1.8.2 Sources of Data

Primary data has been collected from the respondents, viz., 50 experts on coconut and 100 coconut growers.

Secondary data has been collected from the web sites of the Coconut Development Board, the websites of the government of India and the government of Karnataka and the financial press

1.8.3 Sampling Plan

Experts: Given the time constraints and the limited number of experts with exposure to the coconut industry hailing from the area covered by the study, purposive or judgement sampling under the non-probability method has been deployed. The researcher selected 50 such respondents. This criterion, according to the researcher, is the most appropriate one for the present study. What is important is the typicality and the relevance of the sampling units to the study and not their overall representativeness to the population. Thus, it guarantees inclusion of the relevant elements in the sample. Probability sampling plans cannot give such a guarantee.

Coconut Growers: Simple random sampling under the probability sampling method has been deployed to select the growers since it gave each of them an equal and independent chance of being selected. Accordingly, interview schedules were administered to 200 growers. Interview schedules duly completed and received from the first 100 growers were eventually selected for the study.

1.8.4 Data Collection Instruments

Interview schedules were administered to the respondents for collection of primary data.

1.8.5 Data Processing and Analysis Plan

Non-parametric statistical units were used to test the association between some qualitative characters and conclusions were drawn based on formation of H_0 and H_1 .

1.8.6 Limitations

Primary data has sometimes been deduced through constant topic-oriented discussions with the respondents. It is possible that a certain degree of subjectivity has influenced their views.

1.9 EXPERTS

In the following paragraphs, the primary data collected from the 50 experts on the coconut industry is analysed.

1.9.1 Factors that have worked against the Growers

Lately Karnataka’s coconut growers have been complaining that several factors have worked against them. Hence the researcher requested the respondents to disclose the factors have worked against the growers. Their replies to the query appear in the following table.

Table-1

| Factors | Number of Respondents |
|---|-----------------------|
| Higher domestic prices stifle exports of coconut products | 46 |
| Unfair MSP for ball copra | 45 |
| Higher price has reduced the consumption of coconut oil | 45 |
| Reduced productivity | 43 |
| Copra procurement by NAFED does not influence the market price of coconut | 42 |
| Inadequate rains have led to higher incidence of pests and diseases | 41 |
| Forced to raise dwarf varieties owing to dearth of climbers | 40 |

Sources: Authors Compilation

Higher domestic prices stifle exports of coconut products, aver 46 respondents. Unfair MSP for ball copra is cited by 45 respondents. Higher price has reduced the consumption of coconut oil, aver 45 respondents. Reduced productivity is cited by 43 respondents. Copra procurement by NAFED does not influence the market price of coconut, maintain 42 respondents. Inadequate rains have led to higher incidence of pests and diseases, according to 41 respondents. Growers forced to raise dwarf varieties owing to dearth of climbers, according to 40 respondents.

1.9.2 Measures to Address the Problems Faced by the Coconut Industry

With the respondents revealing the factors that have worked against the growers, the researcher requested them to suggest measures to address the problems faced by the coconut industry. Their replies to the query appear in the following table.

Table-2

| Measures | Number of Respondents |
|--|-----------------------|
| Growers’ mono-cropping practice dents productivity | 47 |
| Growers should raise cocoa as an inter-crop since the demand for cocoa exceeds supply | 47 |
| NAFED’s storage capacity should be raised adequately to influence the market price of coconut | 46 |
| Fair level of MSP for ball copra should be ensured since the production cost of ball copra is higher | 45 |
| NAFED’s procurement period should be extended to stabilise coconut prices | 44 |
| Growers should not harvest the nuts prematurely since it lowers oil recovery | 44 |
| Copra manufacturing practices need to be improved | 43 |

Sources: Authors Compilation

Growers’ mono-cropping practice dents productivity aver 47 respondents. Growers should raise cocoa as an inter-crop since the demand for cocoa exceeds supply, advice 47 respondents. NAFED’s storage capacity should be raised adequately to influence the market price of coconut assert 46 respondents. Fair level of MSP for ball copra should be ensured since the production cost of ball copra is higher, believe 45 respondents. NAFED’s procurement period should be extended to stabilise coconut prices, assert 44 respondents. Growers should not harvest the nuts prematurely since

it lowers oil recovery, maintain 44 respondents. Copra manufacturing practices need to be improved, assert 43 respondents.

1.10 GROWERS

In the following paragraphs, the primary data collected from the 100 growers is analysed.

1.10.1 Factors that have worked against the Growers

Lately Karnataka’s coconut growers have been complaining that several factors have worked against them. Hence the researcher requested the respondents to disclose the factors have worked against the growers. Their replies to the query appear in the following table.

Table-3

| Factors | Number of Respondents |
|--|------------------------------|
| Physical effort and fear factor lead fewer people to take up tree-climbing | 90 |
| Unfair MSP for ball copra | 89 |
| Forced to raise dwarf varieties owing to dearth of climbers. | 87 |
| Inadequate rains have led to higher incidence of pests and diseases | 82 |
| Damage to copra resulting from poor storage and transport facilities | 81 |
| Effective mechanical climbing aids yet to be marketed | 78 |
| Reduced productivity | 74 |
| Poor genetic makeup of coconut seeds / seedlings | 73 |
| Price instability triggered by rising competition from palm and soybean oils | 71 |
| Higher price has reduced the consumption of coconut oil | 57 |

Sources: Authors Compilation

Physical effort and fear factor lead fewer people to take up tree-climbing, say 90 respondents. Unfair MSP for ball copra is cited by 89 respondents. Forced to raise dwarf varieties owing to dearth of climbers, remind 87 respondents. Inadequate rains have led to higher incidence of pests and diseases, according to 82 respondents. Damage to copra resulting from poor storage and transport facilities is cited by 81 respondents. Effective mechanical climbing aids yet to be marketed, point out 78 respondents. Reduced productivity is cited by 74 respondents. Poor genetic makeup of coconut seeds / seedlings is cited by 73 respondents. Price instability triggered by rising competition from palm and soybean oils is cited by 71 respondents. Higher price has reduced the consumption of coconut oil, according to 57 respondents.

1.10.2 Measures to Address the Problems Faced by the Coconut Industry

With the respondents revealing the factors that have worked against them, the researcher requested them to suggest measures to address the problems faced by the coconut industry. Their replies to the query appear in the following table.

Table-4

| Measures | Number of Respondents |
|--|------------------------------|
| Fair level of MSP for ball copra should be ensured since the production cost of ball copra is higher | 93 |
| NAFED’s storage capacity should be raised adequately to influence the market price of coconut | 89 |
| NAFED’s procurement period should be extended to stabilise coconut prices | 81 |

Sources: Authors Compilation



Fair level of MSP for ball copra should be ensured since the production cost of ball copra is higher, assert 93 respondents. NAFED's storage capacity should be raised adequately to influence the market price of coconut, according to 89 respondents. NAFED's procurement period should be extended to stabilise coconut prices, argue 81 respondents.

1.11 SUMMARY OF FINDINGS

In the following paragraphs, a summarised version of the findings arrived at in respect of the two categories of respondents is furnished.

1.11.1 Experts

- Higher domestic prices stifle exports of coconut products, aver 46 respondents. Unfair MSP for ball copra is cited by 45 respondents. Higher price has reduced the consumption of coconut oil, aver 45 respondents. Reduced productivity is cited by 43 respondents. Copra procurement by NAFED does not influence the market price of coconut, maintain 42 respondents. Inadequate rains have led to higher incidence of pests and diseases, according to 41 respondents. Growers forced to raise dwarf varieties owing to dearth of climbers, according to 40 respondents.
- Growers' mono-cropping practice dents productivity aver 47 respondents. Growers should raise cocoa as an inter-crop since the demand for cocoa exceeds supply, advice 47 respondents. NAFED's storage capacity should be raised adequately to influence the market price of coconut assert 46 respondents. Fair level of MSP for ball copra should be ensured since the production cost of ball copra is higher, believe 45 respondents. NAFED's procurement period should be extended to stabilise coconut prices, assert 44 respondents. Growers should not harvest the nuts prematurely since it lowers oil recovery, maintain 44 respondents. Copra manufacturing practices need to be improved, assert 43 respondents.

1.11.2 Growers

- Physical effort and fear factor lead fewer people to take up tree-climbing, say 90 respondents. Unfair MSP for ball copra is cited by 89 respondents. Forced to raise dwarf varieties owing to dearth of climbers, remind 87 respondents. Inadequate rains have led to higher incidence of pests and diseases, according to 82 respondents. Damage to copra resulting from poor storage and transport facilities is cited by 81 respondents. Effective mechanical climbing aids yet to be marketed, point out 78 respondents. Reduced productivity is cited by 74 respondents. Poor genetic makeup of coconut seeds / seedlings is cited by 73 respondents. Price instability triggered by rising competition from palm and soybean oils is cited by 71 respondents. Higher price has reduced the consumption of coconut oil, according to 57 respondents.
- Fair level of MSP for ball copra should be ensured since the production cost of ball copra is higher, assert 93 respondents. NAFED's storage capacity should be raised adequately to influence the market price of coconut, according to 89 respondents. NAFED's procurement period should be extended to stabilise coconut prices, argue 81 respondents.

1.12 CONCLUSIONS

Conclusions are inferences / generalisations drawn from the findings and relate to hypotheses. They are answers to the research questions or the statements of acceptance or rejection of hypotheses. As explained in a previous paragraph, this study proposes to test the following hypotheses:

1.12.1 Hypothesis Testing

The study proposes to test the following hypothesis: "Higher price has reduced the consumption of coconut oil"

Hence H_0 and H_1 are as follows:

H_0 : "Higher price has not reduced the consumption of coconut oil"

H_1 : "Higher price has reduced the consumption of coconut oil"

Based on the primary data collected from the respondents, vide Tables: 1 and 3, a chi-square test was applied to ascertain the association, if any, between the two variables. The following Table reveals the computation made using MS-Excel:

Table-5

| | | Observed Values | | |
|---|-------------------------|-----------------|----------|---------|
| | Category | Yes | No | Total |
| | Experts | 45 | 5 | 50 |
| | Growers | 57 | 43 | 100 |
| | Total | 102 | 48 | 150 |
| | | Expected Values | | |
| | Category | Yes | No | Total |
| | Experts | 34 | 16 | 50 |
| | Growers | 68 | 32 | 100 |
| | Total | 102 | 48 | 150 |
| | | Yes | No | |
| 2 | o-e | 11.0000 | -11.0000 | |
| | | -11.0000 | 11.0000 | |
| | (o-e) ² | 121.0000 | 121.0000 | |
| | | 121.0000 | 121.0000 | |
| | ((o-e) ²)/e | 3.5588 | 7.5625 | |
| | | 1.7794 | 3.7813 | |
| | CV | 5.3382 | 11.3438 | 16.6820 |
| | TV | | | 3.8415 |
| | P | | | 0.0022 |

Sources: Authors Compilation

The calculated value of χ^2 is 16.6820, higher than the table value of 3.8415 for an alpha of 0.05 at one degree of freedom. Hence the null hypothesis is rejected.

1.13 RESEARCHER'S RECOMMENDATIONS

The following are researcher's recommendations:

- Higher domestic prices do stifle the exports of coconut products. The high domestic prices come in the way of exports of coconut products and hence it is no surprise that exports of coconut products have been falling for the past couple of year. For example, until recently the country's copra prices were ruling at USD 1,350 per tonne, while the international prices ruled at USD 550. India is a global leader in production and productivity of copra. With the government support for copra, the chances of a declining trend in raw coconut prices is remote. However, it would not benefit the coconut industry if viewed through the prism of exports. The prices should remain ideally in the range of INR25-30 per kg to remain competitive in the exports market.
- Going by the time involved and the additional cost of production involved, it is only fair that the MSP concerning ball copra is suitably raised by the government. Ball copra is as important as milling copra for all stakeholders. The growers of ball copra are not lessor mortals. The Centre and the Commission for

Agricultural Costs and Prices (CACP) had better take a relook at the MSP concerning ball copra and come out with a fair MSP. They should ensure that such mistakes are not repeated in future.

- All stakeholders must admit that higher price has reduced the consumption of coconut oil. If the stakeholders join hands, it should not be difficult to price it competitively and thus drive up consumption volumes. The raise in consumption volumes should help the country reduce its import of edible oil and raise its export of coconut products.
- Reduced productivity has to do with many factors. Growers should not harvest the nuts prematurely. It will affect oil recovery from the nut. Growers raise dwarf varieties of the crop owing to dearth of climbers although in terms of productivity and production, they are not as remunerative as the traditional variety. Poor genetic makeup of coconut seeds / seedlings only aggravates the situation for the growers.
- With physical effort and the fear factor forcing individuals to stay away from tree-climbing, it is time the research bodies associated with the coconut industry designed effective and affordable mechanical climbing aids.
- Copra procurement by NAFED must be raised to impart stability to coconut prices. The procurement period should be extended too. Unfortunately, neither of them seems to be happening right now.
- Copra manufacturing processes need to be improved in line with the evolving technological innovations. It will improve oil recovery and minimise wastage. It will also add value to the output.
- Storage facilities and transport facilities should be state-of-the-art. Towards this end, the growers and the manufacturers should work relentlessly. After all, they are reaping better prices in the domestic market without having to go through the rigmarole associated with the export market practices / requirements.
- Rising competition from palm and soybean oils pose a threat to the coconut industry. But then, the relevant stakeholders, namely the growers and manufacturers, can always join hands to minimise the cost of the output by embracing state-of-the-art technological innovations. Once this is done, more of consumers will start to patronise coconut oil as they used to in the past.

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IMPACT OF DIGITAL MARKETING ON CONSUMER BEHAVIOR: A STUDY

Dr. P. Rajavardhan Reddy¹⁶

ABSTRACT

Digital marketing is an umbrella term for the marketing of products or services using digital technologies, mainly on the Internet, but also including mobile phones, display advertising, and any other digital medium". It has a wide spread application across sectors; however in the current context with proliferation digital and social media have gained enormous popularity and are integral parts of the decision making. Statistics reveal that we currently have over 350 million internet users in the country and about 80 % of the population is active through their smart phone devices. On the basis of user base and revenues for most global internet companies India is one of the largest markets. Taking consumers as sample the paper aims to study how digitalization can influence decision making among a certain Target group. The paper also aims to an attempt to reveal the factors influencing the online consumer's behavior

KEYWORDS

Decision, Consumer Buying Behavior, Digital Marketing, Digital Media etc.

INTRODUCTION

Digital marketing is one type of marketing being widely used to promote products or services and to reach consumers using digital channels. Digital marketing extends beyond internet marketing including channels that do not require the use of Internet. It includes mobile phones (both SMS and MMS), social media marketing, display advertising, search engine marketing and many other forms of digital media.

Through digital media, consumers can access information any time and any place where they want. With the presence of digital media, consumers do not just rely on what the company says about their brand but also they can follow what the media, friends, associations, peers, etc., are saying as well. Digital marketing is a broad term that refers to various promotional techniques deployed to reach customers via digital technologies. Digital marketing embodies an extensive selection of service, product and brand marketing tactics, which mainly use Internet as a core promotional medium in addition to mobile and traditional TV and radio. Canon iImage Gateway helps consumers share their digital photos with friends online. L'Oréal's brand Lancôme uses email newsletters to keep in touch with customers and hence tries to strengthen customer brand loyalty (Merisavo et al., 2004). Magazine publishers can activate and drive their customers into Internet with e-mails and SMS messages to improve re-subscription rate (Merisavo et al., 2004).

Indian consumers as a whole spend about 55% of the total consumption expenditure on food items. According to a survey conducted by ORG, the expenditure on non-food items has recorded large growth that the expenditure on food items. Consumers decide whether, what, when, from whom, where and how much to buy. They can avail various mediums to buy the products. However, currently we are living in the age of internet. According to a study, "About 44 percent students use Internet in India and overall 72% of young people access Internet on regular basis. Due to the vast usage of Internet, the buying patterns have been changed. It has changed the way goods are purchased and sold, resulting to the exponential growth in the number of digital shoppers. However, many differences concerning digital buying have been discovered due to the various consumers' characteristics and the types of provided products and services. Attitude toward digital shopping and goal to shop are not only affected by ease of use, usefulness, and enjoyment, but also by other factors like consumer individuality, situational factors, product distinctiveness, previous digital shopping understanding.

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Figure-1



Sources: Authors Compilation

Traditional marketing is the most recognizable form of marketing. Traditional marketing is non-digital way used to promote the product or services of business entity. On the other hand, digital marketing is the marketing of products or services using digital channels to reach consumers.

VARIOUS ELEMENTS OF DIGITAL MARKETING

There are various elements by which digital marketing is formed. All forms operate through electronic devices. The most important elements of digital marketing are given below:

Online Advertising

Online advertising is a very important part of digital marketing. It is also called internet advertising through which company can deliver the message about the products or services. Internet-based advertising provides the content and ads that best matches to consumer interests. Publishers put about their products or services on their websites so that consumers or users get free information. Advertisers should place more effective and relevant ads online. Through online advertising, company well controls its budget and it has full control on time.

Email Marketing

When message about the products or services is sent through email to the existing or potential consumer, it is defined as email marketing. Direct digital marketing is used to send ads, to build brand and customer loyalty, to build customer trust and to make brand awareness. Company can promote its products and services by using this element of digital marketing easily. It is relatively low cost comparing to advertising or other forms of media exposure. Company can bring complete attention of the customer by creating attractive mix of graphics, text and links on the products and services.

Social Media Marketing

Today, social media marketing is one of the most important digital marketing channels. A computer-based tool allows people to create, exchange ideas, information and pictures about the company’s product or services. According to Nielsen, internet users continue to spend more time with social media sites than any other type. Social media marketing networks include Face book, Twitter, LinkedIn and Google+. Through Face book, company can promote events concerning product and services, run promotions that comply with the Face book guidelines and explore new opportunities. Through Twitter, company can increase the awareness and visibility of their brand. It is the best tool for the promotion of company’s products and services. In LinkedIn, professionals write their profile and share information with others. Company can develop their profile in LinkedIn so that the professionals can view and can get more information about the company’s product and services. Google+ is also social media network that is more effective than other social media like Face book, Twitter. It is not only a simple social media network but also it is an authorship tool that links web-content directly with its owner.



Text Messaging

It is a way to send information about the products and services from cellular and smart phone devices. By using phone devices, company can send information in the form of text (SMS), pictures, video or audio (MMS). Marketing through cell phone, SMS (Short Message Service) became increasingly popular in the early 2000s in Europe and some parts of Asia. One can send order confirmations, shipping alerts using text message. Using SMS for campaigns get faster and more substantial results. Under this technique, companies can send marketing messages to their customers in real-time, any time and can be confident that the message will be seen. Company can create a questionnaire and obtain valuable customer feedback essential to develop their products or services in future.

Affiliate Marketing

Affiliate marketing is a type of performance-based marketing. In this type of marketing, a company rewards affiliates for each visitor or customer they bring by marketing efforts they create on behalf of company. Industry has four core players: the merchant (also known as “retailer” or “brand”), the network, the publisher (also known as “the affiliate”) and the customer. The market has grown in such complexity resulting in the emergence of a secondary tier of players including affiliate management agencies, super-affiliates and specialized third party vendors. There are two ways to approach affiliate marketing: Company can offer an affiliate program to others or it can sign up to be another business’s affiliate. If company wants to drive an affiliate program, then, the company owner has to pay affiliates a commission fee for every lead or sale they drive to company’s website. Company’s main goal here is to find affiliates who can reach untapped markets. For example, a company with an e-zine may become a good affiliate because its subscribers are hungry for resources. So, introducing one’s offer through “trusted” company can grab the attention of prospects which might not have otherwise reached.

Search Engine Optimization (SEO)

Search engine optimization (SEO) is the process of affecting the visibility of a website or a web page in receive from the search engine users. SEO may target different kinds of search including image search, local search, video search, academic search, news search and industry-specific vertical search engines.

Pay-Per-Click (PPC)

Pay-per-click marketing is a way of using search engine advertising to generate clicks to your website rather than “earning” those clicks organically. Pay per click is good for searchers and advertisers. It is the best way for company’s ads since it brings low cost and greater engagement with the products and services.

FEATURES OF DIGITAL MARKETING

- It is based on the notion of elastic time.
- It can be accessed from anywhere.
- One can assess numerous digital shopping stores at a time.
- Assessment can be made in real time.
- There is rider of alternate of product if it is not as per the requirement of the customer

Four New Digital Marketing Models

Booz & Company has identified four equally successful digital marketing models:

A company’s focal point for marketing venture may have fundamentals of each, but odds are that one of these models represents the right marketing organization for a company.

1. *Digital Branders* are the majority frequent consumer products companies or further marketers that center on structuring and renewing brand equity and concrete consumer commitment. These companies are changing



their venture from traditional linear advertising in the direction of more immersive digital multimedia way that can bond consumers to the brand in innovative conduct. They are rethinking on how they employ consumers with the main agenda of attracting new consumers to the brand and motivating loyalty through various encounters with the brand.

2. *Customer Experience Designers* use customer statistics and perception to generate a advanced uninterrupted brand familiarity for their customers. Characteristically, these companies (such as financial-services companies, airlines, hotels, and retailers) fabricate their business models focusing on customer service. By reworking how they interrelate with customers, these companies anticipate to craft a constant exchange of ideas and construct a loyal customer base.
3. *Demand Generators* (typically retailers) center of attention on driving online traffic and transferring a numerous sales as probable across channels to capitalize on marketing competence and produce their share of profits. All essentials of the digital marketing are customized to enhance sales and amplify reliability.
4. *Product Innovators* use digital marketing to facilitate the organization recognizes and grows, and generates proactive digital products and services. These companies utilize digital communications with consumers to gather information that can help profile the innovation.

CONSUMER BUYING BEHAVIOR

The consumers' buying behavior has been always a popular marketing topic, extensively studied and debated over the last decades while no contemporary marketing textbook is complete without a chapter dedicated to this subject. The predominant approach, explaining the fundamentals of consumer behavior, describes the consumer buying process as learning, information-processing and decision-making activity divided in several consequent steps:

- Problem Identification,
- Information Search,
- Alternatives Evaluation,
- Purchasing Decision,
- Post-Purchase Behavior.

Bettman, 1979; Dibb et al., 2001; Jobber, 2001; Boyd et al., 2002; Kotler, 2003; Brassington and Pettitt, 2003). A distinction is frequently made between high and low involvement purchasing, implying that in practice the actual buying activity can be less or more consistent with this model, depending on the buyer has perceived purchasing risks. High or low degree of involvement is also a question of buyer experience; products purchased for the first time, in general, require more involvement than frequently purchased products (Boyd et al., 2002).

Next to identifying the steps of the buying process and the potential role of marketing in each stage, marketers are eager to comprehend how purchasing choices and decisions are made, how consumers are likely to react to innovation and how to predict the outcome of the customer vendor interaction (Davis et al., 1989; Ajzen, 1991; Legris et al., 2003).

Most academics and practitioners agree that demographic, social, economic, cultural, psychological and other personal factors, largely beyond the control and influence of the marketer, have a major effect on consumer behavior and purchasing decisions (Harrell and Frazier, 1999; Czinkota et al., 2000; Czinkota and Kotabe; 2001; Dibb et al., 2001; Jobber, 2001; Boyd et al., 2002; Solomon and Stuart, 2003).

Despite their incapacity to exercise any substantial influence on the above factors, marketers can have some bearing on the outcome of the buying process by engaging different marketing tools, the most prominent being the 4Ps – product, price, place and promotion – also known as the marketing mix (Borden, 1964; McCarthy, 1964). While the value and current standing of the mix as a marketing toolkit is frequently disputed (Dixon and Blois, 1983; Groenroos, 1994; Gummesson, 1997; Goldsmith, 1999) marketing practitioners nonetheless widely deem the 4Ps as the tools that can influence the consumer's behavior and the final outcome of the buyer-seller interaction.

ONLINE BUYING BEHAVIOR

Understanding the mechanisms of virtual shopping and the behavior of the online consumer is a priority issue for practitioners competing in the fast expanding virtual marketplace. This topic is also increasingly drawing the attention of researchers. Indicative of this is the fact that more than 120 relevant academic papers were published in 2001 alone (Cheung et al., 2003). Given the continuous expansion of the Internet in terms of user numbers, transaction volumes and business penetration, this massive research endeavor is not surprising. More than 20 per cent of Internet users in several countries already buy products and services online (Taylor Nelson Sofres, 2002) while more than 50 per cent of US net users regularly buying online (Forrester Research, 2003). These developments are gradually transforming e-commerce into a mainstream business activity while at the same time online consumers are maturing and virtual vendors realize the importance and urgency for a professional and customer-oriented approach. Yet the Internet meltdown at the end of the 1990s and plenty of more recent anecdotal and empirical evidence indicate that many online firms still do not completely understand the needs and behavior of the online consumer (Lee, 2002) while many of them “. . . continue to struggle with how effectively to market and sell products online” (Joines et al., 2003, p. 93). As in the case of traditional marketing in the past, most of the recent research and debate is focused on the identification and analysis of factors that one way or another can influence or even shape the online consumer’s behavior; a good deal of research effort is focused on modeling the online buying and decision-making process (Miles et al., 2000; Liu and Arnett, 2000; Cockburn and McKenzie, 2001; Liao and Cheung, 2001; McKnight et al., 2002; Joines et al., 2003; O’Cass and Fenech, 2003). While many researchers do not see any fundamental differences between the traditional and online buying behavior, it is often argued that a new step has been added to the online buying process: the step of building trust or confidence (Lee, 2002; Liebermann and Stashevsky, 2002; McKnight et al., 2002; Suh and Han, 2002; Liang and Lai, 2002). An important contribution in classifying the increasingly growing number of research papers on the subject of the virtual customer’s behavior is the study of Cheung et al. (2003). The findings of their comprehensive literature review are summarized in a model depicting the main categories of factors affecting the online consumer. The study identifies two groups of uncontrollable factors – consumer characteristics and environmental influences – as well as three groups of controllable ones.

Figure-2: Factors Affecting the Online Consumer’s Behavior



Sources: Authors Compilation

METHODOLOGY OF THE STUDY

Methodology comes from systematic and theoretical analysis of the methods to evaluate suitability of one specific method to apply to a field of study. It typically encompasses concepts such as paradigm, theoretical model, phases and quantitative or qualitative techniques. This study is conducted based on both primary and secondary data sources.

Data Collection Methods

Both the primary and secondary data collection methods were considered. The primary data was collected through a questionnaire designed exclusively for the study. Secondary data was taken from Research papers, Journals, Magazines and Websites.

OBJECTIVES OF STUDY

The main objective of this paper is to identify the impact of digital marketing on the consumer behavior in the competitive market. The supportive objectives are following:

- To Examine whether income has an impact on the elements of digital marketing;
- To study whether gender plays a role on the effect of digital marketing on consumer behavior’
- To study the effects of education on the various forms of digital marketing and consumer’s opinion on digital marketing
- To identify the key factors that influences the impact of digital marketing on the customers.

DATA ANALYSIS

H₀₁: There is no significant association between gender and their opinions on prefer those brands advertised by digital marketing.

Table-1: Chi Square Values of Gender on Digital Marketing

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|---------------------|----|--------------------------|
| Pearson Chi-Square | 19.882 ^a | 4 | .001 |
| Likelihood Ratio | 19.631 | 4 | .001 |
| Linear-by-Linear Association | 4.111 | 1 | .043 |
| N of Valid Cases | 868 | | |

Note: a.0 cells (0.0%) have expected count less than 5.
 The minimum expected count is 15.31

Sources: Authors Compilation

From the above table chi square is significant (sig. value is < 0.05), reject null hypothesis. It means that there is a significant association between gender and their opinions on prefer those brands advertised by digital marketing. It means consumer opinion and preference of products highly advertised by digital marketing is not dependent on gender.
 H₀₂: There is no significant association between education and their opinions on online shopping.

Table-2: Chi Square Values of Education and Opinion on Online Shopping

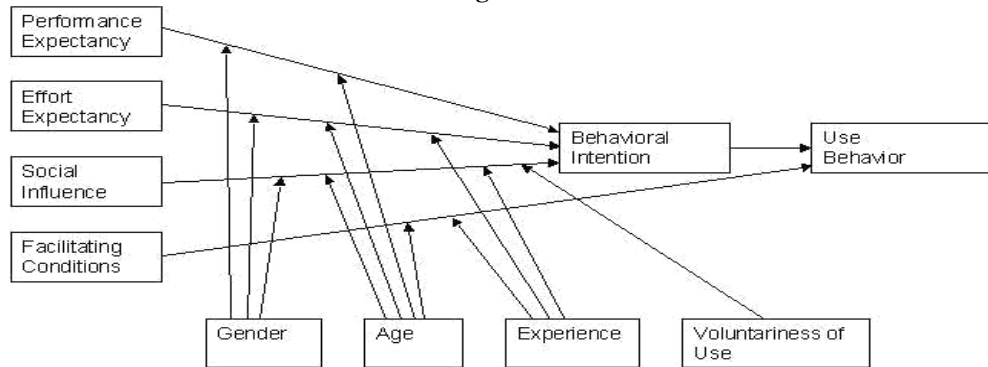
| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|---------------------|----|--------------------------|
| Pearson Chi-Square | 35.954 ^a | 12 | .000 |
| Likelihood Ratio | 36.119 | 12 | .000 |
| Linear-by-Linear Association | 1.827 | 1 | .177 |
| N of Valid Cases | 872 | | |

Note: a.0 cells (0.0%) have expected count less than 5.
 The minimum expected count is 3.85

Sources: Authors Compilation

From the above table chi square is significant (sig. value is < 0.05), reject null hypothesis. It means that there is a significant association between education and their opinions on the online shopping. It means opinions on online shopping are highly dependent on education.

Figure-3

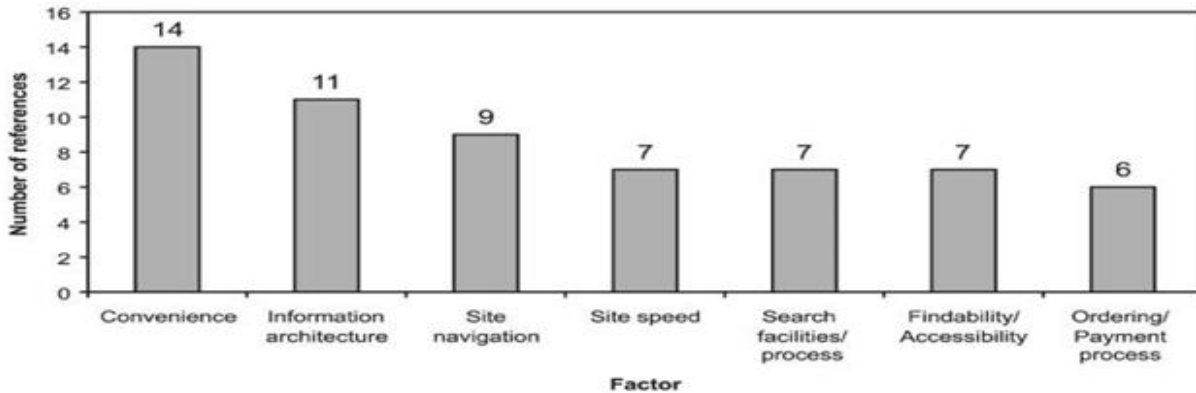


Sources: Authors Compilation

Factor Analysis is a data reduction technique. It also helps in structure detection among the variables and further helps in studying the underlying crucial factors that cause the maximum variation. Before we proceed for factor analysis first the researcher tested the eligibility of the data by checking KMO- Bartlett's test which is a measure of sampling adequacy. The KMO value is 0.826 > 0.5 (indicates meritorious).

Figure-4

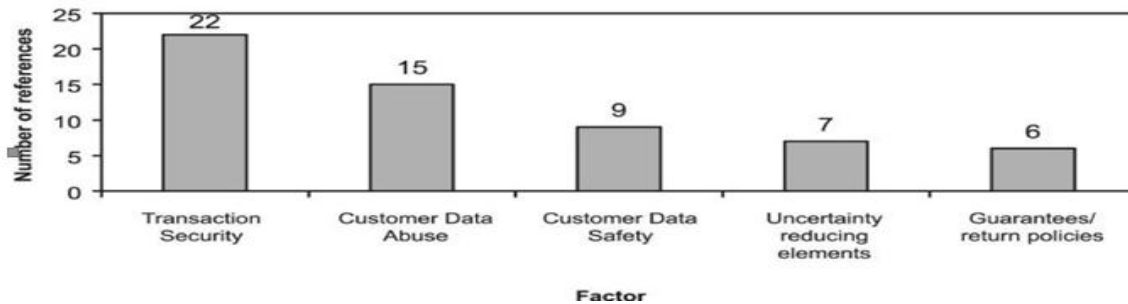
Functionality factors: a. Usability



Sources: Authors Compilation

Figure-5

Psychological factors: Online Trust



Sources: Authors Compilation

Figure-6

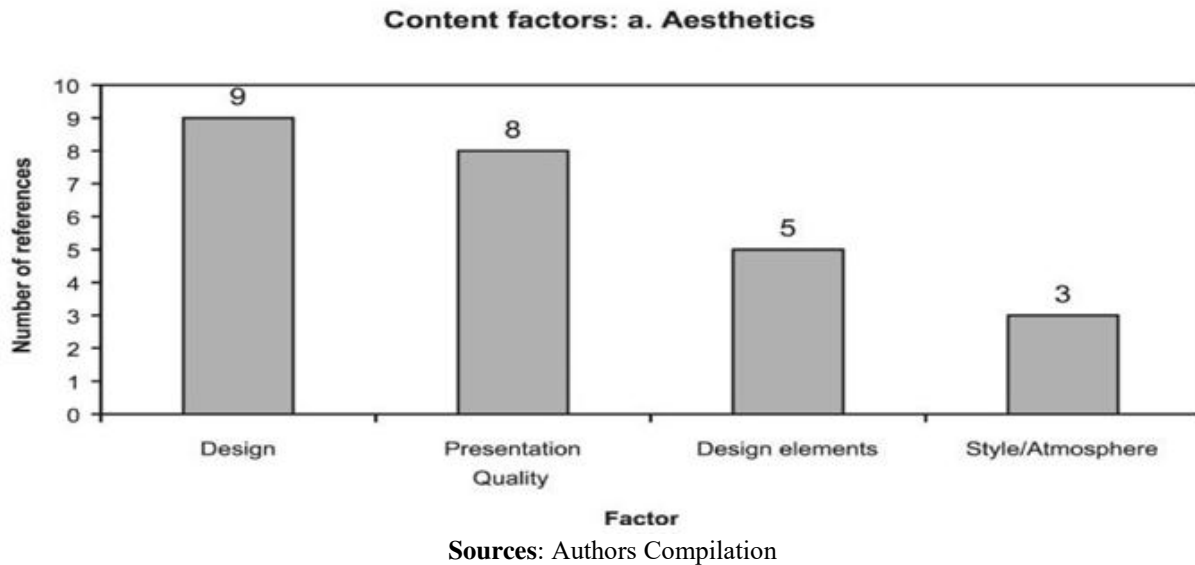
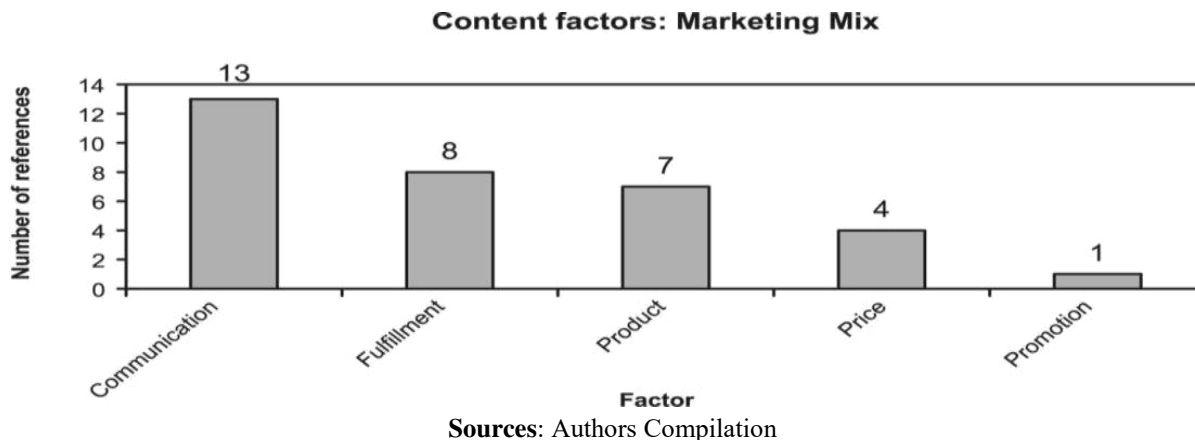


Figure-7



From the above analysis, it is clearly evident that the convenience in the usability and the aesthetics play a major role in influencing the consumer behavior. Companies, which use digital marketing tools, should focus on these factors to achieve success.

CONCLUSIONS AND IMPLICATIONS

Research on the buying behavior and the factors influencing the decision-making process of online consumers has revealed similarities as well as differences between them and the traditional customers. The uncontrollable factors (external and personal ones) affecting consumer behavior are similar for both types of consumers.

The tools however used by traditional and online marketers in order to influence the buying behavior of their customers are not quite the same. In the case of traditional consumers, the 4Ps of the marketing mix are considered as the main controllable tools influencing the buying behavior. Research indicates that in the case of the Web consumer a set of elements experienced during the virtual interaction are indeed the controllable factors affecting the online buyer.



The most significant fact revealed by this study is that there is not much significant difference in the shopping criteria between male and female customers. In other words, Indian (male and female) have almost common behavior in digital shopping.

With this information, e-retailers should not over emphasize, and rely on, the gender factor as a strategy in their efforts to attract customers.

Finally, digital marketers should realize that the nature of competition in the Indian digital sector is changing. The success and survival of individual player is therefore depends on the manager's ability to understand customer's needs and to find effective ways to satisfy these needs irrespective of their gender.

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IMPACT OF DIGITAL TECHNOLOGY ON BANK EMPLOYEE PERFORMANCE

Chandrashekar M. Mathapati¹⁷

ABSTRACT

Purpose: *The purpose of this study is to check the impact of digital technology on employee performance in banking sector.*

Methodology: *This paper was finalised with the help of extensive literature on technological advancement and employee performance available on the databases, books, journals and websites.*

Findings: *After analyzing the data very efficiently, found that technological advancement has significant impact on motivation and training of employees. Motivation has significant impact on employee performance but training has no significant impact on employee performance. Moreover as the concerned for technological advancement and employee performance, there is significant relationship among them. Research limitations / Implications: More research would be required on this theory "impact of digital technology on bank employee performance".*

KEYWORDS

Bank, Digital Technology, Employee Performance, Technological Advancement, Technology in Banking Sector etc.

I. INTRODUCTION

The new emerging technologies like internet of things, big data analytics, and robotic systems are posing challenges for the organizations to manage and deal with these technologies. There is going to be a change in the way the strategic capabilities and emerging trends will force the employees and the stakeholders to engage with each other. Further, for the modern organizations increasing market pressures and competition from the competitors make the organizational change an unavoidable and significant process.

The process of organizational change may also bring in an uncertain, anxious, stressful and resistant behavior in the minds of the employees. These factors decide whether the organization will be able to transform into a new structure or fail to sail through the troubled waters.

During the process of change management, the employees may develop positive or negative attitudes, beliefs and intentions depending upon their level of engagement. The development of employee attitudes towards behaviors such that they are receptive towards organizational change is a topic of debate amongst the practitioners and researchers on the development of employee attitudes. Along with this area the topic of employee readiness for organizational change has also been attracting many researchers to study the antecedents related on external organizational pressures, internal context enablers and personal characteristics.

The available literature identifies the dependency of the employees on themselves for maintaining, sustenance and accomplishment of successful organizational change. Hence, the literature suggests that for successful organizational change to take place the assessment of employee attitudes and behaviors is useful which can bring together dissimilar yet related circumstantial drivers. It is beneficial to conceptualize the employees' insights with attitudinal and behavioral aspects towards the organization. The employees' insights are believed to be based on numerous influencing factors that are both internal and external to the organization.

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Eby et al. (2000) recognize the role of employee attitudes and behaviors in managing the organizational change, Elias (2009). It is also reflected in the studies, that the nature of work change is also linked to the employee's behavior (Williams, 2001).

In the present study, we propose that the employee's expectations with respect to their employment situation generate variety and voluminous amount of organizational and non-organizational data, which may develop the employee attitudes, and behaviors that influence the organizational change. Although there are many studies that empirically analyses the employee readiness for organizational change (Cinite et al., 2009; Eby et al., 2000; Holt et al., 2007; Madsen et al., 2005; Rafferty et al., 2013), the empirical validations for the relationships between the employee attitudes and behaviors towards organizational change through job satisfaction is not explored much.

In the proposed study, we plan to investigate the changing relationships between the above mentioned factors in selected public sector banks in Indian context. There are many changes happening in the IT domain of the banks with new technologies being implemented at an increased pace.

2. ABOUT INDIAN BANKING SECTOR

As per the Reserve Bank of India (RBI), India's banking sector is sufficiently capitalized and well-regulated. The financial and economic conditions in the country are far superior to any other country in the world. Credit, market and liquidity risk studies suggest that Indian banks are generally resilient and have withstood the global downturn well. Indian banking industry has recently witnessed the roll-out of innovative banking models like payments and small finance banks. RBI's new measures may go a long way in helping the restructuring of the domestic banking industry. The digital payments system in India has evolved the most among 25 countries with India's Immediate Payment Service (IMPS) being the only system at level 5 in the Faster Payments Innovation Index (FPII).

The Indian banking system consists of 27 public sector banks, 26 private sector banks, 46 foreign banks, 56 regional rural banks, 1,574 urban cooperative banks and 93,913 rural cooperative banks, in addition to cooperative credit institutions. Public-sector banks control more than 70 per cent of the banking system assets, thereby leaving a comparatively smaller share for its private peers. Banks are also encouraging their customers to manage their finances using mobile phones.

2.1 Why Banks Selected for Studying Organizational Change?

Enhanced spending on infrastructure, speedy implementation of projects and continuation of reforms are expected to provide further impetus to growth. All these factors suggest that India's banking sector is also poised for robust growth, as the rapidly growing business would turn to banks for their credit needs. However, the Indian banking is grappling with challenges that test its strength and resilience. The advancements in technology have brought the mobile and internet banking services to the fore. The banking sector is laying greater emphasis on providing improved services to their clients and upgrading their technology infrastructure, in order to enhance the customer's overall experience as well as give banks a competitive edge.

It has often been said that the most important asset of any business is its employees. Indeed, people and the management of people are increasingly seen as key elements of competitive advantage (Allen, & Wright, 2007; Boxall, & Purell, 2003; Pfeffer, 1998). Unlike traditional views on competitive advantage which emphasized such barrier to entry as economies of scale, access to capital, and regulated competition, more recent views have highlighted an organization's strategic management of its human resources as a source of competitive advantage (Bamberger, & Meshoulam, 2002), which cannot easily be acquired or imitated. The importance of people management as a critical source of competitive advantage has been highlighted because of the increasingly competitive global marketplace facing organizations, and the ease with which other sources of competitive advantage such as technology, manufacturing processes, structure, and business strategy, can easily be acquired or imitated. Organizations are therefore seeking to understand how their human resources can be managed for sustainable competitive advantage (Dyer, & Reeves, 1995).

3.0 LITERATURE REVIEW

Alterations and modifications in the organizations structure, policy, strategy, approach and culture is required to be taken by the organizations as remedial actions for managing the change, which is inevitable because of the market and other unforeseen pressures. The organizational changes may be planned or unplanned and is related with the conversion or movement from one point to another (Barnett and Carroll, 1995; Conway and Monks, 2008; Raineri, 2011).

The human resources in the organizations are the medium through which the changes are implemented. The success of change implementation will depend upon to what extent the employees have altered their working practices (Chang, 1999; Elias, 2009; Porras and Roberstson, 1992; Raineri, 2011).

The organizations should be able to understand the capability of their human resources or else the change implementation projects may lead to failure. The literature views change with different perspectives. Few researchers view change from the perspective of change content, context, process and criteria issues relating to a macro-level system orientation (Armenakis and Bedeian, 1999) whereas, some of them like Choi and Ruona (2011) and Greenhalgh et al. (2004) focus on the micro-level perspectives of change due to the sensitivity approach because of failures and/or not able to meet the desired level of change. Porras and Robertson (1992) view change from the perspective of change in the individual organizational member's behavior.

As mentioned earlier the success of bringing in the organizational change is highly dependent on the human resources of the organization and therefore, it becomes mandatory for the organizations to consider employee readiness factors while implementing organizational change (Tetenbaum, 1998 and Cunningham et al., 2002). The readiness level of an employee is defined as “as a belief, intention, and attitude regarding the extent to which change is needed”. (Armenakis et al., 1993; Rafferty and Simons, 2006; Susanto, 2008).

The concept of employee readiness aims to classify the employees as supportive or being resistive towards the change. This concept focuses on the individual's behavioral aspects of change. In the past, the literature supports the fact that the employees adopt a supportive role. It is reported that there exists a supportive relationship of employee openness with job knowledge and skills, social relationships in the workplace, organizational culture, management leadership relationships and demographic variables (Hanpachern, Morgan, and Griego, 1998).

Further, it is reported in the literature that the workers who are more ready for the change are the people who have an active approach to solving job problems with higher job change self-efficacy (Cunningham et al., 2002). In addition, the active jobs that excels higher demands and provide greater decision-making scope also exhibits more readiness for organizational change. The other variables that have a significant impact on the employee readiness for change include; management and leadership relationships, job knowledge and skills, job demands, employee beliefs of self-efficacy, appropriateness, management support, and personal valence (Holt et al., 2007 and Miller et al., 2006).

A list of factors reflecting the human attitudes, intentions and beliefs are summarized from the literature and presented in table 1.

It is a known fact that “individuals bring prior orientations and experiences to their jobs that may affect their expectations of or predisposition to their work” (Metle, 2001) and therefore in our study we propose to focus on sets of expectation that can affect employee job satisfaction during change situations. Poor job satisfaction is considered to be one of the triggering factor for increased employee turnover and absenteeism (Abbas et al., 2014; Hartmann et al., 2014; Khowaja et al., 2005; Miller, Rutherford, and Kolodinsky's, 2008), procedural justice and on job training (Halepota and Shah, 2011; Shah, 2011) and intention to stay, organizational commitment and trust (Schreurs et al., 2015; Sourdif, 2004; Top et al., 2015) and therefore needs more attention by the practitioners. The individual employee attitude towards the job is an outcome of their level of job satisfaction (Alegre et al., 2016; Oliver, 1990; Randall et al., 1999; Spector, 1997) the quality of life and overall happiness may be impacted (Frey and Stutzer, 2010).

Table-1: Factors Reflecting the Human Attitudes, Intentions and Beliefs

| Category | Factor(s) | Author(s) |
|----------------------|---|--|
| Workplace Factors | Active and Passive Job | Cunningham et al. (2002), Miller et al. (2006) |
| | Appropriateness | Armenakis and Harris (2002), Holt et al. (2007), Weber and Weber (2001) |
| | Change Efficacy | Armenakis and Harris (2002), Holt et al. (2007), Lehman et al. (2002) |
| | Communication | Armenakis and Fredenberger (1997), Holt et al. (2007), Wanberg and Banas (2000) |
| | Decision Latitude | Cunningham et al. (2002) |
| | Discrepancy | Armenakis and Harris (2002), Armenakis et al. (1993) |
| | Flexible Policies and Procedures | Eby et al. (2000), Rafferty and Simons (2006) |
| | Job Demands | Cunningham et al. (2002), Hanpachern et al. (1998), Miller et al. (2006) |
| | Job Knowledge and Skills | Cunningham et al. (2002), Hanpachern et al. (1998), Miller et al. (2006) |
| | Logistic and System Support | Eby et al. (2000), Chung, Du, and Choi (2013), Rafferty and Simons (2006) |
| | Management and Leadership Relationships | Hanpachern et al. (1998), Miller et al. (2006) |
| | Organizational Commitment | Drzensky et al., (2012), Elias (2009), Fuchs and Edwards (2012), Madsen et al. (2005) |
| | Organizational Culture | Hanpachern et al. (1998), Lehman et al. (2002), McNabb and Sepic (1995) |
| | Perceived Organizational Support | Eby et al. (2000), Holt et al. (2007), Rafferty and Simons (2006) |
| | Personal Valence | Armenakis and Harris (2002), Holt et al. (2007) |
| | Social Relations in the Workplace | Hanpachern et al. (1998), Madsen et al. (2005) |
| | Social Support | Cunningham et al. (2002), Madsen (2003), Wanberg and Banas (2000) |
| | Individual Factors | Wellness |
| Justice | | Fuchs and Edwards (2012) |
| Adaptability | | Lehman et al. (2002) |
| Autonomy | | Weber and Weber (2001) |
| Beliefs | | Peach et al. (2005) |
| Demography | | Hanpachern et al. (1998), Holt et al. (2007), Madsen et al. (2005), Wanberg and Banas (2000), Weber and Weber (2001) |
| Depression | | Cunningham et al. (2002) |
| Emotional Exhaustion | | Holt et al. (2007) |
| General Attitude | | Katsaros and Tsirikas, and Bani (2014) |
| Job Related Attitude | | Katsaros and Tsirikas, and Bani (2014) |
| Intention to Quit | | Wanberg and Banas (2000) |
| Self-Efficacy | | Armenakis and Bedeian (1999), Cunningham et al. (2002), Eby et al. (2000), Lehman et al. (2002), Rafferty and Simons (2006), Wanberg and Banas (2000) |
| Job Satisfaction | | Abbas et al. (2014), Rayton and Yalabik (2014), Wanberg and Banas (2000) |
| Participation | | Armenakis and Fredenberger (1997), Cunningham et al. (2002), Eby et al. (2000), Rafferty and Simons (2006), Wanberg and Banas (2000), Weber and Weber (2001) |
| Personal Resilience | Holt et al. (2007) | |

| Category | Factor(s) | Author(s) |
|----------|--|---|
| | Rebelliousness | Eby et al. (2000) |
| | Skills Variety | Weber and Weber (2001) |
| | Supervisory Support | Eby et al. (2000) |
| | Teamwork | Eby et al. (2000), Rafferty and Simons (2006), Weber and Weber (2001) |
| | Trust (in Peers; Management; Senior Leaders) | Wanberg and Banas (2000) |
| | Turnover | Wanberg and Banas (2000) |
| | Work Irritation | Elias (2009) |
| | Affective Commitment | Elias (2009) |
| | Personality | Caldwell and Liu (2011) |
| | Training | Halepota and Shah (2011) |

Based on the above discussions we may posit that the employees' positive attitudes and feelings towards their job lead to acceptance of organizational change (Oliver, 1990; Mullins, 1999; Randall et al., 1999). Further, the employee job satisfaction is related to employee sense of attachment to the organization's actions (Oliver, 1990) that includes the salary/wages, rewards, tenure, promotion or any other financial benefits.

4.0 TRAINING AND EMPLOYEE PERFORMANCE

Training helps to overcome gaps between employees and senior level management. It enables employee to participate in decision-making and provide active output in decision-making. Employee coordination with peer, subordinates and with its senior officers increases after training. These types of steps create better image in front of those think tanks who are working for value maximization of organization. Most important for the organization employee performance increases after training. Organizations, which are working around the globe. These organizations are more concerned about their employees. These type of organizations launch different type of training programs for value creation into their employees. Global organizations train their employees in aspect of working field. Training not only develop employees mental ability but also after training employees can take benefit physically such as active participation in decision making can release it mental disturbance (Farooq & Khan, 2011).

Employees performance is also relate with commitment of employees with organization. High commitment leads to high performance and low commitment leads toward low commitment. Therefore, in simple when employees are so committed with organization we will determine from that employee's performance is good. Training improves employee's commitment with organization. Commitment can be defined as employees work for organization for long period. Training improves skills of employees that thing insist organization to improve benefits and pay of employees. Scholars and researchers accept that training increase commitment of employees with organization but training produce desired out comes only in that situation when employees also accept that training program. It means that training is effective only in that when from both sides cooperation occurred. Employees enter in training program with lot of expectations when these expectations are not fulfilled; it comes in result of employee's low commitment and high turnover. Because in case of low commitment whenever they got opportunity, they will prefer to leave organization (BRUM, 2007).

Training has bigger impact on the performance of employees but training is not only single factor which effect the performance of employees other factors are also here which effect performance of employees. Other factors are employee skills, employee knowledge, motivation and reward. Trained employees are more efficient in-group work because they are well known about the expectation of other workers. Employees who take regular training programs are easily accepting changes in organization. Whenever organization launch innovative programs they resistance from those employees who do not attend regular training programs. Trained employees help organization to reduce training cost of other employees. Because when one employee is full trained, he will be capable to train other untrained employees in the organization. Training helps the employees to achieve different task of the organization and vice versa. Training is systematic approach of behaviours that enables employees to change their behaviours according to the norms and values of the organization (Jagero & Komba, 2012).



Training is used to fill gap between current performance and desired performance after training. Training can be given through different methods such as coaching and mentoring, cooperation between peers. These team works encourage employees to work more for organization. Training is not only useful for employees but it also valuable for organization. It develops competitive edge for organization in the market. Training develops in the employee's self-efficacy, which is helpful for superior performance (Elnaga & Imran, 2013).

5.0 CONCLUSION

The major contribution of this study is identifying the effects and interrelationships among the impact of technological innovation, satisfaction level of technological innovation, and employee productivity. Academically, this contributes to the ongoing debate of sources of sustainable competitive advantage relative to the effects of specific resources in an industry.

For practitioners, this could be beneficial to managers of banking institutions. These managers are provided with more reliable and actionable insights to focus on and delve more deeply into innovation strategies to embark on innovation activities that would improve the competence, operational efficiency, and productivity of their employees. This in turn could result in service offering responsiveness and customer satisfaction.

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