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VIVEKANANDHA COLLEGE OF ARTS AND SCIENCE FOR WOMEN (AUTONOMOUS)
TIRUCHENGODE – 637 205, NAMAKKAL Dt., TAMIL NADU, INDIA

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THE ROLE OF ETHICS IN MEDIA AND DEMOCRACY

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Abstract

Democracy is a government of the people, for the people and by the people and which gives equal chance to all the citizens to participate and play a significant role in the political process, ensures and guarantees certain rights and freedoms to the people constituting the policy. It is a form of government which is subject to popular sovereignty. Of the fundamental freedoms that the citizens enjoy, freedom of speech and expression is one of the most important ones as it gives substance and meaning to participation of the people. A democratic system to run in its full potential need wide participation on the part of general masses which is impossible without the people being informed about the various issues. Thus reliable information sources form an important constituent of a democratic society. This is where the role and importance of media arises. The media have tremendous power to influence our nation’s political discourse, and a free and open media is essential to a healthy democracy. The media has undoubtedly evolved and become more active over the years. Mass media have great influence on human life in the present century. They have provided information and entertainment to people across countries. The objective of this paper is to study the Role of Ethics in Media and Democracy.

Keywords: Democracy, Media, Fundamental freedom, Democratic society,

Introduction

Media ethics is the subdivision of applied ethics dealing with the specific ethical principles and standards of media, including broadcast media, film, theatre, the arts, print media and the internet. The field covers many varied and highly controversial topics, ranging from war journalism to Benetton advertising. Print media was been the leader of mass media over a considerable period of time. But now it has got competition from Television, which is reshaping many of the social responses. So Common Cause works on multiple fronts for media reforms that include a free, open and accessible Internet for all, slowing media consolidation and transparency. Radio apart from providing news and views has also developed a flair for entertainment, thereby getting a lot of acceptance. There is also the new media with internet being its flag bearer. Internet has indeed made it possible to disseminate information and ideas in real time across the globe.

Media and Democracy

In democratic countries, a special relationship exists between media and government. Although the freedom of the media may be constitutionally enshrined and have precise legal definition and enforcement, the exercise of that freedom by individual journalists is a matter of personal choice and ethics. Modern democratic government subsists in representation of millions by hundreds. For the representatives to do accountable and for the process of government to be transparent, effective communication paths must exist to their constituents. Today these paths consist primarily of the mass media, to the extent that if press freedom disappeared, so would most political accountability. In this area, media ethics merges with issues of civil rights and politics. Issues include:

- Subversion of media independence by financial interests.
- Government monitoring of media for intelligence gathering against its own people.
The Ethics of Media and Democracy

Since freedom of information for proprietors, publishers and journalists in the mass media is not unlimited, it is necessary to safeguard its rights but also demand its duties, thus making freedom and responsibility compatible. The Council of Europe points out that proprietors, publishers and journalists have a duty to consider information not as merchandise but as a fundamental citizen’s right – that is to say, that citizens can demand truthful, information and ethical opinions. Being exposed to pressure from both public authorities and influential companies, journalists need special protection. The mass media has a decisive role in the development of democracy and public opinion. However, it must not usurp the proper functions of the public authorities nor pretend to represent public opinion because that would be an attempt to act like public authorities yet without having either the representation or the necessary democratic controls.

Within this context, it is indispensable that the media recognize their fundamental role in strengthening freedom of expression, of the press and democratic values. The dangers of inaction are evident and starting to emerge. A case in point is a 2008 legislative initiative by which only journalism degree graduates or members of the non-mandatory collegiate body Colegio de Periodistas could work as journalists, which was being reviewed by a congressional sub commission. Again, polls continue to register a significant percentage of citizens that favour the implementation of state controlled regulatory mechanisms for the media. It follows that it is necessary that the media work towards promoting self-regulatory mechanisms to enhance ethics and good journalism practices within the framework of freedom of the press, of expression and of citizen’s right to be informed. The ethical issues relating to press includes transparency, ethics and press coverage of corruption, social responsibility.

Ethics of Journalism

The ethics of journalism is one of the most well-defined branches of media ethics, primarily because it is frequently taught in schools of journalism. Journalistic ethics tends to dominate media ethics, sometimes almost to the exclusion of other areas. Topics covered by journalism ethics include:

**News manipulation:** News can manipulate and be manipulated. Governments and corporations may attempt to manipulate news media; governments, for example, by censorship, and corporations by share ownership. The methods of manipulation are subtle and many. Manipulation may not be aware of this.

**Truth:** Truth may conflict with many other values. They are:
- Public interest
- Privacy
- Fantasy
- Taste
- Conflict with the law

Ethics of Entertainment Media

Issues in the ethics of entertainment media include:

The depiction of violence and sex, and the presence of strong language. Ethical guidelines and legislation in this area are common and many media (e.g. film, computer games) are subject to ratings systems and supervision by agencies. An extensive guide to international systems of enforcement can be found under motion picture rating system.
Product placement: An increasingly common marketing tactic is the placement of products in entertainment media. The producers of such media may be paid high sums to display branded products. The practice is controversial and largely unregulated.

Stereotypes: Both advertising and entertainment media make heavy use of stereotypes. Stereotypes may negatively affect people’s perceptions of themselves or promote socially undesirable behavior. The stereotypical portrayals of men, affluence and ethnic groups are examples of major areas of debate.

Areas of media ethic: Issues of moral principles and values as applied to the conduct, roles and content of the mass media, in particular journalistic ethics and advertising ethics; also the field of study concerned with this topic. In relation to new coverage it includes issues such as impartiality, objectivity, balance, bias, privacy, and the public interest. More generally, it also includes stereotyping, taste and decency, obscenity, freedom of speech, advertising practices such as product placement, and legal issues such as defamation. On an institutional level it includes debates over media ownership and control, commercialization, accountability, the relation of the media to the political system, issues arising from regulation and deregulation.

Rules of ethics governing media

Rules of conduct

- The accepted regulations governing the agency business in any country should be strictly observed, by every agent doing business in that country.
- The purchaser of advertising in any publication or other media is entitled to know the number, general character and distribution of the persons likely to be reached by his advertisements and to receive genuine cooperation in this respect from media.
- A clear and full statement of the rates and discounts applicable to various clarifications of advertising should be published by every medium and adhered to.

Code of conduct of Doordarshan Advertising

Advertising shall be designed as to conform to the laws of the country and should not offend morality, decency and religious susceptibilities of the people. In its depiction of women violates constitutional guarantee of all citizens such as equality of status and opportunity and dignity of the individual. In particular, no advertisement shall be permitted which projects a derogatory image of women. Women must not be portrayed in a manner that emphasizes passive, submissive qualities and encourages them to play a subordinate secondary role in the family and society. The portrayal of men and women should not encourage mutual disrespect. Advertiser should portrayed women with well established norms of respect and decency.

Role of Media in Democracy

Media usually refers to mass media, which is any medium that provides citizens with information regarding all the current affairs of any area at a large scale. It is unbiased reporting of facts through print, television, radio or internet.

Traditionally and constitutionally, the media has no defined role in governance. It doesn't have the power to change any decisions made by the various arms of a state – the legislature, executive and the judiciary. Yet the media plays one of the most important roles in the functioning of any society. It amplifies the voice of citizens and communicates their opinions to the lawmakers.
Access to information is essential for a democratic society because it ensures that citizens make responsible, informed choices rather than acting out of ignorance or misinformation and information also serves a checking function. It is well known that media overlaps other functional areas of democracy and governance. For example, support for media may yield results in governance activities, particularly those related to decentralization, anti-corruption, and citizen participation in the policy process. The rule of law may be further institutionalized by support for an independent media that keeps a check on the judiciary, reports on the courts, and promotes a legal enabling environment suitable for press freedom. Free and fair elections conducted through transparent processes require a media sector which gives candidates equal access, and reports the relevant issues in a timely, objective manner.

If media is to have meaningful role in democracy and governance it must be free and independent from the control of government. The ultimate goal of media is to serve the public interest. The public interest is defined as representing a plurality of voices both through a greater number of outlets and through the diversity of views and voices reflected within one outlet.

Television and radio have made a significant achievement in educating rural illiterate masses in making them aware of all the events in their language. Coverage of exploitative malpractices of village heads and moneylenders has helped in taking stringent actions against them by attracting government attention. The media also exposes loopholes in the democratic system, which ultimately helps government in filling the vacuums of loopholes and making a system more accountable, responsive and citizen-friendly. A democracy without media is like a vehicle without wheels. The media plays the role of communicator in democracy. They make people aware and conscious of their state of affairs by providing them with in depth insight on important issues concerning people. Though freedom of press is essential and indispensable for the successful functioning of the Indian democracy, it is very of silenced by the executive, gagged by the legislature, suppressed by judiciary, repressed and muzzled by the press groups.

Factors that Influence Ethical Decision-Making of Media

In mass media, which it comes to ethics, many different factors can influence the media worker and thus the final product. Some ethical scholars believe the individual producer of the media’s own values, for the most part, influences their decisions on what to print or broadcast. However, some, although agreeing with that approach, take it a step further in that they believe economic, political, and social factors influence media to a much more powerful degree.

David Gordon argues that although individual ethics do play a role in the media product, economic, political, and social factors influence media workers to a much more powerful level. This is especially true when working for a big media corporation or conglomerate. This concept is especially evident in television and movies. Most people think that violence is wrong or at least there is too much of it on TV. However, violence gets high ratings so in order to make money, killing people on TV. People are also influenced by other people and their work environment. The small town paper might be hesitant to reveal that the doctor uses questionable tactics because of the powerful position the doctor holds in that town.

Media and Paid News

Ethics in the media touched the nadir with the advent of paid news during the last general elections. Paid news means money is paid to the representatives of media houses by the candidates of different
parties contesting in elections for a favourable coverage. The media houses put on offer ‘coverage packages’ for prospective candidates including interviews, list of ‘achievements’ and profiles. Media suffered from a loss of credibility in its readership because of the disturbing trend. The paid news published in the columns in its readership because of the disturbing trend. The paid news published in the columns meant for news misleads the readers. Flooded with complaints, the Press Council of India (PCI), the official agency meant to regulate the media, mulls over the disturbing trend.

Advertising and Lifestyles

Finance has become globalised and the economies desperately require markets and consumers to flourish across the globe, creating a situation where the fittest can only survive. In the process, the globalization is integrating not just trade and financial markets but also the consumer markets. It has become an imperative for the advertising to finding suitable markets and consumer segments for the global economies. Before doing so, it needs to create conducive cultures and environments to accomplish the task by making use of whatever the media within its reach. For instance, if a multi-national company manufacturing T-shirts is to be cultivated in the respective countries initially for which the advertising needs to act as a vehicle with the help of the media. The advertising, in the process, seeks to transform cultures, lifestyles, dress styles and even food habits into homogeneous entities all over the world in collaboration with the media, bringing the identity of certain social, cultural and ethnic groups under serious threat. The sustained ad campaigns in the media may influence the poor and vulnerable groups in favour of buying certain kinds of consumer goods which are not essential for them and may finally result in acculturation (a process in which one cultural group adopt the beliefs and behaviors of another group).

As the film celebrities in the TV commercials are giving an impression that they are slim and glamorous only because of the use of particular brands of cosmetics, the gullible adivasi women keep spending most of their hard-earned money on the expensive cosmetics in their bid to look glamorous. Such advertisements sponsored by advertisers and telecast/published by the media needs to be checked and the vulnerable groups be saved from the harmful effects of such commercials. The Advertising Standards Council of India (ASCI) is expected to do a lot in this particular issue.

Ethics in Media – Certain Constraints

The issue of ethics in advertising and media houses becomes complex at a time when local and national boundaries are breaking and the whole world reducing itself to be a global village. New media such as internet, digital media and mobile phones have come to play a pivotal role in the communication field in the post-globalization period in addition to the traditional media – the print (newspapers, journals, publications etc) and the electronic media (television).

Ethics vary from country to country. For instance, smoking and liquor consumption is part of life in the western lifestyles irrespective of the gender. It is however considered unethical in certain societies like India. In the digital and internet media, only advertisements are visible while their sponsors and the hosts tend to remain untracked and invisible in most of the cases. The biggest challenge is to bring the guilty to book in such cases and constitution of an authority on the lines of Interpol is need of the hour to check the cyber misdeeds.
The above table shows the Top 10 Social Media Websites. The social media website users increased day by day. It can clearly observed that the percentage of Facebook and YouTube users are more comparing to other type of social media websites. 63.04% users used Facebook and 20.28% users used YouTube as per worldwide analysis. When comparing to Facebook and YouTube, very low percentage of users uses other types of social media websites.

**Conclusion**

The role of media in India, the largest democracy of the world is different from merely disseminating information and entertainment. Educating the masses for their social upliftment needs to be in its ambit as well. In a country where there is large scale poverty, unemployment and underdevelopment media has a responsibility towards developmental journalism. It has a role to play behind formation of public opinion which can force the political parties to address the core issues haunting the country’s progress. It is thus referred as fourth pillar of democracy. However, public opinion can be manipulated by vested interests to serve their own goals.

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PASSENGERS’ LEVEL OF TRUST ON CYBER BUS TICKET BOOKING SERVICES – A STUDY IN ERODE CITY

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Abstract
Travel and tourism is one of the world's largest and fastest growing industries. As a young country, India is in the midst of the process of developing and expanding its travel industry. Digitization in every industry has laid a new foundation in the consumer market. On one end, the company's exposure to a larger audience has increased; while on the other, the challenge to retain the customers has also enlarged. Travel industry has also widened its horizon from being an offline industry to entering this virtual world. Since the new century, the Internet-based electronic commerce has evolved considerably. Selling through the Internet is becoming a trend for most service providers. Consumers can conduct travel information searching and travel service booking online. Online travel service reservation has constituted one of the largest and fastest growing segments of e-commerce in B2C arena. Online/cyber travel agents provide a point of contact for customers through the World Wide Web to facilitate customers in searching for appropriate travel planning, which is then booked and ticketed by the online travel agent. The modern passenger is looking for interactive facilities, high-quality travel services, a variety of information on products and appropriate information to assist them in decision making. The cyber agents facilitates for easy online bus ticket booking through their websites by gaining confidence of the passengers. In this context, the present study focuses on the level of trust of passengers towards the cyber bus ticket booking services offered by the service providers in Erode City. The findings of the study concluded that majority of the passengers have medium level of trust on the services and it mainly depends on the awareness about various websites offering the services.

Keywords: Online booking, Passengers, Service and Trust.

Introduction
Electronic commerce provides immense opportunities for companies in expanding interface options with customers. It increases customers’ purchasing and transaction benefits. The customers' purchase intention towards online shopping is dependent on their acceptance of the Internet as a delivery channel. While evaluating the online services, customers access the service in terms of its performance and outcome. The convenience and product characteristics play a critical role in customers’ online purchase behaviour. Winning customer loyalty and orders entails integration of marketing and operational aspects. The Internet, as a universal and interactive communication means, has resulted in great changes of customer’s behavior and attitude. The Internet has become a new intermediary in travel industry and the traditional travel agencies or tour operators are threatened to be replaced by the Internet. Travel and tourism industry is assumed to experience disintermediation on a large scale because of e-commerce. On customer perspective, online travel service delivery offers them more benefits compared to traditional offline channels. Convenience, time saving and cheaper price are the most common motivations for customers to book travel service online. Customers can search travel information online easily, including travel information, price information and so on. Online channels dramatically reduce customer's searching effort on travel information, including both searching time and searching costs. In addition, online channels offer customers with more information.
to support their decision based on their comparison of different travel products and prices. All these activities, including travel information searching, travel service booking, payment and service delivery, can be conducted online by customers without face-to-face meeting, and customized service according to their demand can be possible. The Internet is a medium to provide online access to travel industry consumers at worldwide destinations.

**Statement of the Problem**

The rapid development in consumers’ online access and usage for travel is being reflected by the status of online communication and sales activities within the travel industries. The use of the Internet for travel services is led by the belief that the benefits arise from the potential of making information readily available to customers and expanding communication with them. The Internet thus provides opportunities by which relationships with customers can be developed. Online/cyber travel agents provide a point of contact for customers through the World Wide Web to facilitate customers in searching for appropriate travel planning, which is then booked and ticketed by the online travel agent. The modern traveller is looking for interactive facilities, high-quality travel services, a variety of information on products and appropriate information to assist them in decision making. The cyber agents facilitates for easy online bus ticket booking through their websites. By considering all these aspects, the present study is an attempt to find answers to the following questions:

- What is the passengers’ preference for websites towards cyber bus ticket booking? and
- What are the factors responsible for building trust among passengers in cyber bus ticket booking and do they agree for it?

**Review of Previous Studies**

A review of some of the previous studies in the field of the present study is summarized below: Sara Dolnicar and Christian Laesser (2007) found that the use of travel agencies is indeed associated with specific services related to package holidays, transport services, beach or city holidays as well as the destinations which travellers are not familiar with. Ainin Sulaiman et al. (2008) identified e-ticketing trends among communities in Kuala Lumpur and focused on the customers’ perspectives towards e-ticketing in terms of its usefulness, reliability, security, convenience and efficiency. The study found that nearly 50% of the respondents were purchasing tickets online and purchase of online airline tickets dominated. Hongxiu Li and Reima Suomi (2008) explored the Chinese consumers’ current usage of the internet as the channel to search travel information and book tickets. It was found that online travel service delivery had grown as a popular direct distribution channel but more of the customers still turned to traditional travel agencies. Daniela Tatiana (2011) conducted a study to identify the perceptions of the managers of traditional travel agencies in Romania with respect to the expansion of competition as far as online bookings and their effect on their customers’ loyalty. It was found that despite of the increase by 10% of the use of internet each year, the customers remained loyal to their agent. Farhad Mohammadi et al. (2011) studied the use of mobile commerce in booking air ticket. The survey was conducted with Malaysian airline passengers who were travelling through a travel agency. The statistical tools namely t-test and f-test were used for analysis. It was found that there were different kinds of benefits that can influence consumers to adopt mobile commerce and their acceptance was based on particular needs. Neha Jindal (2012) focused on e-service quality dimensions in the internet market with an empirical study on online travel service. The findings of the study revealed that website functionality and information quality were the two most critical factors in evaluating e-travel
service quality. It was suggested that offering true and accurate information on the website might be the first strategy to help online travel companies to build up good image in customers’ mind and the accurate service delivery might help to improve the confidence of customers. Ogaga Udjo et al. (2013) analyzed the channels used for booking tickets by the respondents in South Africa. Further, they also considered optimum time and search cost when purchasing tickets. It was suggested that the managers must capitalize by ensuring airline websites are easily navigable and quick to produce options when consecutive search queries are entered. Oloyede et al. (2014) analysed the need for online bus ticket reservation system for a transportation service in Nigeria. They found that online bus ticket reservation system is inevitable in today’s information world. It was concluded that now-a-days, bus agencies are taking important role in transportation, and to make reservation reliable they need a strong system that they will make reservation easier, faster and safer.

Objectives of the Study

- To analyze the preference of passengers towards websites in cyber bus ticket booking.
- To examine the factors responsible for building trust in cyber bus ticket booking.

Research Methodology

The study is based on survey method. The Convenience Sampling Technique has been adopted in selecting the respondents for the study. Accordingly, 200 respondents using the services of cyber bus ticket booking in Erode City have been interviewed and the data were collected for the study. The study makes use of both primary and secondary data. Required primary data have been collected in the course of interview with the passengers booking bus ticket online through survey method with a pre-tested and well structured Interview Schedule. The data has been collected for over a period of 4 months from July 2017 to October 2017.

Findings of the Study

Preference for Websites for Cyber Bus Ticket Booking

There are many websites available on cyber space for bus ticket booking namely redbus.in, makemytrip.com, abhibus.com, goibibo.com, ticketgoose.com, cleartrip.com, travelyaari.com, mybustickets.com, buspapa.com and etravelsmart.com. A comprehensive interview schedule is given to 200 respondents in order to know their awareness on websites available for cyber bus ticket booking. Among them, only 108 respondents are aware of the various websites for cyber bus ticket booking. Hence, 108 respondents were asked to rank their preference for websites to book bus tickets online by assigning rank 1 to the most preferred website, rank 2 to the next and so on upto rank 10 to the least preferred website. These ranks are then assigned weights as 10 for 1st rank, 9 for 2nd rank and so on up to 1 for 10th rank. It is then analyzed by using Weighted Average Ranking Technique to know the website which is preferred mostly by the respondents. The ranking of the preference for websites for cyber bus ticket booking is shown in Table 1.

<table>
<thead>
<tr>
<th>Weighted Score</th>
<th>Rank</th>
<th>Website</th>
<th>Total Score ((\Sigma wx))</th>
<th>Weighted Score Points ((\Sigma wx)/\Sigma w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted Score Points ((W))</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>x</td>
<td>f_x</td>
<td>12</td>
<td>189</td>
<td>23</td>
</tr>
</tbody>
</table>

Table 1 Preference for Websites for Cyber Bus Ticket Booking: Weighted Average Ranking
Level of Agreement on Trust Building Factors of Cyber Bus Ticket Booking

Rensis Likert’s method of summated rating is applied to find out the aggregate agreement of the respondents. A list of statements is considered for the study. The sample respondents are asked to indicate their level of agreement using 5 point rating scale ranging from strongly agree to strongly disagree. A rating of 5 indicates that the respondent strongly agrees, a rating of 4 shows that the respondent agrees, a rating of 3 shows that the agreement of the respondent is neutral, 2 shows the disagree position of the respondent and 1 shows that the respondent strongly disagrees.

The Table 1 reveals that out of the various websites, redbus.in is given first rank with a weighted average score of 14.85 and the second rank is given to goibibo.com with a weighted average score of 14.58 followed by cleartrip.com (13.47), abhibus.com (12.96), makemytrip.com (10.51), ticketgoose.com (9.67), travelyaari.com (8.22), mybustickets.com (8.5), and etravelsmart.com (7.65).

The Table 2 reveals that 9% of the respondents are having low level of agreement, 73% of the respondents are having medium level of agreement and 18% of the respondents are having high level of agreement towards trust building factors of cyber bus ticket booking. Hence, the majority of 73% of the respondents are having medium level of agreement on trust building factors regarding cyber bus ticket booking.

The following null hypothesis has been framed to know the association between various independent variables and level of agreement of passengers on trust building factors regarding cyber bus ticket booking. The same has been tested by using Chi-square test at 5% level of significance.

<table>
<thead>
<tr>
<th>Websites</th>
<th>x</th>
<th>fx</th>
<th>3</th>
<th>10</th>
<th>13</th>
<th>19</th>
<th>13</th>
<th>12</th>
<th>7</th>
<th>10</th>
<th>14</th>
<th>Total Score</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>redbus.in</td>
<td>25</td>
<td>150</td>
<td>15</td>
<td>20</td>
<td>15</td>
<td>15</td>
<td>12</td>
<td>36</td>
<td>6</td>
<td>12</td>
<td>6</td>
<td>578</td>
<td>10.51</td>
</tr>
<tr>
<td>goibibo.com</td>
<td>21</td>
<td>133</td>
<td>20</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>7</td>
<td>24</td>
<td>3</td>
<td>9</td>
<td>9</td>
<td>713</td>
<td>12.96</td>
</tr>
<tr>
<td>ticketgoose.com</td>
<td>26</td>
<td>153</td>
<td>17</td>
<td>7</td>
<td>13</td>
<td>10</td>
<td>7</td>
<td>13</td>
<td>14</td>
<td>12</td>
<td>13</td>
<td>532</td>
<td>9.67</td>
</tr>
<tr>
<td>travelyaari.com</td>
<td>4</td>
<td>126</td>
<td>5</td>
<td>3</td>
<td>10</td>
<td>11</td>
<td>15</td>
<td>8</td>
<td>7</td>
<td>5</td>
<td>9</td>
<td>741</td>
<td>13.47</td>
</tr>
<tr>
<td>mybustickets.com</td>
<td>3</td>
<td>153</td>
<td>4</td>
<td>0</td>
<td>9</td>
<td>10</td>
<td>15</td>
<td>8</td>
<td>14</td>
<td>9</td>
<td>9</td>
<td>452</td>
<td>8.22</td>
</tr>
<tr>
<td>buspapa.com</td>
<td>2</td>
<td>125</td>
<td>6</td>
<td>0</td>
<td>7</td>
<td>9</td>
<td>17</td>
<td>10</td>
<td>8</td>
<td>13</td>
<td>10</td>
<td>443</td>
<td>8.05</td>
</tr>
<tr>
<td>etravelsmart.com</td>
<td>2</td>
<td>125</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>14</td>
<td>8</td>
<td>15</td>
<td>10</td>
<td>10</td>
<td>471</td>
<td>7.65</td>
</tr>
</tbody>
</table>

(Note: x= Number of Respondents; w =Weighted Score Point)

The above quantification procedure, the respondents are classified according to their level of agreement using 5 point rating scale ranging from strongly agree to strongly disagree. A rating of 5 indicates that the respondent strongly agrees, a rating of 4 shows that the respondent agrees, a rating of 3 shows that the agreement of the respondent is neutral, 2 shows the disagree position of the respondent and 1 shows that the respondent strongly disagrees. On the basis of the above quantification procedure, the respondents are classified according to their level of agreement as Low, Medium and High. The details are shown in Table 2.

<table>
<thead>
<tr>
<th>Level of Agreement</th>
<th>No. of Respondents</th>
<th>Total Score</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>18(9)</td>
<td>235</td>
<td>13.05</td>
</tr>
<tr>
<td>Medium</td>
<td>146(73)</td>
<td>2495</td>
<td>17.08</td>
</tr>
<tr>
<td>High</td>
<td>36(18)</td>
<td>711</td>
<td>19.75</td>
</tr>
<tr>
<td>Total</td>
<td>200(100)</td>
<td>3441</td>
<td>49.88</td>
</tr>
</tbody>
</table>

Figures in parentheses are percentage.

The Table 2 reveals that 9% of the respondents are having low level of agreement, 73% of the respondents are having medium level of agreement and 18% of the respondents are having high level of agreement towards trust building factors of cyber bus ticket booking. Hence, the majority of 73% of the respondents are having medium level of agreement on trust building factors regarding cyber bus ticket booking.

The following null hypothesis has been framed to know the association between various independent variables and level of agreement of passengers on trust building factors regarding cyber bus ticket booking. The same has been tested by using Chi-square test at 5% level of significance.
H₀: There is no significant association between independent variables [Age, Gender, Educational Qualification, Occupational Status, Annual Income, Size of the Family, Marital Status, Mode of Planning travel, Frequency of travel, Preference of bus Type, Purpose of your Travel, Level of Awareness for bus ticket booking, Source of preference for Website, Most preferred site, Mode of Payment] and level of agreement of the respondents towards the factors responsible for building trust on cyber bus ticket booking services. The details are shown in Table 3.

### Table 3 Association between Various Independent Variables and Level of Agreement on Trust Building Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Degrees of Freedom</th>
<th>Calculated Value</th>
<th>p-Value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>4</td>
<td>0.517</td>
<td>9.488</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Gender</td>
<td>2</td>
<td>2.771</td>
<td>5.991</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Educational Qualification</td>
<td>4</td>
<td>0.194</td>
<td>9.488</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Occupational Status</td>
<td>4</td>
<td>0.131</td>
<td>9.488</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Annual Income</td>
<td>4</td>
<td>0.537</td>
<td>9.488</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Size of the family</td>
<td>4</td>
<td>0.973</td>
<td>9.488</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Marital Status</td>
<td>2</td>
<td>0.366</td>
<td>5.991</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Mode of Planning Travel</td>
<td>4</td>
<td>1.855</td>
<td>9.488</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Frequency of Travel</td>
<td>4</td>
<td>0.145</td>
<td>9.488</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Preference for Bus Type</td>
<td>4</td>
<td>0.397</td>
<td>9.488</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Purpose of Travel</td>
<td>4</td>
<td>0.830</td>
<td>9.488</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Level of Awareness on cyber booking</td>
<td>2</td>
<td>9.356</td>
<td>5.991</td>
<td>Significant</td>
</tr>
<tr>
<td>Source of Preference for Website</td>
<td>4</td>
<td>4.383</td>
<td>9.488</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Most Preferred Website</td>
<td>4</td>
<td>1.00</td>
<td>9.488</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Mode of Payment</td>
<td>4</td>
<td>3.115</td>
<td>4.988</td>
<td>Insignificant</td>
</tr>
</tbody>
</table>

**Source:** Computed

Table 3 reveals that the hypothesis relating to age, gender, educational qualification, occupational status, annual income, size of the family, marital status, mode of planning travel, frequency of travel, preference of bus type, source for preference of websites, familiarity with most preferred site, mode of payment and main purpose of travel are accepted and the hypothesis relating to awareness on websites is rejected. Hence, it can be concluded that there is a significant association between level of awareness on cyber bus ticket booking services and trust building factors.

### Suggestions

In the light of findings of the present study, the following suggestions are made to improve the services of cyber bus ticket booking.

- The study shows that 73% of the respondents are having medium level of agreement with trust building factors on cyber bus ticket booking. In order to increase the level of agreement, it is suggested that frequent survey must be conducted among the customers and feedback has to be obtained from them in order to know their ticket booking. Further, proper steps must be taken to fulfill their ticket booking.

- In order to retain the online ticket booking customers and to improve service quality, should continuously maintain securities for ticket booking services also.

- It is suggested that training must be given to staff to enable them in assisting customers and provide them with relevant and timely information. Courtesy and communication skills could be given
through continuous training to staff. Proper technical training to staff must be provided to handle crisis situations of problems. Improving communication among staff members and using updated systems.

Conclusion

Globalization of services and increasing travel needs have transformed the characteristics of the travel sector as technology is used to increase the reach in the market. Online travel booking (or online tourism reservation) is the specific business to- customer transaction in the context of online tourism. For the travel enterprises, it is the inevitable choice to provide online booking for improving service efficiency, enhancing service quality and gaining competitive advantages. Hence, the study pinpoints that proper steps must be taken by the authorities to improve the services of cyber bus ticket booking to enable the passengers to travel with ease and comfort.

References

AN OVERVIEW - PRESENT AND FUTURE MARKET SCENARIO OF HOME-TECH INDUSTRY

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Abstract
Textile industries play a vital role in the world economy, providing employment to tens of millions, mostly, women workers in nearly two hundred countries. The industry is experiencing production and organizational changes globally, with deepening trade activity altering employer – employee relations. Among the various segments of technical textiles, the hometech industry is one of the largest segments which is growing due to the real estate boom and higher spending on the home interiors. The recent decades in terms of the development of the home textile industry at the global level have been marked by processes of intensive structural adjustment which has resulted in the transfer of production to developing countries. There have been a number of significant developments in home textiles over recent years. The global market offers consumers a broader range of fiber combinations, fabrics, designs, textures and colours than it did in the 1990s. Manufacturers have successfully adapted performance apparel technologies for use in home textile products. For example, bed sheets are being made from Coolmax and Thermolite fabrics. Coolmax fabric incorporates a moisture management technology and Thermolite is a light weight insulation material which was originally designed for outdoor performance apparel.

Keywords: home-Tech textile, global market, trends and opportunities, future scenario.

Introduction
Textiles are indispensable part of human life. They are mainly to cover the human for protection against all the adversities [1]. The textile industry occupies a unique place in India. It is a self reliant industry and accounts for 14% of the total industrial production, contributes to nearly 20% of the total exports of India. The textiles industry is moving towards the reorientation of non-clothing applications of textiles, known as technical textiles.

There are over 150 products classified under Technical Textiles and its coverage in terms of application areas is expanding globally with each passing day on account of technological advancement in raw materials and processes. Though the Indian Technical Textiles industry consumes products under all twelve segments, the majority technical textiles products that are manufactured in India include– Clothtech, Packtech, Sporttech and Hometech. This sector is growing roughly at twice rate of textiles is now playing an important role in the construction of many household textiles, furnishing and floor coverings for domestic consumption and institutional end uses that are known as Hometech.

The applications of technical textiles in home tech include fibrefill, carpet backing cloth, blinds etc. In the global textile market, home tech contributes about 7% of the share. The hometech market in India is estimated to be Rs 17,000 crore and is growing at over 9% annually. The hometech and furnishing market is expected to reach Rs 26,600 crore by 2015. The recent decades in terms of the development of the home textile industry at the global level have been marked by processes of intensive structural adjustment which has resulted in the transfer of production to developing countries.
Objectives

- To learn about the present hometech industries scenario.
- To find out the domestic consumption and market size of hometech industry.
- To know about the technical textile development in home textile industry which is going to help hometech to grow stronger and have greater prominence in the global market.
- To prove that the demand for hometech textiles is big enough and is rising in the near future.

Hometech Textiles

Home Textiles are a flexible material consisting of a network of natural or artificial fibers often referred to as thread or yarn. Spinning raw wool fibers, linen, cotton, or other material on a spinning wheel to produce long strands produces yarn. Home textiles are formed by weaving, knitting, crocheting, knotting, or pressing fibers together. **Home textiles** have an assortment of uses, the most common of which are for clothing and containers such as bags and baskets. In the household, home textiles, they are used in carpeting, upholstered furnishings, window shades, towels, covering for tables, beds, and other flat surfaces in art, home textiles are all around. Home textiles such as net curtains, curtains, furnishing fabrics, textiles for upholstery and table linen all make a significant contribution to a feel-good atmosphere in the home. [3] The variety of these products is (almost) unlimited. Be it materials, colours or patterns are numerous different collections are always currently available.

Market Characteristics

The Textile Industry in India is one of the largest segments of the Indian economy accounting for over one fifth of the country's industrial production. It provides employment to around 15 million people who have helped produce one of the largest, most fascinating varieties of yarn, fabric, home textiles, home furnishings and other textile products in the world.[2] The Home Furnishings Industry in India falls under the purview of the textile industry. Indian home furnishings manufacturers and home furnishings exporters offers a spectacular range of bedspreads, furnishing fabrics, curtains, rugs, durries, carpets, placemats, cushion covers, table covers, linen, kitchen accessories, made-ups, bed spreads, bath linen, and other home furnishings accessories to the world. Manufacturers of Home Furnishings from India, whether floor coverings, kitchen linen, bath linen, cushion covers, bed spreads, curtains etc. create a rage in the international markets.

Changes in the World Textile Market

The development of the home textile industry in the world over the last 20 years is a typical example of production that has undergone major changes, which some would even call drastic, in terms of organisation, production structure, technology and sales methods. [4] While the process of structural adjustment was underway in the developed countries regarding this industrial branch, followed by production reduction and labour force downsizing, specialisation and constant technological innovation, the promotion of new products and full product lines, at the same time the process of transferring production to other countries and the establishment of new centers of the global home textile industry. [6]

The demand for textiles and garments in India comes from three major segments – household sector, non-household sector (institutional, industrial and technical) and export sector. The household sector consumes the largest share of textiles and garments in India (60% share), followed by the non-household sector (21% share), and then the exports sector (19% share). The textile industry in India is
one of the flourishing sectors of Indian economy. It contributes more than 13% to industrial output, 16.63% to export revenues and 4% to the nation’s GDP. In the year 2010, the industry is estimated to produce 12 million jobs with an investment of US$ 6 billion in the fields of textiles equipments and structure, and garment manufacturing by the end of 2015.

Assessment of Demand and Market Potential in India

There are no authentic statistics available on the production and the total market size of the home textile products. Not much data is compiled for these due to the large variety of products within the category. Further, majority of the market is still in the unorganized sector and highly dispersed. Therefore, the present estimates of the market are arrived at on the basis of primary survey conducted by Ace Global and discussions with the industry players. As per discussions with various industry players in different parts of country, the overall average growth rate of domestic urban market is about 15% - for bath linen it is 15%, for kitchen linen it is 10%, for curtains it is 12%, for upholstery it is 15% and for other remaining products it is about 10%.

Functionalities of the Products

Curtains and window decorations have particularly good light fastness and can maintain their brilliant colours for years, upholstery materials consist of particularly hard-wearing materials with a long life span and table linen features impressive designs with colours and patterns as well as functionality such as a washable coating. Many textile furnishing materials are usually put to use without prior washing and have a longer useful life.\[5\]

Strategic Plan-Hometech

The implementation of the Strategic Plan requires resources to the tune of approximately Rs 58164/- crore during the next five years. Assuming an annual 25% increase in Annual Plan outlays from the base level (2010-11) of Rs 4725 crore, the required Annual Plan allocation are as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount in Rs crore</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-12</td>
<td>7000</td>
</tr>
<tr>
<td>2012-13</td>
<td>8750</td>
</tr>
<tr>
<td>2013-14</td>
<td>11125</td>
</tr>
<tr>
<td>2014-15</td>
<td>13906</td>
</tr>
<tr>
<td>2015-16</td>
<td>17383</td>
</tr>
</tbody>
</table>

The funds are to be provided as Budget Support to the Ministry’s Plan. Planning Commission and the Ministry of Finance will be persuaded to allocate sufficient funds for the Ministry of Textiles under the Annual Plans.

Global Home Textiles Market: Trends and Opportunities

It was most interesting to see that the global home textiles market has recorded a relatively strong growth since 2009. In USD the retail value increased from just over USD 85 billion to just below USD 105 billion in 2013. The annual growth rate was well above 4% per annum. Growth was especially strong in China where the Combined Average Growth Rate (CAGR) from 2008-2013 was almost 14%. Also, other countries like India, Turkey and Russia recorded strong growth rates between 5 and 8%.

Fig-1 Retail value and annual growth
With a share of approx. 25% bed textiles are still by far the most important category within home textiles followed by bath textiles (15%), rugs (10%), living room textiles (8%) and kitchen & dining textiles (7%).

In advanced economies the main drivers of this growth are a tendency towards smaller households, stronger demand for more comfort, added value and convenience for use. In emerging countries the drivers are an increase in the number of new homes for a rising middle class who prefer affordable prices and convenient shopping opportunities.

**Fig-2: global value sales breakdown**

**Future Scenario**

Looking at the period 2013-2018, estimates that bed textiles will remain the dominant segment (CAGR of 2.2%) but that also bath and living room textiles will also grow strongly by 2.3% and 2.2%, respectively. This growth will come from China’s expanding middle class, higher online sales (convenience) and more added-value products (comfort).

**Fig-3: consumer trends: developed Vs emerging countries**

Despite China’s very strong growth rate and high absolute retail value it is important to note that China’s per capita consumption of home textiles is still only one third of the US. The future potential in China and other emerging economies, especially India, is Enormous

**Fig-4: Hometech constant value growth 2013-2018**

**Conclusion**

The growth of domestic home textiles market, and the slower growth in customers’ willingness to upgrade qualitatively, quantitatively, and pricewise is a conundrum that needs to be researched and
analyzed more intensively. Other home categories showing very encouraging growth and so perhaps a tipping point for home textiles and furnishings may also be around the corner. Some product-usage based and channel-based segmentations could offer new opportunities to stimulate domestic demand.

References
ASSESSING HEALTH CARE PROFESSIONAL CAPABILITY TOWARD PATIENT CENTERED CARE IN CORPORATE HOSPITALS IN CHENNAI

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Abstract
The article tries to find out the Health Care Professional Capability toward Patient Centered Care in Corporate Hospitals in Chennai. Two objective of this study is reached through proper methodology. Study sample size was 108 in all obtained through convenience sampling technique in Chennai. Researcher designed questionnaire is with 5 point scale in the continuum of agreeing. Multiple regression and t test were used for data analysis. The analysis highlighted that there is no influence of emotional support on patient centered care capabilities of Health Care Professionals capability in Chennai. It is recommended that much importance towards boosting emotional support as previously stated can be organized and performed to get the increased levels in the capabilities of the health care professionals. Hence, it is concluded that the focus of the work will be Health Care Professionals, but it will also take into account the wider context of other workforce groups and the importance of multi-disciplinary working in modern healthcare in Chennai Hospitals.

Keywords: Chennai Hospitals, Health Care Professionals, Corporate Hospitals and convenience sampling technique.

Introduction
Healthcare professionals are a unit functioning during a complicated and dynamical health care system. Therefore, professionals area unit unendingly refreshing and change their data, talent and talent to attend patient's unhealthiness. Doctors are a unit enjoying distinctive roles as identification, treating and educating patient concerning malady.

Healthcare professionals are a unit troubled to enhance health care system and willing to supply quality service to patients. The wide spreading ideas of patient targeted care suggests that providing care which suggests respectful and responding individual wants, wants, values making certain that patient expected values. Associate degree recent speech welfare of individuals to supreme equally giving importance to patient welfare and convey their feelings and opinions to doctor's whereas implementing this ideas is difficult one in current atmosphere.

Concepts of patient targeted health care
Over 20 years, patient –centered care (PCC) is within the focus of (i) Health care service suppliers (ii) call and policy manufacturers on macro, mezzo and small level furthermore as (iii) patient (iv) scientific community. The main target is given to patient-centered care one in every of the necessary dimension as top quality health care.

This idea encompasses a lot of definition by varied organizations and establishment like world health organization (WHO), Institute of drugs (IOM), International alliance of patient’s Organizations (IAOP) and Picker Institute area unit shaping the thought as follow:
WHO advocates for a “responsive” aid system that meets People’s expectations and involving patients as partners in treatments, initiatives to enhance the security and quality of care. Consequently, responsiveness is seen as a vital part of PCC. Responsiveness describes however an aid system meets individuals’ expectations relating to the respect for people and their wants, communication between physicians and patients, and waiting times.

Institute of drugs (IOM) outlined PCC as care that is “respectful of and tuned in to individual patient’s preferences, wants and values to guarantee patient values guide all clinical decisions”.

According to (IOM) Patient is supply of management in PCC and has the role in every level i.e. from Individual expertise in clinical and so structure and environmental level. Common Role for all of those levels is that patient must support and encourage the participation of patient and families.

International Alliance of Patients’ Organizations (IAPO) in declaration on patient focused attention outlines patient-centered attention as health care system that is “designed and delivered to handle the Health care wants and Preferences of patients so attention is acceptable and cost-effective”. within the declaration it declared that patient-centered attention ends up in improve the health Outcomes, the standard of life and optimum worth for attention investment by promoting larger patient responsibility and optimum usage. In line with IAPO attention should be supported following 5 principles to realize Patient-centered healthcare:

- **Respect** - Patients’ distinctive wants, preferences and values, yet as their autonomy and independence ought to be reverred
- **Choice and management** - Patients have a right and responsibility to participate, to form well-read attention decisions.
- **Patient involvement in health policy is to share the responsibility of attention political.**
- **Access and support** - Patients should have access to safe, quality and acceptable services, treatments, preventive care and health promotion activities, notwithstanding their condition or socio-economic standing.
- **Information** - correct, relevant and comprehensive data is crucial to form well-read choices regarding attention treatment and living with their condition.

**Review of Literature**

Patient focused care is treating a patient as person respecting wants, awareness involve in treatment recognizing and cultivating the aptitude association with conception of patient focused care and evaluating the service quality (Vikkin Inas, 2011).

Educating, negotiating, counseling, predicated patient satisfactions, implementing strategy for patient focused care is like participating patient self care, sharing choices creating with them and additionally obtaining feedback concerning treatment (The school of family medico,2010).

Patient focused medical home rising health system on bound attributes like new method of organization observe development of internal capability that is core structures, method and positioning management model compensation charges in health system building principle for operations like personal medico, medico direct practice, whole person orientation integration, care coordination, quality safety increased access [Korsch, B.M. Freeman,B & Negrete V. F 1971].

Patient focused communication is major and essential ability medical home wants a lot of capabilities on health care supplier UN agency understanding patients, needs, wants, price to grant opportunities to participate their own care sharing info, involving decision-making. Medico should listen as an alternative personage and health system leader to understand the peck wants influencing
medical students to involve and develop communication ability, educating patient. Give them quality care and serves satisfy patient wants and expectation [Wendy Levision, Caras. Lesser and Ronald M. carver 2016]

IOM institute of medication has set down guideline in achieving top quality health care has to deliver patient focused care. It provides six dimensions of PCC as respectful to patient values, preference and expresses the requirements to co-ordinate & integrates communication and education, physical comfort, emotional support reveling concern and anxiety, involve family and friends. [Flora, Robert, Elizabeth 2015].

Research Design
This design concerned with specific predictions, with narration of facts and pre-planned design for analysis. It is structured or well throughout instruments for collection of data. In this study, descriptive research design has been used to minimize bias and maximize reliability of the evidence collected.

Framework of the Study

![Diagram of Framework of the Study]

Statement of the Problem
- Patient are more aware of their health issues due to technological advancement and are willing to share their health view to professional
- The problem is some professional are willing to listening while others ignore patient view.

Objectives of the Study
- To study the Health Care Professionals capabilities toward Patient Centered Care in Corporate Hospitals in Chennai
- To find the influence of listening capability, diagnosing capability, referral capability and emotional support on satisfactory on patient centered care capabilities.

Hypotheses of the Study
- The Health Care Professionals’ opinion does not differ towards Health Care Professionals Capability with respect to gender of the Health Care Professionals in Chennai.
- There is no influence of listening capability, diagnosing capability, referral capability, emotional support on patient centered care capabilities.

Questionnaire Construction

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Variable</th>
<th>Item</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Listening Capability</td>
<td>5</td>
<td>Self Designed</td>
</tr>
<tr>
<td>2</td>
<td>Diagnosing Capability</td>
<td>4</td>
<td>Self Designed</td>
</tr>
<tr>
<td>3</td>
<td>Referral Capability</td>
<td>3</td>
<td>Self Designed</td>
</tr>
<tr>
<td>4</td>
<td>Emotional Support</td>
<td>7</td>
<td>Self Designed</td>
</tr>
<tr>
<td>5</td>
<td>Satisfactory on Patient centered care</td>
<td>4</td>
<td>Self Designed</td>
</tr>
</tbody>
</table>
Sampling Technique

Convenience sampling method is dictated only by the researcher’s convenience and not to other considerations. There is only a less effort needed to collect the data. Actually no pre plan of executing is there.

Sampling Frame

<table>
<thead>
<tr>
<th>Questionnaires Distributed</th>
<th>Questionnaires Received</th>
<th>Not Received</th>
<th>Rejected Questionnaires</th>
<th>Ok Questionnaires</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>112</td>
<td>13</td>
<td>4</td>
<td>108</td>
</tr>
</tbody>
</table>

Totally 125 questionnaires were distributed. Out of 112 received questionnaires 108 were eligible and the remaining 4 were with flaws hence, the sample strength was 108. Out of 108, 77 were male doctors and the remaining 31 were female doctors.

Table 1 Independent Sample t Test for Doctors’ Opinion Difference towards Health Care Professionals Capability with Respect to Gender

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening Capability</td>
<td>Female</td>
<td>31</td>
<td>3.3226</td>
<td>.52581</td>
<td>-4.896</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>77</td>
<td>3.9584</td>
<td>.64100</td>
<td>-3.244</td>
<td>0.001</td>
</tr>
<tr>
<td>Diagnosing Capability</td>
<td>Female</td>
<td>31</td>
<td>3.7823</td>
<td>.41202</td>
<td>-4.824</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>77</td>
<td>4.1688</td>
<td>.60893</td>
<td>-4.824</td>
<td>0.001</td>
</tr>
<tr>
<td>Referral Capability</td>
<td>Female</td>
<td>31</td>
<td>3.3441</td>
<td>.54081</td>
<td>-4.824</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>77</td>
<td>4.0476</td>
<td>.73492</td>
<td>-4.824</td>
<td>0.001</td>
</tr>
<tr>
<td>Emotional Support</td>
<td>Female</td>
<td>31</td>
<td>3.3641</td>
<td>.49739</td>
<td>-5.481</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>77</td>
<td>4.0983</td>
<td>.67495</td>
<td>-5.481</td>
<td>0.001</td>
</tr>
<tr>
<td>Satisfactory on Patient centered care</td>
<td>Female</td>
<td>31</td>
<td>3.3548</td>
<td>.51951</td>
<td>-1.394</td>
<td>0.166</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>77</td>
<td>3.5747</td>
<td>.81219</td>
<td>-1.394</td>
<td>0.166</td>
</tr>
<tr>
<td>Overall Health Care Professional Capability</td>
<td>Female</td>
<td>31</td>
<td>3.4336</td>
<td>.41848</td>
<td>-4.541</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>77</td>
<td>3.9696</td>
<td>.60027</td>
<td>-4.541</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Source: primary data

The independent sample t test is conducted for the sample of 108, to validate the significant difference among the gender of the Health Care Professionals with respect to Health Care Professionals Capability. Independent variable gender of Health Care Professionals is classified into two groups such as male and female. Likewise, the dependent variable Health Care Professionals Capability is also classified into five groups such as listening capability, diagnosing capability, referral capability, emotional support and patient centered care capabilities. Frequency distribution, mean, standard deviation, t ratio and p values are calculated and the following hypothesis is framed.

**Null Hypothesis H₀**: Health Care Professionals’ opinion does not differ towards Health Care Professionals Capability with respect to gender of the Health Care Professionals in Chennai.

**Alternative Hypothesis H₁**: Health Care Professionals’ opinion differs towards Health Care Professionals Capability with respect to gender of the Health Care Professionals in Chennai.

The t- statistic has been computed and it is -4.896 with a corresponding significant level p = 0.001. Therefore, the null hypothesis of equal mean scores for the different gender groups regarding the listening capability. Hence, it can be concluded that the opinion on the listening capability of Health Care Professionals differs significantly between the different gender groups.

The t- statistic has been computed and it is -3.244 with a corresponding significant level p = 0.001. Therefore, the null hypothesis of equal mean scores for the different gender groups regarding the
diagnosing capability. Hence, it can be concluded that the opinion on the diagnosing capability of Health Care Professionals differs significantly between the different gender groups.

The t-statistic has been computed and it is -4.824 with a corresponding significant level p = 0.001. Therefore, the null hypothesis of equal mean scores for the different gender groups regarding the referral capability. Hence, it can be concluded that the opinion on the referral capability of Health Care Professionals differs significantly between the different gender groups.

The t-statistic has been computed and it is -5.481 with a corresponding significant level p = 0.001. Therefore, the null hypothesis of equal mean scores for the different gender groups regarding the emotional support. Hence, it can be concluded that the opinion on the emotional support of Health Care Professionals differs significantly between the different gender groups.

The t-statistic has been computed and it is -1.394 with a corresponding significant level p = 0.166. Therefore, the null hypothesis of equal mean scores for the different gender groups regarding the patient centered care capabilities. Hence, it can be concluded that the opinion on the patient centered care capabilities of Health Care Professionals do not differs significantly between the different gender groups.

The t-statistic has been computed and it is -4.541 with a corresponding significant level p = 0.001. Therefore, the null hypothesis of equal mean scores for the different gender groups regarding the overall health care professional capability. Hence, it can be concluded that the opinion on the overall health care professional capability of Health Care Professionals differs significantly between the different gender groups.

Health Care Professionals capability shows that there is significant difference through the dimensions towards listening capability, diagnosing capability, emotional support and patient centered care capabilities and does not differ towards referral capability with respect to gender of the Health Care Professionals. It is noted that independent sample t test result shows moderately agree towards the Health Care Professionals capability with respect to gender of the Health Care Professionals. From this independent sample t test result, it is shown that gender groups differ towards Health Care Professionals capability in Chennai. It is also found that male doctors obtained better Health Care Professionals capability when compared to female doctors in Chennai.

Table 2: Multiple Regression Analysis for Influence of Listening Capability, Diagnosing Capability, Referral Capability, Emotional Support on Patient centered care capabilities

<table>
<thead>
<tr>
<th>Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
</tr>
<tr>
<td>0.786</td>
</tr>
</tbody>
</table>

Coefficients

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Variables</th>
<th>Un standardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>SE</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Constant</td>
<td>0.322</td>
<td>0.326</td>
<td></td>
<td>0.987</td>
</tr>
<tr>
<td>2</td>
<td>Listening Capability</td>
<td>0.992</td>
<td>0.166</td>
<td>0.897</td>
<td>5.994</td>
</tr>
<tr>
<td>3</td>
<td>Diagnosing Capability</td>
<td>0.528</td>
<td>0.108</td>
<td>0.415</td>
<td>4.908</td>
</tr>
<tr>
<td>4</td>
<td>Referral Capability</td>
<td>0.420</td>
<td>0.130</td>
<td>0.425</td>
<td>3.236</td>
</tr>
<tr>
<td>5</td>
<td>Emotional Support</td>
<td>-0.114</td>
<td>0.144</td>
<td>-0.108</td>
<td>-0.790</td>
</tr>
</tbody>
</table>

Dependent Variable: Patient centered care capabilities
The multiple linear regression analysis has been passed a sample of 108 and data considering patient centered care capabilities as a dependent variable and the remaining four dimensions regarding health care professionals’ capability such as listening capability, diagnosing capability, referral capability and emotional support.

The reaction of the health care professionals and effect of the independent variables on patient centered care capabilities have been studied by the multiple regression analysis.

The F value obtained for the analysis is 41.531 which is significant at 1 percent level. Hence the assumed regression model may be considered as a good fit. The value of $R^2$ is 0.617 and implies that 61.7% of patient centered care capabilities influenced by the four variables.

$H_0$: There is no influence of listening capability, diagnosing capability, referral capability, emotional support on patient centered care capabilities.

$H_A$: There is an influence of listening capability, diagnosing capability, referral capability, emotional support on patient centered care capabilities.

Considering the significant individual regression coefficients, it is seen that dimensions listening capability shows that (Beta – 0.897, t – 5.994, P – 0.001), diagnosing capability shows that (Beta – 0.415, t- 4.908, P – 0.001), and referral capability shows that (Beta – 0.425, t - 3.236, P – 0.001). It is seen that the three factors influenced at 1% level on patient centered care capabilities. The variable like emotional support obtained p value is greater than 0.050 and not significant.

The analysis found that there an influence of listening capability, diagnosing capability, referral capability on patient centered care capabilities. The analysis highlighted that there is no influence of emotional support on patient centered care capabilities.

Findings

Health Care Professionals capability shows that there is significant difference through the dimensions towards listening capability, diagnosing capability, emotional support and patient centered care capabilities and does not differ towards referral capability with respect to gender of the Health Care Professionals. It is noted that independent sample t test result shows moderately agree towards the Health Care Professionals capability with respect to gender of the Health Care Professionals. From this independent sample t test result, it is shown that gender groups differ towards Health Care Professionals capability in Chennai. It is also found that male doctors obtained better overall Health Care Professionals capability when compared to female doctors in Chennai.
1. It is also found that male doctors obtained better listening capability when compared to female doctors in Chennai.
2. It is also found that male doctors obtained better diagnosing capability when compared to female doctors in Chennai.
3. It is also found that male doctors obtained better referral capability when compared to female doctors in Chennai.
4. It is also found that male doctors obtained better emotional support when compared to female doctors in Chennai.
5. It is also found that male doctors obtained better patient centered care capabilities when compared to female doctors in Chennai.

Multiple regression analysis found that F value is 41.531 which is significant at 1 percent level. Hence the assumed regression model may be considered as a good fit. The value of $R^2$ is 0.617 and implies that 61.7% of patient centered care capabilities influenced by the four variables. The analysis
found that there is an influence of listening capability, diagnosing capability, referral capability on patient centered care capabilities. The analysis highlighted that there is no influence of emotional support on patient centered care capabilities of Health Care Professionals capability in Chennai.

Recommendations of the Study

- Like any other psychometric elements, listening is also a skill; hence skill development sessions especially towards listening skills can be organized to improve the listening capabilities.
- Diagnostic technology is more related with the application of logic and its several types in relation to the availability of knowledge so far gained through reading and experiences; hence few sessions in diagnosing can be inculcated with the help of some specialists through faculty development programs.
- Usually referral capability differs among the health care professionals mainly due to lack of sufficient data about the leading successful specialists, hence an attempt to list out all the successful leading specialists at district level, state level, national level and international levels can be provided to all the health care professionals.
- Emotional support is usually predominant at the family level and comparatively lesser emotional support is from the peer groups and a very low support is from the supervisors and other officials. Emotional support leads the health care professionals to get more committed in their occupation and their relationships should be fortified through functions, festivals, club activities, tours etc.
- Patients and health care professionals are two inseparable elements in the health care. Proper and adequate care for the patients should be given more importance since they are under the cramp of illness. Efforts to pacify the patients through proper assistances and providing basic needs of mobility with soothing communications are to be assured. Proper organizations to meet the doctor, to get the drugs etc., are to be assured.
- Even though male dominate in all the capabilities than female, both the gender proves to be moderate in all the capabilities. Both male and female health care professionals can be treated psychologically for more improvements in their occupational performances.
- Based on the analyses it is noted and confirmed that all capabilities are positively significant and the relationships proves to be ‘moderate’. Except emotional support all the other variables influence the health care professionals’ occupation. Hence, much importance towards boosting emotional support as previously stated can be organized and performed to get the increased levels in the capabilities of the health care professionals.

Conclusion of the Study

The analysis found that there is a significant positive relationship among listening capability, diagnosing capability, referral capability, emotional support and patient centered care capabilities in Chennai. The analysis also found that there is an influence of listening capability, diagnosing capability, referral capability on patient centered care capabilities. The analysis highlighted that there is no influence of emotional support on patient centered care capabilities of Health Care Professionals capability in Chennai. It is recommended that much importance towards boosting emotional support as previously stated can be organized and performed to get the increased levels in the capabilities of the health care professionals. Hence, it is concluded that the focus of the work will be Health Care Professionals, but it will also take into account the wider context of other workforce groups and the importance of multi-disciplinary working in modern healthcare in Chennai Hospitals.
References
MULTIPLE GROUP PATH ANALYSIS APPROACH: INFLUENCE OF TRAINING AND DEVELOPMENT ON ORGANIZATIONAL PERFORMANCE IN CO-OPERATIVE AND PRIVATE MILK DAIRY SECTOR

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Abstract

The article tries to find out the influence of training and development on organizational performance in co-operative and private milk dairy sector. One objective of this study is reached through proper methodology. Sample size was 90 (co-operative milk dairy sector 45 respondents and private milk dairy sector 45 respondents) in all obtained through convenience sampling technique in Salem district. Researcher designed questionnaire is with 5 point scale in the continuum of agreeing. Reliability of this tool is 0.75 and 0.86. Multiple group path analysis was used for data analysis. There is no influence of motivational training on waste minimization with respect to co-operative milk dairy sectors. But, at the same time there is an influence of motivational training on waste minimization based on private milk dairy sectors. It is recommended that the human resources managers could acclimatize performance enhancement policy, which ultimately motivates co-operative milk dairy employees by giving them the opportunity to use the range of their abilities. These are significant to make bigger performance enhancement of employees in co-operative milk dairy sector. Hence, it is recommended that the human resources managers could acclimatize performance enhancement policy, which ultimately motivates co-operative milk dairy employees by giving them the opportunity to use the range of their abilities. These are significant to make bigger performance enhancement of employees in co-operative milk dairy sector.

Keywords: Co-Operative Milk Dairy Sector, Private Milk Dairy Sector, Organizational Performance and Multiple Group Path Analysis.

Introduction

Performance means that 'The execution of associate action is a suitable manner'. Performance is some things accomplished. Performance is that the fulfillment of a claim letter of invitation or a promise. Performance is that the ability to precise or exhibit ones skills in and acceptable and loving manner. Performance is of cognitive domain transferred from the psychological feature domain of the human behavior. It’s some way of reaction towards a stimuli or letter of invitation.

Improvement is that the constructive positive and a lot of acceptable manner of changes that square measure led to over the antecedently no inheritable information and therefore the skills of a private. Processes of up associated increasing one’s capabilities of a worker towards expected performances; it are often through the additional education, trainings and behavior modifications. These programmes are also among the organization or at the coaching centers.

An worker or staff doing same kinds of works during a concern are often well promoted to urge a lot of production by participating them through the processes of well systematized education and trainings to boost their performances, towards the increment of the organization.

Skill is that the ability or the capability no inheritable through constant deliberate, systematic and sustained effort to execute complicated activities, job, things or lives. Talent is that the summation of
many kinds of competencies that encapsulate several talents, commitments, information and skills. It's a collection of connected talents however with a lot of perfection and exactitude. Talent depends on the competencies of people.

More than eight space of talent are very fashionable within the field of management. They're personal, social, technical, activity, and execution skills. All the talents are terribly closely associated with most the workers. In line with the training theories, the previous learning would intercept this learning processes; thence new talent development may be additional with efficiency imparted to the junior most teams of workers.

Improving of these varied dimensions of the workers forms the talent development that aims at the perfection and exactitude while not conflict and friction between man and also the machines. In any business processes mind, manpower, materials, money, machines and also the management are to be articulated to reduce or to nullify the hinders to realize the structure goals which can be tentative or permanent.

Organizational Performance
Sweetening could be a deliberate commit to heighten or intensify or improve any of the prevailing qualities, powers and values; it's an endeavor to create one thing higher. This is often a renovation beat up the prevailing work to carry up altogether doable aspects. This is often an extra work or impact or the causation impact over the prevailing standing.

Contextually speaking performance sweetening is that the deliberate commit to increase the efforts of the workers in their gift normal of labor to the next level of performance. This is often a method of education, coaching and constant practices to carry up the operating normal of the employees World Health Organization will perform additional towards the event of the organization or the business.

Review of Literature
Campbell (1971) in his article on "Personnel coaching and Development" within the annual review of scientific discipline mentioned that coaching courses are usually designed for a brief term set functions, whereas development concerned a broader education for future functions. J.M. Pfiffner and F. Marshal (1962) outlined the most objective of coaching is to bridge the gap between existing performance ability and desired performance.

The foremost frequent reasons for causing managers to coaching programs were rumored by Saari, et al. (1988). Their information were based mostly upon a comprehensive survey of over 600 U.S.A. corporations with every having over one thousand staff. The first reasons for causing managers to Management education and coaching programs were to broaden the individual, and to supply data. They conjointly indicated that the larger the corporate in terms of variety of staff, the additional probably they were to use formal management coaching and teaching programs.

Research add the sector of Management Development by Baldwin and Padgett (1993); Tannubaum and Yukl (1992) diode to additional realistic and bold read of social control envelopment. In keeping with them coaching and management development isn't merely matter dynamical peoples' data and skills; it conjointly involves changing their attitudes and skilled identity.

Training has been used as a personality's resource intervention in organization ever since Taylor (1947) experimented with "Scientific Management" towards the tip of nineteenth century and incontestable the ability of attending consciously and unendingly to the up gradation of the talents of staff.
Research Methodology

Research Design

To obtain better answer to the research question, a proper research design is to be framed (Cooper & Schindler 2001; Davis & Cosenza 1988). Descriptive research design has been adopted for the present study. Descriptive study is a fact-finding investigation with adequate interpretation. It focuses on particular aspects or dimensions of the problem studied. It is designed to get the descriptive information and provided information and formulation of more sophisticated studies.

Research Gap

Motivational training, new technology based training, waste minimization and organizational performance which is studied individually alone but combined research is not found in previous studies. This study is unique in introducing the dependent variable organizational performance, mediator variable waste minimization and independent variables motivational training and new technology based training. The title is “INFLUENCE OF TRAINING AND DEVELOPMENT ON ORGANIZATIONAL PERFORMANCE IN CO-OPERATIVE AND PRIVATE MILK DAIRY SECTOR.”

Framework of the Study

Figure 1: Conceptual Framework

From the framework, the independent variables are motivational training and new technology based training. The variable waste minimization is considered as mediator variable. Organizational performance is considered as an outcome variable.

Objective of the Study

To main objective of the study is to influence of training and development on organizational performance in co-operative and private dairy sector.

Hypotheses of the Study

- There is no influence of motivational training on waste minimization.
- There is no influence of new technology based training on waste minimization.
- There is no influence of new technology based training on organizational performance.
- There is no influence of waste minimization on organizational performance.

Questionnaire Construction

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Variable</th>
<th>Item</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Motivational training</td>
<td>10</td>
<td>Self Development</td>
</tr>
<tr>
<td>2</td>
<td>New Technology</td>
<td>7</td>
<td>Self Development</td>
</tr>
<tr>
<td>3</td>
<td>Waste Minimization</td>
<td>28</td>
<td>Self Development</td>
</tr>
<tr>
<td>4</td>
<td>Organizational Performance</td>
<td>5</td>
<td>Self Development</td>
</tr>
</tbody>
</table>
Sampling Technique

Convenience sampling technique was adopted for the study. Srivastava (2008) there is only a less effort need to collect the data. Actually no pre plan of executing is there.

Data Collection

The sample size of the study is 90 in all. The study was conducted in Salem district, Tamil Nadu. Primary data were collected for 45 respondents from co-operative milk dairy sector and 45 respondents from private dairy sector. Questionnaire with 5 point scale is used.

Reliability

For all the items in the questionnaire design the alpha was 0.75 to 86. This indicates high reliability of the items in the questionnaire. With these results the consistency, dependability and adoptability are confirmed.

Statistical Tool Used

Multiple group path analysis was adopted in this study. It is used to know the correlation and regression of independent variables with respect to organizational performance. Likewise the independent variables are motivational training and new technology based training. The variable waste minimization is considered as mediator variable. Organizational performance is considered as an outcome variable.

Analysis and Interpretation

Table 1: Model Fit Indication

<table>
<thead>
<tr>
<th>Chi-Square</th>
<th>p</th>
<th>GFI</th>
<th>AGFI</th>
<th>CFI</th>
<th>NFI</th>
<th>RMS</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.248</td>
<td>0.325</td>
<td>0.986</td>
<td>0.924</td>
<td>0.997</td>
<td>0.997</td>
<td>0.022</td>
<td>0.043</td>
</tr>
</tbody>
</table>

Source: primary data

From the above table it is found that the calculated chi-square value is 2.248, p value is 0.325 which is greater than 0.05, which indicates that perfectly fit. Here GFI (Goodness of Fit Index) value and AGFI (Adjusted Goodness of Fit Index) values are greater than 0.90 which represent it is a good fit. The calculated CFI (Comparative Fit Index) value and NFI (Normed Fit Index) values are greater than 0.90 which means that it is a perfectly fit. It is found that RMSEA (Root Mean Square Error of Approximation) and RMS (Root Mean Square) values are 0.043 and 0.022 which are less than 0.08, which indicates that it is perfectly fit.

Figure 2: Path Analysis Based on Co-Operative Dairy Sector
From the multiple group path diagrams, the independent variables are motivational training and new technology based training. The variable waste minimization is considered as mediator variable. Organizational performance is considered as an outcome variable.

![Path Analysis Based on Private Dairy Sector](image)

**Figure 3: Path Analysis Based on Private Dairy Sector**

From the multiple group path diagrams, the independent variables are motivational training and new technology based training. The variable waste minimization is considered as mediator variable. Organizational performance is considered as an outcome variable.

### Table 2 Regression Weights of Co-Operative Dairy Sector

<table>
<thead>
<tr>
<th>DV</th>
<th>IV</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>B</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste Minimization</td>
<td>Motivational Training</td>
<td>-0.042</td>
<td>0.060</td>
<td>-0.694</td>
<td>-0.086</td>
<td>0.488</td>
</tr>
<tr>
<td>Waste Minimization</td>
<td>New Technology Based Training</td>
<td>0.232</td>
<td>0.072</td>
<td>3.227</td>
<td>0.402</td>
<td>0.001</td>
</tr>
<tr>
<td>Organizational</td>
<td>New Technology Based Training</td>
<td>0.130</td>
<td>0.046</td>
<td>2.808</td>
<td>0.258</td>
<td>0.005</td>
</tr>
<tr>
<td>Performance</td>
<td>Waste Minimization</td>
<td>0.513</td>
<td>0.146</td>
<td>3.509</td>
<td>0.517</td>
<td>***</td>
</tr>
</tbody>
</table>

*Source:* primary data

### Table 3 Regression Weights of Private Dairy Sector

<table>
<thead>
<tr>
<th>DV</th>
<th>IV</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>B</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste Minimization</td>
<td>Motivational Training</td>
<td>0.325</td>
<td>0.080</td>
<td>4.051</td>
<td>0.680</td>
<td>***</td>
</tr>
<tr>
<td>Waste Minimization</td>
<td>New Technology Based Training</td>
<td>0.212</td>
<td>0.064</td>
<td>3.300</td>
<td>0.554</td>
<td>***</td>
</tr>
<tr>
<td>Organizational</td>
<td>New Technology Based Training</td>
<td>0.195</td>
<td>0.056</td>
<td>3.485</td>
<td>0.514</td>
<td>***</td>
</tr>
<tr>
<td>Performance</td>
<td>Waste Minimization</td>
<td>0.562</td>
<td>0.080</td>
<td>7.001</td>
<td>0.644</td>
<td>***</td>
</tr>
</tbody>
</table>

*Source:* primary data

**H₀:** Motivational training do not influence by waste minimization co-operative and private milk dairy sectors.

**Hₐ:** Motivational training influence by waste minimization co-operative and private milk dairy sectors.

Through the path analysis, regression weight as the value of (Co-operative CR is -0.694 and private CR is 4.051). The Beta values are (co-operative beta value is -0.086 and private beta value is 0.680)
which indicates that 8.6% and 68% of influence is through motivational training towards waste minimization based co-operative and private sectors. The p values are 0.488 and 0.010. Hence, it can be concluded that the motivational training does not influence on waste minimization with respect to co-operative milk dairy sector. But there is an influence of motivational training on waste minimization with respect to private milk dairy sector.

H₀: Technology based training do not influence by waste minimization co-operative and private milk dairy sectors.

H₁: Technology based training influence by waste minimization co-operative and private milk dairy sectors.

Through the path analysis, regression weight as the value of (Co-operative CR is 3.227 and private CR is 3.300). The Beta values are (co-operative beta value is 0.402 and private beta value is 0.554) which indicates that 40.2% and 55.4% of influence is through technology based training towards waste minimization based co-operative and private sectors. The p values are 0.001 and 0.001. Hence, it can be concluded that there is an influence of technology based training on waste minimization with respect to co-operative and private milk dairy sectors.

H₀: Technology based training do not influence by organizational performance co-operative and private milk dairy sectors.

H₁: Technology based training influence by organizational performance co-operative and private milk dairy sectors.

Through the path analysis, regression weight as the value of (Co-operative CR is 2.808 and private CR is 3.485). The Beta values are (co-operative beta value is 0.258 and private beta value is 0.514) which indicates that 25.8% and 51.4% of influence is through technology based training towards organizational performance based co-operative and private sectors. The p values are 0.005 and 0.001. Hence, it can be concluded that there is an influence of technology based training on organizational performance with respect to co-operative and private milk dairy sectors.

H₀: Waste minimization do not influence by organizational performance co-operative and private milk dairy sectors.

H₁: Waste minimization influence by organizational performance co-operative and private milk dairy sectors.

Through the path analysis, regression weight as the value of (Co-operative CR is 3.509 and private CR is 7.001). The Beta values are (co-operative beta value is 0.517 and private beta value is 0.644) which indicates that 51.7% and 64.4% of influence is through waste minimization towards organizational performance based co-operative and private sectors. The p values are 0.005 and 0.001. Hence, it can be concluded that there is an influence of waste minimization on organizational performance with respect to co-operative and private milk dairy sectors.

Findings of the Study

- There is no influence of motivational training on waste minimization with respect to co-operative milk dairy sectors. But, at the same time there is an influence of motivational training on waste minimization based on private milk dairy sectors.

- There is an influence of new technology based training on waste minimization with respect to co-operative and private milk dairy sectors. The study highlighted that private sector milk dairy new technology training is highly influenced on waste minimization when compared co-operative sector milk dairy new technology training.
• There is an influence of new technology based training on organizational performance with respect to co-operative and private milk dairy sectors. The study highlighted that private sector milk dairy new technology training is highly influenced on organizational performance when compared co-operative sector milk dairy new technology training.

• There is an influence of waste minimization on organizational performance with respect to co-operative and private milk dairy sectors. The study highlighted that private sector milk dairy waste minimization is highly influenced on organizational performance when compared co-operative sector milk dairy new technology training.

Recommendations of the Study

• The analysis found that there is no influence of motivational training on waste minimization with respect to co-operative milk dairy sector. Hence, it is recommended that co-operative milk dairy sector management should identify employees’ training needs, help employees meet performance targets and offer poor performers a chance to improve. These are important to enhance employees’ performance in co-operative and private milk dairy sector.

• It is also recommended that the human resources managers could acclimatize performance enhancement policy, which ultimately motivates co-operative milk dairy employees by giving them the opportunity to use the range of their abilities. These are significant to make bigger performance enhancement of employees in co-operative milk dairy sector.

Conclusion

The article tries to find out the influence of training and development on organizational performance in co-operative and private dairy sector. One objective of this study is reached through proper methodology. Sample size was 90 (co-operative milk dairy sector 45 respondents and private milk dairy sector 45 respondents) in all obtained through convenience sampling technique in Salem district. Researcher designed questionnaire is with 5 point scale in the continuum of agreeing. Reliability of this tool is 0.75 and 0.86. Multiple group path analysis was used for data analysis. There is no influence of motivational training on waste minimization with respect to co-operative milk dairy sectors. But, at the same time there is an influence of motivational training on waste minimization based on private milk dairy sectors. It is recommended that the human resources managers could acclimatize performance enhancement policy, which ultimately motivates co-operative milk dairy employees by giving them the opportunity to use the range of their abilities. These are significant to make bigger performance enhancement of employees in co-operative milk dairy sector. Hence, it is recommended that the human resources managers could acclimatize performance enhancement policy, which ultimately motivates co-operative milk dairy employees by giving them the opportunity to use the range of their abilities. These are significant to make bigger performance enhancement of employees in co-operative milk dairy sector.

References
INFLUENCE OF EMPLOYEES’ JOB ENRICHMENT ON PRODUCTIVITY OF FOOD PROCESSING UNITS IN DHARMAPURI DISTRICT

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Abstract
Job enrichment has become an essential aspect in motivating employees for better and greater performance through a mutual sense for skill variety, task identity, task significance and autonomy. The main objective of this study is to influence of employees’ job enrichment on productivity of food processing units in Dharmapuri district. Descriptive research method was adopted for this study using 384 valid questionnaires which were completed by selected food processing units’ employees in Dharmapuri district. Multistage sampling technique was adopted for the study. Analysis tools such as Chi-square and regression were adopted in this study. It is found that there is a significant association between job enrichment and productivity towards food processing units in Dharmapuri district. It is concluded that the three levels of productivity are in good association with the three groups of job enrichment. The analysis found that five job enrichment factors such as skill variety, task identity, task significance, and autonomy and feedback factors were influenced on productivity. Hence, it is concluded that food processing units should identifying employees training needs, help employees meet performance targets and offer poor performers a chance to improve. These are important to make enhanced employees productivity in food processing units.

Keywords: Multistage Sampling Technique, Descriptive Research, Job Enrichment and Productivity.

Introduction
Performance management systems (PMS), may be a part of human resources management, is taken into account during this study to be vital in technology-driven corporations to scale back uncertainties and risks that will arise once workers move with these advanced technologies. This study proposes that food process units face a technologically advanced and quick dynamical environment; social exchange relationships square measure so additional vital in PMS (Performance Management System) as a result of higher-up support will change subordinates to work or develop these advanced technologies. This paper takes the food process units in Dharmapuri district as a descriptive study, and contributes to the sphere of performance management from a rising economy and engineering management perspective. Second, this paper proposes 2 functions that supervisors might play within the relationship between PMS and worker job enrichment: treated and moderator, within the literature, ‘moderator’ and ‘mediator’ square measure used interchangeably, inflicting confusion.

Review of Literature
Odunayo Salau, Anthonia Adeniji and Adebukola Oyewunmi (2014) studied regarding "Relationship between components of Job Enrichment and structure Performance among the Non tutorial employees in Nigerian Public Universities." Descriptive analysis technique was adopted for this study exploitation 100 and ninety seven (197) valid questionnaires that were completed by elite public universities in Ogun State, South-West Federal Republic of Nigeria. The results of the findings disclosed that there are
direct correlation between job depths, on the duty coaching and core job dimension components of the duty enrichment and workers/organizational performance whereas there was no correlation between motivators’ components and performance. Hence, complete that redoubled recognition of task significance can stimulate the workers to more raise their commitment towards the attainment and realization of the goal and objectives of the institutions/organizations.

Khyzer Bin Dost and Haris Jabbar Khan (2012) studied regarding "Job Enrichment Causes High Level of worker Commitment throughout the Performance of Their Duties: A behavioural Study." a complete of four hundred questionnaires were punctually distributed and picked up when being completed from completely different organizations in Lahore, Rawalpindi, metropolis and capital of Pakistan. The study found that that worker commitment and job enrichment are absolutely interconnected. Additional the roles of the workers are enriched; the upper would be their level of commitment towards the organization. Thereto, additional the workers are committed, the additional can they be productive, hence, the result would be elevated profits for the organizations. Based mostly upon the information collected from four Major cities of Asian country, it absolutely was recognized that if the roles of the workers in any reasonably organization are enriched, their commitment level would increase absolutely which ultimately will increase their productivity level in each, the general public sector still as within the personal sector organizations.

Kolawole prophet Adeyemo, Chika Sehoole and Constancia G. Cueno (2015) studied regarding "The use of the work enrichment technique for higher cognitive process in higher education: The case of the Philippines. The study used a quantitative technique. The respondents of this study consisted of 206 directors. The findings counsel that academic attainment and skill square measure the foremost vital factors for predicting success as associate degree administrator in educational activity. Job enrichment shouldn't solely specialize in the data, expertise and skills of directors, however ought to be extended to embrace the context and dealing conditions of staff. within the context of business enterprise self-denial measures that lead to fewer resources changing into out there for educational activity, it’s vital to own competent decision-makers WHO square measure able to inspire workers.

Venith Vijay and Indradevi (2015) studied regarding "A Study on Job Enrichment and Individual Performance among colleges with Special relevance a personal University." The sample size of the study is fifty six. The finding of this study has well-tries a relationship between Job enrichment and Individual performance. Among job enrichment factors Task Identity contributes a lot of towards enhancing the performance of people. Thus tutorial establishment ought to specialize in giving freedom to their college. This could modify them to utilize their skills and skill and area ought to be provided for the school to complete their, task on their own.

Abdul Ghafoor Awan and Tafique Tahir (2015) studied regarding "Impact of operating atmosphere on employee’s productivity: A case study of Banks and Insurance corporations in Asian country." nearly one hundred seventy five questionnaires were distributed among workers of various banks in several cities and out of them 141 crammed questionnaires were received. Equally sixty five questionnaires received from workers of insurance corporations out of total regarding ninety distributed questionnaires. The study terminated that operating atmosphere is useful increasing employees’ level of productivity. Factors like supervisor support, sensible relation with co staff, coaching and development, engaging and quick incentives and recognition plans and adequate work load square measure useful in developing an operating atmosphere that has positive impact on employees’ level of productivity within the organization. The results additionally support our projected model that was developed for conducting analysis study in banks and Insurance corporations in multiple cities of Southern Punjab in
Asian country. The results additionally send a message to organizations particularly money establishments that by developing a semi conductive atmosphere, the extent of employees’ productivity is inflated and maintained.

Mohammad Jasim Uddin, Rumana Huq Luva & Saad Md. Maroof Hossian (2013) researched that "Impact of structure Culture on worker Performance and Productivity: A Case Study of Telecommunication Sector in Asian country." The findings of the paper considerably demonstrate each positive and negative mannerism of culture that has vital consequences on workers also as corporations’ performance. The paper has lined an in depth vary of cultural traits that embrace from activity aspects to gestural attributes. The paper additionally asserts that structure culture is associate open system approach that has mutualism and interactive association with organizations performance. the subtle and in depth nature of the paper would add price to organization studies discipline by providing a crucial qualitative perception towards structure culture and performance and would initiate more discussions to form an efficient framework between structure culture and its impact on performance.

Research Methodology
Objectives of the Study
● To study the influence of employees’ job enrichment on productivity of food processing units in Dharmapuri district.

Hypothesis of the Study
● There is no association between Job Enrichment and productivity among the food processing units employees in Dharmapuri District.
● There is no influence of employees’ job enrichment on productivity of food processing units in Dharmapuri district.

Multistage Sampling Technique
Multistage sampling technique was adopted for the study. Srivastava (2008) there is only a less effort need to collect the data. Actually no pre plan of executing is there.

Data Collection
Based on the Yamane (1970) formula for determining the sample strength was adopted which suggested 350 as suitable sample size. In order to have responses through all the areas 450 questionnaires (Extra 30%) were distributed and 400 questionnaires were collected and were edited to have 384 samples strength. Out of 384, 254 were male and remaining 130 were female.

Reliability
For all the items in the questionnaire design the alpha values ranged from 0.72 to 0.87. This indicates high reliability of the items in the questionnaire. With these results the consistency, dependability and adoptability are confirmed. With some editions the questionnaire was to be launched for the final study.

Statistical Tools Used
Analysis tools such as Chi-square and multiple regression were adopted in this study.
Chi-square

Chi-square analysis was adopted to find out the actual association between the Job Enrichment and productivity.

Regression

Regression is used to find the influence of independent variables over the dependent variable.

Table 1 Showing chi-square analysis for association between overall enrichment and overall productivity

<table>
<thead>
<tr>
<th>Job Enrichment</th>
<th>Category</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Total</th>
<th>(\chi^2)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td></td>
<td>24</td>
<td>76</td>
<td>38</td>
<td>138</td>
<td>35.9%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.3%</td>
<td>19.8%</td>
<td>9.9%</td>
<td>35.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td></td>
<td>106</td>
<td>8</td>
<td>30</td>
<td>144</td>
<td>37.5%</td>
<td>137.561</td>
</tr>
<tr>
<td></td>
<td></td>
<td>27.6%</td>
<td>2.1%</td>
<td>7.8%</td>
<td>37.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>78</td>
<td>16</td>
<td>8</td>
<td>102</td>
<td>26.6%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20.3%</td>
<td>4.2%</td>
<td>2.1%</td>
<td>26.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>208</td>
<td>100</td>
<td>76</td>
<td>384</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>54.2%</td>
<td>26.0%</td>
<td>19.8%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: primary data

Above table is run on sample of 384 respondents to know the association between job enrichment and productivity. For the statistical purpose the job enrichment is classified into three groups such as high, medium and low. Likewise the productivity is divided into three groups such as high, medium and low.

It is concluded from the above table that the productivity attains the score as (Low- 54.2%, Medium- 26%, and High- 19.8%). Most the employees’ fall in the high score category.

It is concluded from the analysis that the job enrichment attains the score as (Low-35.9%, Medium-37.5%, and High-26.6%). Most the employees’ fall in the medium score category.

The above cross table shows that 106 (27.6%) was the highest score in the job enrichment medium category attain by productivity low category. On the other hand low score job enrichment medium category attain by productivity medium score as 8(2.1%). In job enrichment categories medium score is in high level and productivity categories medium score is in high level.

Null hypothesis \(H_0\): There is no association between association between job enrichment and productivity towards food processing units in Dharmapuri district.

Alternate hypothesis \(H_a\): There an association between association between job enrichment and productivity towards food processing units in Dharmapuri district.

In order to find the association between the job enrichment and productivity towards food processing units in Dharmapuri district chi-square test was applied. It is observed from the chi-square value is 137.561, p value is 0.000. So the null hypothesis is rejected at 1% level of significance.

It is found that there is a significant association between job enrichment and productivity towards food processing units in Dharmapuri district. It is concluded that the three levels of productivity are in good association with the three groups of job enrichment.
Table 2 showing multiple regression analysis for influence of job enrichment on productivity of the employees in food processing units

<table>
<thead>
<tr>
<th>Model Summary</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>R Square</td>
<td>Adjusted R Square</td>
<td>F</td>
<td>p</td>
<td></td>
</tr>
<tr>
<td>.722</td>
<td>.522</td>
<td>.515</td>
<td>82.421</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

Coefficients

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Factors</th>
<th>B</th>
<th>SE</th>
<th>Beta</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.851</td>
<td>.144</td>
<td>5.917</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Skill Variety</td>
<td>.328</td>
<td>.037</td>
<td>.393</td>
<td>8.805</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>Task Identity</td>
<td>-.323</td>
<td>.060</td>
<td>-.391</td>
<td>-5.396</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>Task Significance</td>
<td>.240</td>
<td>.034</td>
<td>.319</td>
<td>7.150</td>
<td>.000</td>
</tr>
<tr>
<td>4</td>
<td>Autonomy</td>
<td>.209</td>
<td>.045</td>
<td>.241</td>
<td>4.701</td>
<td>.000</td>
</tr>
<tr>
<td>5</td>
<td>Feedback</td>
<td>.305</td>
<td>.055</td>
<td>.338</td>
<td>5.545</td>
<td>.000</td>
</tr>
</tbody>
</table>

Dependent Variable: productivity

The multiple regression analysis has been carried a sample of 384 and data considering productivity as a dependent variable and the remaining five job enrichment factors such as skill variety, task identity, task significance, autonomy and feedback. The reaction of the employees' and effect of the job enrichment factors over productivity have been studied by the regression analysis.

Null hypothesis H₀ = Job enrichment do not influence productivity.

Alternate hypothesis H₁ = Job enrichment influence productivity.

The F value obtained for the analysis is 82.421 which are significant at one percent level. Hence the assumed regression model may be considered as a good fit. The value of R² is 0.522 and implies that 52% of productivity was influenced by the above five job enrichment factors.

Considering the significant individual regression coefficients, it is seen that the factors skill variety (Beta – 0.393, t – 8.805, p – 0.000), task identity (Beta – -0.391, t - -5.396, p – 0.000), task significance (Beta – 0.319, t- 7.150, p – 0.000), autonomy (Beta – 0.241, t- 4.701, p – 0.000) and feedback (Beta – 0.338, t- 5.545, p – 0.000). Hence the p values are less than 0.05 and significant at 1% level.

The analysis found that five job enrichment factors such as skill variety, task identity, task significance, and autonomy and feedback factors were influenced on productivity.

Findings

- It is found that there is a significant association between job enrichment and productivity towards food processing units in Dharmapuri district. It is concluded that the three levels of productivity are in good association with the three groups of job enrichment.
- The F value obtained for the analysis is 82.421 which are significant at one percent level. Hence the assumed regression model may be considered as a good fit. The value of R² is 0.522 and implies that 52% of productivity was influenced by the above five job enrichment factors.
- The analysis found that five job enrichment factors such as skill variety, task identity, task significance, and autonomy and feedback factors were influenced on productivity.

Recommendations

- There is an association between job enrichment and employee's productivity and job enrichment moderately influence on employee's productivity. The study recommended that organizations should identifying employees training needs, help employees meet performance targets and offer.
poor performers a chance to improve. These are important to make enhanced employees productivity in food processing units.

- It is also recommended that human resources managers have to take a serious view of organizational justice and implementing human resource policies in order to encourage employees to manifest high levels of commitment.

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INFLUENCE OF SHG ON RURAL WOMEN SOCIAL RECOGNITION IN DHARMAPURI DISTRICT, TAMIL NADU: PATH ANALYSIS APPROACH

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Abstract
The article tries to find out the influence of SHG on rural women social recognition in Dharmapuri district. One objective of this study is reached through proper methodology. Sample size was 341 in all obtained through simple random sampling technique in Dharmapuri district. Researcher designed questionnaire is with 5 point scale in the continuum of agreeing. Reliability of this tool is 0.80 and 0.92. Path analysis was used for data analysis. The analysis found that there is influence of training & motivation and awareness creation on economical development. The study highlighted that there is influence of economical development on rural women social recognition. Hence, it is suggested that there is a need to increase the quantum of loan, and enhance knowledge and management skills of the rural women for different types of ventures to convert them into large borrowers. This may act as a powerful endeavor to increase the impact of SHGs in terms of income, social recognition and empowerment. It is concluded that Social recognition is a process of awareness and capacity building leading to greater participation, to greater decision making power and control, political empowerment, economic empowerment and social empowerment.

Keywords: Social Recognition; Dharmapuri District; Simple Random Sampling Technique; Path Analysis.

Introduction
Women represent around half of the whole human resources in our economy. Nevertheless ladies are the lot of poor and underneath privileged than men as they’re subject to several socioeconomic and cultural constraints. The case is a lot of severe within the rural and backward areas. Ladies development activities should lean importance to eradicate poorness, increase the economic process, for higher customary of living and social recognition. Self facilitate cluster Bank Linkage Programme is raising as a value effective mechanism for providing money services to the “Unreached Poor” that has been triple-crown not solely in meeting money wants of the agricultural poor ladies however conjointly strengthen collective self facilitate capacities of the poor, leading to their authorization and social recognition. Finance in ladies brings a few number impacts. merely obtaining money into the hands of girls will result in raised vanity, management and authorization by serving to them attain larger economic independence and security, that successively offers them the possibility to contribute financially to their households and communities as a result of ladies “tend to stay nothing back for themselves they contribute resolutely to the well-being of their families.SHG by mobilizing ladies around thrift and credit activities have resulted in economic self reliance there by dynamical their social angle and standing within the family and society SHG has emerged as a key programming strategy for many of the ladies development activities.

Review of Literature
Batliwala (1994) had known three approaches to girls’ empowerment: the integrated development approach that centered on women’s survival and bread and butter needs; the economic development approach that aimed to strengthen women’s economic position and also the consciousness approach that organized women into collectives that address the supply of oppression.
Mayoux (1997) argues that the impact of microfinance programmes on girls isn't forever positive. Girls that have started enterprises profit not solely from tiny will increase in financial gain at the value of heavier workloads and compensation pressures. generally their loans square measure employed by men within the family to line up enterprises, or generally girls find yourself being used as unpaid family employees with very little profit. She any points that in some cases women's accrued autonomy has been temporary and has LED to the withdrawal of male support.

Malhotra, et al. (2002) made an inventory of the foremost usually used dimensions of women's authorization, drawing from the frameworks developed by numerous authors in numerous fields of social sciences. Providing overlap, these frameworks advised that women's authorization has to occur on multiple dimensions including: economic, socio-cultural, familial/interpersonal, legal, political, and psychological.

Naila kabeer (2005) in an exceedingly study apparently concludes that whereas access to monetary services will and will create necessary contributions to the economic productivity and social upbeat of poor ladies and their households, it doesn’t “automatically” empower ladies – any further than do education, political quotas, access to waged work or any of the opposite interventions.

Ranjula Island Swaina and Fan Rule Wallentin (2009) within their article 'Does microfinance empower ladies proof from help teams in India' ended that their study powerfully indicate that SHG members are authorized by taking part in microfinance program in the sense that they need a larger propensity to resist existing gender norms and culture that prohibit their ability to develop and create decisions.

Ranjula Island Beaus (2014) will Microfinance Empower Women? help teams in India” ended several strides are created within the right direction and girls are within the method of empowering themselves and NGOs that offer support in monetary services and specialized coaching, have a larger ability to create a positive impact on ladies authorization.

Research Methodology
Research Design
To obtain better answer to the research question, a proper research design is to be framed (Cooper & Schindler 2001; Davis & Cosenza 1988). Descriptive research design has been adopted for the present study. Descriptive study is a fact-finding investigation with adequate interpretation. It focuses on particular aspects or dimensions of the problem studied. It is designed to get the descriptive information and provided information and formulation of more sophisticated studies.

Research Gap
Training and motivation, awareness creation, economical development and rural women social recognition, which are studied individually alone but combined research is not found in previous studies. This study is unique in introducing the dependent variable rural women social recognition, mediator variable economical development and independent variables training and motivation and awareness creation. The title is “INFLUENCE OF SHG ON RURAL WOMEN SOCIAL RECOGNITION IN DHARMAPURI DISTRICT, TAMIL NADU.”

Framework of the Study
This framework of the study is unique in introducing the dependent variable rural women social recognition, mediator variable economical development and independent variables training and motivation and awareness creation.
Objective of the Study
To study the influence of SHG on rural women social recognition in Dharmapuri district.

Hypothesis of the Study
- There is no influence of training and motivation on economical development.
- There is no influence of awareness creation on economical development.
- There is no influence of economical development on rural women social recognition in Dharmapuri district.

Population of the Study
As on March 30th 2010 6807 groups were formed and the women enrolled are 108912 with a saving of Rs. 6665.92 lakhs (Lakshmi and Vadivalagan 2010).

Sample Size Determination
Yamane (1967) provides a simplified formula to calculate sample sizes. This formula was used to calculate the sample size in this study.

\[ n = \frac{N}{1 + N(e)^2} \]

Where \( n \) is the sample size, \( N \) is the population and \( e \) is the level of precision. A 95% confidence level and \( P = 0.5 \) are assumed. When this formula is applied this study,

\[ n = \frac{108912}{1 + 108912(0.05)^2} \]

\[ n = 340.7 \]

Hence the total sample size of 341 numbers which is above the prescribed number of sample has been maintained by the researcher throughout the study.

Sampling Technique
Simple random sampling technique was adopted for the study. Srivastava (2008) there is only a less effort need to collect the data. Actually no pre plan of executing is there.

Data Collection
The sample size of the study is 341 in all. The study was conducted in Dharmapuri district, Tamil Nadu. Questionnaire with 5 point scale is used.

Reliability
For all the items in the questionnaire design the alpha was 0.80 to 92. This indicates high reliability of the items in the questionnaire. With these results the consistency, dependability and adoptability are confirmed.
Statistical Tool Used
Path analysis was adopted in this study. It is used to know the correlation and regression of independent variables with respect to rural women empowerment. Likewise the independent variables are training and motivation and financial support. The variable social recognition is considered as mediator variable. Rural women empowerment is considered as an outcome variable.

Analysis and Interpretation

Path analysis of influence of SHG on rural women social Recognition

Model Fit Indication

<table>
<thead>
<tr>
<th>Chi-Square</th>
<th>p</th>
<th>GFI</th>
<th>AGFI</th>
<th>CFI</th>
<th>NFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.968</td>
<td>0.374</td>
<td>0.995</td>
<td>0.976</td>
<td>0.985</td>
<td>0.987</td>
<td>0.000</td>
</tr>
</tbody>
</table>

From the above table it is found that the calculated chi-square value is 1.968, p value is 0.374 which is greater than 0.05, which indicates that perfectly fit. Here GFI (Goodness of Fit Index) value and AGFI (Adjusted Goodness of Fit Index) values are greater than 0.90 which represent it is a good fit. The calculated CFI (Comparative Fit Index) value and NFI (Normed Fit Index) values are greater than 0.90 which means that it is a perfectly fit. It is found that RMSEA (Root Mean Square Error of Approximation) value is 0.000 which are less than 0.08, which indicates that it is perfectly fit.

Regression Weights Rural Women Empowerment

<table>
<thead>
<tr>
<th>DV</th>
<th>IV</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>B</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economical Development</td>
<td>Training and Motivation</td>
<td>0.226</td>
<td>0.048</td>
<td>4.723</td>
<td>0.257</td>
<td>0.001</td>
</tr>
<tr>
<td>Economical Development</td>
<td>Awareness Creation</td>
<td>3.199</td>
<td>0.305</td>
<td>10.505</td>
<td>0.571</td>
<td>0.001</td>
</tr>
<tr>
<td>Rural Women Social Recognition</td>
<td>Economical Development</td>
<td>0.709</td>
<td>0.112</td>
<td>6.315</td>
<td>0.409</td>
<td>0.001</td>
</tr>
</tbody>
</table>

H<sub>0</sub>: Training and motivation do not influence by economical development.

H<sub>A</sub>: Training and motivation influence by economical development.

Through the path analysis, regression weight as the value of CR is 4.723. The Beta value is 0.257 which indicates that 25.7% of influence is through training and motivation towards economical development. The p value is 0.01; here the p value is less than 1% and the hypothesis is rejected; hence it can be concluded that the training and motivation positively influences economical development.

H<sub>0</sub>: Awareness creation do not influence by economical development.

H<sub>A</sub>: Awareness creation influence by economical development.

Through the path analysis, regression weight as the value of CR is 10.505. The Beta value is 0.571 which indicates that 57.1 % of influence is through awareness creation towards economical development.
development. The p value is 0.01; here the p value is less than 1% and the hypothesis is rejected; hence it can be concluded that the awareness creation positively influences economical development.

\( H_0 \): Economical development do not influence by rural women social recognition.

\( H_A \): Economical development influence by rural women social recognition.

Through the path analysis, regression weight as the value of CR is 6.315. The Beta value is 0.409 which indicates that 40.9 % of influence is through economical development towards rural women social recognition. The p value is 0.01; here the p value is less than 1% and the hypothesis is rejected; hence it can be concluded that the economical development positively influences rural women social recognition.

### Covariance Rural Women Empowerment

<table>
<thead>
<tr>
<th>IV</th>
<th>IV</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>R</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training and Motivation</td>
<td>Awareness Creation</td>
<td>0.254</td>
<td>0.226</td>
<td>1.122</td>
<td>0.080</td>
<td>0.262</td>
</tr>
</tbody>
</table>

\( H_0 \): Awareness creation does not positive relationship with training and motivation.

\( H_A \): Awareness creation positive relationship with training and motivation.

Through the path analysis, covariance weight as the value of CR is 1.122. The covariance value is 0.080 which indicates that 8% of covariance is through awareness creation towards training and motivation. The p value is 0.262; here the p value is greater than 5% and the hypothesis is accepted; hence it can be concluded that the awareness creation does not positive relationship with training and motivation.

### Findings of the Study

1. The analysis found that there is influence of training and motivation on economical development.

2. Path analysis identified that there is influence of awareness creation on economical development.

3. It is found that there is influence of economical development on rural women social recognition in Dharmapuri district.

### Recommendation

There is a need to increase the quantum of loan, and enhance knowledge and management skills of the rural women for different types of ventures to convert them into large borrowers. This may act as a powerful endeavor to increase the impact of SHGs in terms of income, social recognition and empowerment. To summarize the above, it is indicated that the SHG has contributed significantly towards the social recognition and empowerment of the rural women in the study area.

### Conclusion

The article tries to find out the influence of SHG on rural women social recognition in Dharmapuri district. One objective of this study is reached through proper methodology. Sample size was 341 in all obtained through simple random sampling technique in Dharmapuri district. Researcher designed questionnaire is with 5 point scale in the continuum of agreeing. Reliability of this tool is 0.80 and 0.92. Path analysis was used for data analysis. The analysis found that there is influence of training & motivation and awareness creation on economical development. The study highlighted that there is influence of economical development on rural women social recognition. Hence, it is suggested that there is a need to increase the quantum of loan, and enhance knowledge and management skills of the rural women for different types of ventures to convert them into large borrowers. This may act as a
powerful endeavor to increase the impact of SHGs in terms of income, social recognition and
empowerment. It is concluded that Social recognition is a process of awareness and capacity building
leading to greater participation, to greater decision making power and control, political empowerment,
economic empowerment and social empowerment.

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Hills.
PATH ANALYSIS APPROACH: SOCIO-ECONOMIC DEVELOPMENT OF WOMEN ENTREPRENEURS THROUGH MICROFINANCE IN CUDDALORE DISTRICT

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Abstract

The article tries to find out the socio-economic development of women entrepreneurs through microfinance in Cuddalore district. One objective of this study is reached through proper methodology. Sample size was 60 in all obtained through convenience sampling technique in Cuddalore district. Researcher designed questionnaire is with 5 point scale in the continuum of agreeing. Reliability of this tool is 0.82 and 0.88. Path analysis was used for data analysis. The path analysis found that there is no influence of micro credit on socio-economic development of women entrepreneurs in Cuddalore district. The analysis also highlighted that there is influence of microfinance training influence on socio-economic development of women entrepreneurs in Cuddalore district. Hence, it is concluded that the microfinance institutions should provide more short term loans to meet emergencies of small business enterprises, provide insurance on loans and businesses and also provide interest on the savings of small businesses enterprises. The score of the loan should also be sufficient enough to meet the capital necessities of the small business enterprises.

Keywords: Micro Credit, Microfinance Training, Socio-Economic Development, Women Empowerment, Path Analysis and Cuddalore District.

Introduction

The wordbook of Oxford says socio economic science could be a study concerning the interaction of social and economic factors. Per Wikipedia “Socio economic could be a study concerning however the economic activity affects and form it by the social processes”. Per the Yankee Psychological Association Socio-economic standing is usually conceptualized because the social standing of a personal. It’s typically measured as a mixture of education, income, occupation and commonplace of living.

In general socio economic studies area unit carried to grasp the social group and economic conditions of the community. Socio economic studies were carried within the fragile communities to seek out the quality of living of the peoples. Most of the socio economic studies were carried with the aim of finding the impact of policies implementation and to seek out the policies that area unit needed to implement within the communities. The article tries to seek out the socio-economic development of girls entrepreneurs through microfinance in Cuddalore district.

Women’s Role in Economic Development

The contribution of girls to the society can’t be over hawk-eyed as they represent concerning common fraction of the entire population of the planet that accounted for around 496 million as against a complete human population of 1027 million. per world state of affairs, sixty per cent of the operating hours within the world goes to women’s share; makes up thirty per cent of official labour force; and fifty per cent share of the planet economy is contributed by them (DFID, 2000).
Women in Asian countries are major producers of food in terms of valuable, volume, and variety of hours they work. Nearly seventy per cent of all economically active girls are engaged in agriculture as compared to sixty-three per cent of men. In India, regarding eighty per cent of the female population lives within the rural areas and eighty-six per cent of the agricultural girls add agriculture and allied activities (Borah, 1998) and perform a spread of roles in domestic additionally as socio-economic fronts, of which, several are of larger economic significance (Bhople and Palki, 1998). Additionally, seventy per cent of farm work is being performed by girls. The work participation rate of ladies is twenty-three and twenty-seven per cent, severally for urban and rural areas; beside nineteen per cent of the full population work as unpaid family employees. Of the full employees, ninety-four per cent are focused within the informal sectors associated in low talent, position and poor paid jobs within the country (Census of Asian country, 1981).

Need of Rising Standing of Ladies

Any variety of development cannot facilitate girls till or unless their socio-economic standing and bread and butter security are improved in urban additionally as in rural settings. The foremost necessary means that of achieving improvement within the standing of ladies would be to secure for them a good degree of employment opportunities in varied sectors of economy, because the employment enhances economic standing to girls and successively, it paves the means for higher status. For this, most of the developing and beneath developed countries have had larger stress on the requirement for bread and butter security of rural girls by their active involvement within the mainstream of development through granting employment and development schemes, significantly for ladies and youngsters.

Review of Literature

Christian Larbi Ayisi (2015) studied concerning "Assessment of Socio-Economic standing and Demographic Characteristics of Kong Fishing Community in Republic of Ghana." The analysis found that the strengths of the fishing trade at Kong landing beach enclosed the provision of market. The respondents unconcealed that there's high demand for his or her harvest nearly all the time. They conjointly created mention of the presence of the youth United Nations agency act as labor throughout harvest home and at last spoke of the weed harvester that is employed to form the water free from weeds to form harvest home of fish more easily.

Sudarmo, et al. (2015) disbursed "Social political economy Characteristics of Coastal Small-Scale Fisheries in Tegal town, Indonesia." The results of this study incontestable that small-scale fishermen within the city of Tegal is in good shape in terms of economic, social, health, and education standing, or in alternative words the fishermen were on a high level of welfare.

Khanum, (2015) analyzed that "Socio-Economic Conditions of Fishermen: proof from Hakaluki Haor of Asian country." the incidence of poverty level was calculable by CBN (Cost of Basic Needs) methodology. About 68.17 percent was Head Count quantitative relation, the depth of poorness (P1) was twenty-14 percentages and severity of poorness (P2) was three-59 percentages. Moreover, there have been no vital distinction between calculable the poverty level and therefore the incidence poorness curve. It had been a positive relationship between per month expenditure and accumulative share of population.

Vadher, et al. (2014) studied on "Study on socio-economic profile of shrimp farmers of Gujarat State, India." The author terminated that shrimp farming has contributed considerably in a job
generation and infrastructure development of the coastal community and overall development of the coastal areas of Gujarat state. Shrimp culture pool performance was conjointly sensible and therefore the success rate is additionally high. The socio-economic condition of the coastal population has conjointly been improved within the state through shrimp farming.

Bandla Seshagiri, et al. (2014) studied concerning "A Study on girls Entrepreneurship in Non-Descript Rural Fish Markets." The study terminated that girls for generating communal enterprise were a big promoting strategy to avoid infiltration and exploitation by middlemen. Incentivizing market networks, informative services and cold chains not solely scale back labor however conjointly enhances commerce potentials of fisherwomen in rural markets.

Research Methodology

Research Design

To obtain better answer to the research question, a proper research design is to be framed (Cooper & Schindler 2001; Davis & Cosenza 1988). Descriptive research design has been adopted for the present study. Descriptive study is a fact-finding investigation with adequate interpretation. It focuses on particular aspects or dimensions of the problem studied. It is designed to get the descriptive information and provided information and formulation of more sophisticated studies.

Research Gap

Micro credit, microfinance training, socio-economic development and women empowerment, which are studied individually alone but combined research is not found in previous studies. This study is unique in introducing the dependent variable women empowerment, mediator variable socio-economic development and independent variables Micro credit and microfinance training. The title is "SOCIO-ECONOMIC DEVELOPMENT OF WOMEN ENTREPRENEURS THROUGH MICROFINANCE IN CUDDLARE DISTRICT."

Framework of the Study

This framework of the study is unique in introducing the dependent variable women empowerment, mediator variable socio-economic development and independent variables Micro credit and microfinance training.

Figure 1: Conceptual Framework

Objective of the Study

To study the influence of micro credit, microfinance training on women empowerment with respect to socio-economic development of women entrepreneurs in Cuddalore district
Hypotheses of the Study

- There is no influence of micro credit on socio-economic development.
- There is no influence of microfinance training on socio-economic development.
- There is no influence of microfinance training on women empowerment.
- There is no influence of socio-economic development on women empowerment.

Sampling Technique

Convenience sampling technique was adopted for the study. Srivastava (2008) there is only a less effort need to collect the data. Actually no pre plan of executing is there.

Questionnaire Construction

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Variable</th>
<th>Item</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Micro Credit</td>
<td>10</td>
<td>Smile Dzisi and Francis Obeng (2013)</td>
</tr>
<tr>
<td>2</td>
<td>Microfinance Training</td>
<td>7</td>
<td>Mulugeta Chane Wube (2010)</td>
</tr>
<tr>
<td>3</td>
<td>Socio-Economic Development</td>
<td>28</td>
<td>Self Development</td>
</tr>
<tr>
<td>4</td>
<td>Women Empowerment</td>
<td>5</td>
<td>Warui Paul Wanjohi (2015)</td>
</tr>
</tbody>
</table>

Data Collection

The sample size of the study is 60 in all. The study was conducted in Cuddalore district, Tamil Nadu. Questionnaire with 5 point scale is used.

Reliability

For all the items in the questionnaire design the alpha was 0.82 to 89. This indicates high reliability of the items in the questionnaire. With these results the consistency, dependability and adoptability are confirmed.

Statistical Tool Used

Path analysis was adopted in this study. It is used to know the correlation and regression of independent variables with respect to socio-economic development. Likewise the independent variables are Micro credit and microfinance training. The variable socio-economic development is considered as mediator variable. Women empowerment is considered as an outcome variable.

Analysis and Interpretation

![Diagram](image)

Figure 2: Path Analysis of Socio-Economic Development

From the path diagram the dependent variable is women empowerment, mediator variable is socio-economic development and independent variables are Micro credit and microfinance training.
Table 1 Model Fit Indication

<table>
<thead>
<tr>
<th>Chi-Square</th>
<th>p</th>
<th>GFI</th>
<th>AGFI</th>
<th>CFI</th>
<th>NFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.595</td>
<td>0.107</td>
<td>0.982</td>
<td>0.944</td>
<td>0.999</td>
<td>0.999</td>
<td>0.025</td>
</tr>
</tbody>
</table>

Source: Primary data

From the above table it is found that the calculated chi-square value is 2.595, p value is 0.107 which is greater than 0.05, which indicates that perfectly fit. Here GFI (Goodness of Fit Index) value and AGFI (Adjusted Goodness of Fit Index) values are greater than 0.90 which represent it is a good fit. The calculated CFI (Comparative Fit Index) value and NFI (Normed Fit Index) values are greater than 0.90 which means that it is a perfectly fit. It is found that RMSEA (Root Mean Square Error of Approximation) value is 0.025 which are less than 0.08, which indicates that it is perfectly fit.

Table 2 Regression Weights of Socio-Economic Development

<table>
<thead>
<tr>
<th>DV</th>
<th>IV</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>B</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-Economic Development</td>
<td>Micro Credit</td>
<td>-.018</td>
<td>.057</td>
<td>-3.20</td>
<td>-0.035</td>
<td>.749</td>
</tr>
<tr>
<td>Socio-Economic Development</td>
<td>Microfinance Training</td>
<td>.263</td>
<td>.065</td>
<td>4.067</td>
<td>.441</td>
<td>***</td>
</tr>
<tr>
<td>Women Empowerment</td>
<td>Microfinance Training</td>
<td>.139</td>
<td>.040</td>
<td>3.434</td>
<td>.263</td>
<td>***</td>
</tr>
<tr>
<td>Women Empowerment</td>
<td>Socio-Economic Development</td>
<td>.592</td>
<td>.068</td>
<td>8.740</td>
<td>.670</td>
<td>***</td>
</tr>
</tbody>
</table>

Source: Primary data

H₀: Micro credit do not influence by socio-economic development.

Hₐ: Micro credit influence by socio-economic development.

Through the path analysis, regression weight as the value of CR is -0.320. The Beta value is -0.035 which indicates that 3% of influence is through micro credit towards socio-economic development. The p value is 0.749; here the p value is greater than 5% and the hypothesis is accepted. Hence, it can be concluded that the micro credit does not influence on socio-economic development of women entrepreneurs in Cuddalore district.

H₀: Microfinance training do not influence by socio-economic development.

Hₐ: Microfinance training influence by socio-economic development.

Through the path analysis, regression weight as the value of CR is 4.067. The Beta value is 0.441 which indicates that 44.1% of influence is through microfinance training towards socio-economic development. The p value is 0.010; here the p value is less than 1% and the hypothesis is rejected. Hence, it can be concluded that the microfinance training influences socio-economic development of women entrepreneurs in Cuddalore district.

H₀: Microfinance training do not influence by women empowerment.

Hₐ: Microfinance training influence by women empowerment.

Through the path analysis, regression weight as the value of CR is 3.434. The Beta value is 0.263 which indicates that 26.3% of influence is through microfinance training towards women empowerment. The p value is 0.010; here the p value is less than 1% and the hypothesis is rejected. Hence, it can be concluded that the microfinance training influences women empowerment in Cuddalore district.

H₀: Socio-economic development do not influence by women empowerment.

Hₐ: Socio-economic development influence by women empowerment.
Through the path analysis, regression weight as the value of CR is 8.740. The Beta value is 0.670 which indicates that 67% of influence is through socio-economic development towards women empowerment. The p value is 0.010; here the p value is less than 1% and the hypothesis is rejected. Hence, it can be concluded that the socio-economic development influences women empowerment in Cuddalore district.

Findings of the Study
- The path analysis found that there is no influence of micro credit on socio-economic development of women entrepreneurs in Cuddalore district.
- The analysis identified that there is an influence of microfinance training influence on socio-economic development of women entrepreneurs in Cuddalore district.
- It is found that there is an influence of microfinance training influence on women empowerment in Cuddalore district.
- The path analysis also found that there is an influence of Socio-economic development on women empowerment in Cuddalore district.

Recommendations of the Study
- It is recommended that microfinance institutions should provide more short term loans to meet emergencies of small business enterprises, provide insurance on loans and businesses and also provide interest on the savings of small businesses enterprises. The score of the loan should also be sufficient enough to meet the capital necessities of the small business enterprises.
- It is recommended that the problems of small business enterprises faced in repayment of microfinance loans such as short period for repayment, monthly/weekly/daily repayments, demand of security for high amounts and high interest rate and their effect on the growth of their small businesses enterprises should be looked at, particularly those factors which negatively affect the growth of small businesses enterprises.

Conclusion of the Study
The article tries to find out the socio-economic development of women entrepreneurs through microfinance in Cuddalore district. One objective of this study is reached through proper methodology. Sample size was 60 in all obtained through convenience sampling technique in Cuddalore district. Researcher designed questionnaire is with 5 point scale in the continuum of agreeing. Reliability of this tool is 0.82 and 0.88. Path analysis was used for data analysis. The path analysis found that there is no influence of micro credit on socio-economic development of women entrepreneurs in Cuddalore district. The analysis also highlighted that there is influence of microfinance training influence on socio-economic development of women entrepreneurs in Cuddalore district. Hence, it is concluded that the microfinance institutions should provide more short term loans to meet emergencies of small business enterprises, provide insurance on loans and businesses and also provide interest on the savings of small businesses enterprises. The score of the loan should also be sufficient enough to meet the capital necessities of the small business enterprises.

References
OPERATIONAL EFFICIENCY AND PROFITABILITY ANALYSIS OF CORPORATE HOSPITALS IN INDIA

Dr. P. Savitha
Assistant Professor of Commerce, Bharathiar University Arts and Science College
Kanagamalai, Aval Poondurai (Via), Erode

Introduction
Hospital is basically a service based organization and it offers considerable advantages to both the patient and the society at large. Certain health problems require intensive medical treatment and personal care which normally cannot be made available at home or in the clinic of a doctor, but they are possible only in a hospital where a large number of professionally and technically skilled people apply their knowledge and skills with the help of world class advanced and sophisticated equipment. Healthcare industry in India has been growing at a tremendous pace in the past two decades and is expected to record a Compound Annual Growth Rate of 16.5 percent during 2008-2020. In order to provide world-class service, most of the corporate hospitals use high-end technology and high-end specialists for complex treatments like plastic surgery, cosmetic surgery, open heart surgery, joint replacements, neurosurgery etc. Corporate hospitals make use of the latest technology available and perform more complex procedures and treatments. They possess a large number of professionally and technically skilled people who apply their knowledge and skill with the help of world-class expertise, advanced sophisticated equipment’s and appliances.

Significance of the Study
The patients’ expectations from the modern healthcare organizations have increased considerably. In the recent years they have shifted their interest to the availability of facilities in a hospital. Now, the patient trusts the hospitals with well-reputed doctors. In this context, it is necessary to have a separate cadre of administrators who combine some knowledge of medical system with sound management principles. In the present changed scenario, the public shows interest in the corporate hospitals which run their organizations on scientific principles. Some of the distinct features of these corporate hospitals are (a) provision of sophisticated services in various fields of specialization, (b) availability of all diagnostic facilities under one roof and (c) availability of different specialists without any delay or inconvenience. Corporate hospitals make these facilities possible only with proper administration of management functions, thereby leading to operational efficiency. If a patient visits the multi-specialty hospital, he is provided with the benefits including master check-up without searching for each and every specialized doctor’s since they are readily available for all sorts of health problems. The importance of profit in judging and directing business affairs has been recognized both by economic thinkers and accounting practitioners. The management of a hospital is generally eager to measure its operating efficiency of a firm and its ability to ensure adequate return to its shareholders depending ultimately on the profits earned. Moreover, the profits provide resources for expansion thereby creating health to the corporate hospitals and wealth to their shareholders.
Statement of the Problem

The World Health Report 2000 called attention to the importance of efficiency in the functions of a health system and ultimately in achieving the goals of health improvement, responsiveness and fairness in financing. Efficiency has been the subject of research in hospital services especially corporates. Operational efficiency can be defined as the ratio between the input to run a operation and the output gained. However, in practice, corporate hospitals also have some drawbacks. Basically, an average Indian citizen is not in a position to go to corporate hospital because of non-affordability. Middle-income group and low income group are not in a position to use this facility because of the high consultation and surgical fee charged. In this context, the question arises as to how many patients can utilize these services. Only higher income group can afford leaving all the other groups out of the reach. Still, there are huge corporate hospitals that provide services at affordable cost to become profitable. While improving the operational efficiency, the output to input ratio improves. In order to attain operational efficiency, the hospitals need to minimize redundancy and waste while leveraging the resources that contribute most to its success and utilizing the best of its workforce, technology and service processes. There are many potential measurements to identify the outputs of a hospital as the number of cases treated, the number of procedures performed, the number of inpatients and outpatients per day, bed turnover and bed occupancy among others. The output or combination of outputs to use depend on the objectives of the corporate hospitals and on the level of measurement activities.

Objectives of the Study

The study had been conducted with the following objectives to analyze the above problems:

1. To analyze the operational and technical efficiency of the corporate hospitals.
2. To evaluate the profit earning capacity of corporate hospitals and to identify the factors that determine their profitability.
3. To find out the influence of liquidity on the profitability of corporate hospitals.
4. To probe the solvency position and wealth-creation ability of corporate hospitals.
5. To suggest necessary measures to the policy-makers for better efficiency of the hospital industry.

Hypothesis of the Study

The following hypotheses had been formulated and tested to fulfill the objectives of the study:

Ho1: The operational and technical efficiency of corporate hospitals are equal.
Ho2: The profit earning capacity of corporate hospitals are equal.
Ho3: The liquidity position of the corporate hospitals influence their profitability.
Ho4: The corporate hospitals are equal in terms of their solvency position and wealth creation capacity.

Scope of the Study

The present study mainly focused on the operational efficiency and profitability analysis of corporate hospitals. Only those corporate hospitals that raise their share capital through public, listed in stock exchange and multi-specialized in nature alone were considered for the study. Similarly, the researcher used Questionnaire for collecting primary data required for analyzing the technical efficiency. The questions were confined to the data required for analysis.
Sample Selection

Out of the eight corporate 'Hospitals/diagnostics' listed in Bombay Stock Exchange, only four were multi-specialized hospitals, the rest being either single-specialty or diagnostic. Therefore, all the four hospitals had been selected as the study units.

Sample Units

The sample units selected for the study were:

Table 1.1 List of Sample Units

<table>
<thead>
<tr>
<th>S. No</th>
<th>Corporate Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Apollo Hospital Enterprises Limited (AHEL)</td>
</tr>
<tr>
<td>2</td>
<td>Indraprastha Medical Corporation Limited (IMCL)</td>
</tr>
<tr>
<td>3</td>
<td>Fortis Healthcare Limited (FHL)</td>
</tr>
<tr>
<td>4</td>
<td>Kovai Medical Center Hospital (KMCH)</td>
</tr>
</tbody>
</table>

Profile of the Study Area

The Hospital is an integral part of social organization. Its function is to provide complete healthcare to the sick and injured without any social, economic or racial discrimination. Apollo Hospitals, widely recognized as the pioneer of private healthcare in India, was the country's first corporate hospital. The first Apollo Hospital was opened in Chennai during the year 1983. It was founded out of the determination to lead a complete transformation in Indian healthcare. Apollo’s Founder Chairman, Dr. Prathap C Reddy was the driving force behind the inception. Credited as the architect of modern Indian healthcare, Dr. Prathap C Reddy started Apollo with the mission of bringing world-class healthcare to India, at a price point that Indians could afford. The Apollo Hospitals Group, which was started as a 150-bed hospital, operates 9200 beds across 64 hospitals today. Indraprastha Medical Corporation Limited (IMCL) was incorporated in 1988. It operates the Indraprastha Apollo Hospitals (IAH), a 695-bed multi-specialty institute in New Delhi, which is a part of the Apollo Hospitals group. IMCL was the first hospital in India to be internationally accredited by the Joint Commission International (JCI), a US-based healthcare services accreditation body, in June 2005. It has plans to set up five satellite centres.

Fortis Healthcare Ltd was incorporated on 28th February 1996 as Rancare Ltd. The name of the hospital was changed to Fortis Healthcare Ltd., on 20th June 1996 and it was renamed as Fortis HealthCare Ltd on 6th March 2012. The registered office is located at Okhla Road in New Delhi. The equity shares of the company were listed at the Bombay Stock 63 Exchange (BSE) and National Stock Exchange (NSE). Fortis Healthcare is a part of the Ranbaxy Group and was promoted by Malvinder Mohan Singh and his brother Shivinder Mohan Singh. The former is the Chairman of the company and his brother is the Managing Director.

KMCH was incorporated on 29th August 1985. The company has been promoted by Dr. N. G. Palanisawami and associates comprising several doctors practising in the USA, UK and many other countries including India. The main objectives of the company include establishment and running of multi-speciality hospital. The company has setup a modern 250 beds multispeciality hospital near Coimbatore in Tamilnadu with support from internationally acquired professionals backed by leading Indian doctors and well-trained support staff.

Operational Efficiency Analysis of Corporate Hospitals

Operational efficiency is the tactical planning of the corporate hospitals to keep a healthy balance between cost and services. It identifies the wasteful processes that contribute to drainage of resources.
and organizational profits. It deals with minimizing waste and maximizing the benefits of resource to provide better services to the patients. The operational efficiency of corporate hospitals in India had been analyzed and computed using the activity ratios.

1. Debtors turnover ratio
2. Creditors turnover ratio
3. Working capital turnover ratio

**Period of the Study**

The present study covered a period of twelve years starting from 2003-2004 to 2014-2015 since full-fledged data were available for the said period only.

**Tools used**

The study had employed the following tools for analysis:

- Ratio analysis
- Mean, Standard Deviation, Co-efficient of Variations and Compound Annual Growth Rate (CAGR)
- ANOVA

**Debtors Turnover Ratio**

The corporate hospitals do not render 'credit service' to their patients. Whether inpatient or outpatient, the 'hospital bill' had to be paid immediately or at least on the day of discharge. Hence, debtors in case of patients cannot be aroused. However, there are situations where the hospitals have receivables either from drug suppliers or from any parties. Higher the value of receivable turnover, the more efficient is the management of debtors or more liquid the debtors are, better the hospitals is, in terms of collecting their accounts receivables. Therefore an attempt was made to find out the efficiency of study units in collection of receivables.

**Table 1.2 Debtors Turnover Ratio of Corporate Hospitals (in times)**

<table>
<thead>
<tr>
<th>Years</th>
<th>AHEL</th>
<th>IMCL</th>
<th>FHL</th>
<th>KMCH</th>
<th>Average Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-2004</td>
<td>7.11</td>
<td>11.71</td>
<td>10.49</td>
<td>43.79</td>
<td>18.27</td>
</tr>
<tr>
<td>2004-2005</td>
<td>7.74</td>
<td>8.33</td>
<td>11.92</td>
<td>37.63</td>
<td>16.40</td>
</tr>
<tr>
<td>2005-2006</td>
<td>8.33</td>
<td>6.48</td>
<td>6.95</td>
<td>40.13</td>
<td>15.47</td>
</tr>
<tr>
<td>2006-2007</td>
<td>9.53</td>
<td>6.21</td>
<td>4.50</td>
<td>45.70</td>
<td>16.48</td>
</tr>
<tr>
<td>2007-2008</td>
<td>10.03</td>
<td>9.24</td>
<td>4.23</td>
<td>34.61</td>
<td>14.53</td>
</tr>
<tr>
<td>2009-2010</td>
<td>9.97</td>
<td>14.99</td>
<td>3.45</td>
<td>33.74</td>
<td>15.54</td>
</tr>
<tr>
<td>2010-2011</td>
<td>9.82</td>
<td>14.52</td>
<td>3.73</td>
<td>31.65</td>
<td>14.93</td>
</tr>
<tr>
<td>2011-2012</td>
<td>8.98</td>
<td>13.62</td>
<td>3.64</td>
<td>45.40</td>
<td>17.91</td>
</tr>
<tr>
<td>2012-2013</td>
<td>8.50</td>
<td>12.92</td>
<td>3.60</td>
<td>81.06</td>
<td>26.52</td>
</tr>
<tr>
<td>2013-2014</td>
<td>8.63</td>
<td>10.87</td>
<td>4.09</td>
<td>58.62</td>
<td>20.55</td>
</tr>
<tr>
<td>2014-2015</td>
<td>8.71</td>
<td>11.89</td>
<td>4.71</td>
<td>59.76</td>
<td>21.27</td>
</tr>
<tr>
<td><strong>MEAN</strong></td>
<td>8.96</td>
<td>11.13</td>
<td>5.42</td>
<td>45.49</td>
<td>17.75</td>
</tr>
<tr>
<td><strong>SD</strong></td>
<td>0.93</td>
<td>2.84</td>
<td>2.75</td>
<td>13.89</td>
<td>5.10</td>
</tr>
<tr>
<td><strong>CV</strong></td>
<td>10.37</td>
<td>25.51</td>
<td>50.81</td>
<td>30.55</td>
<td>29.31</td>
</tr>
<tr>
<td><strong>CAGR</strong></td>
<td>2.05</td>
<td>0.15</td>
<td>-7.69</td>
<td>3.16</td>
<td>-0.58</td>
</tr>
</tbody>
</table>

*Source: Computed*

It can be understood from Table 1.2 that a moderate fluctuating trend prevailed in the debtors’ turnover ratio of the corporate hospital industry with an average of 17.75 times. Depending upon the
collection ability and credit policy, the average debtors’ turnover ratio differed from hospital to hospital. The highest average of 45.49 times was seen in Kovai Medical Center Hospital followed by Indraprastha Medical Corporation Limited (11.13 times) and Apollo Hospitals Enterprises Limited (8.96 times). The performance of Kovai Medical Center Hospital was satisfactory because their average debtors’ turnover ratio were higher than the industry average while the other hospitals had low turnover ratio compared to industry average. Fortis Healthcare Limited had the least ratio of 5.42 times among the study units and which was nearly three times less than the industry average.

On the basis of CV of debtors turnover ratio, greater consistency was found in Apollo Hospitals Enterprises Limited followed by Indraprastha Medical Corporation Limited that were below industry CV of 29.31. The lower consistency was realized in other two hospitals. The CAGR of this ratio was negative in Fortis Healthcare Limited leading corporate hospital industry also to negative trend. The other hospitals had registered minimum but positive growth rate.

With a view to test the significant difference in the debtors’ turnover ratio of corporate hospital industry study units, the ‘F’ test had been applied.

**H0**: There is no significant difference in the debtors’ turnover ratio of corporate hospitals.

<table>
<thead>
<tr>
<th>Source of Variations</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Squares</th>
<th>‘f’ value</th>
<th>‘p’ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>12515.498</td>
<td>3</td>
<td>4171.833</td>
<td>72.950</td>
<td>.000**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>2516.253</td>
<td>44</td>
<td>57.188</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>15031.751</td>
<td>47</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**- significant at 1% level**

In order to test the hypothesis, analysis of variance was applied among the hospitals. It was interpreted from Table 1.3 that the calculated value of ‘p’ was less than 0.01. Hence significant difference exists and the null hypothesis was rejected. Thus, it can be concluded that significant difference existed in the debtors’ turnover ratio of corporate hospitals.

**Creditors Turnover Ratio**

The corporate hospitals, generally purchases various provisions like materials to canteen, medicines, kit, biomedical equipment and apparatus, on credit. The hospital has to be prompt in making payment within due time. The creditors’ turnover ratio is a vital tool of analysis, as hospitals can reduce its requirement of the current assets by relying on the suppliers’ credit. It is a ratio between the net credit purchase and the average amount of creditors outstanding during the year. A higher ratio indicates that the creditors are not paid in time, while a lower ratio indicates payment of creditors quickly. The table 1.4 disclosed that among the study units, Apollo Hospitals Enterprise Limited had registered high creditors turnover ratio of 26.79 times among the study units followed by Kovai Medical Center Hospital with 24.85 times that were above the industry average of 16.17 times. The other two hospitals, Indraprastha Medical Corporation Limited and Fortis Healthcare Limited recorded below industry average indicating the efficient payment to creditors.

<table>
<thead>
<tr>
<th>Years</th>
<th>AHEL</th>
<th>IMCL</th>
<th>FHL</th>
<th>KMCH</th>
<th>Average Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-2004</td>
<td>30.56</td>
<td>5.78</td>
<td>4.76</td>
<td>18.96</td>
<td>15.01</td>
</tr>
<tr>
<td>2004-2005</td>
<td>22.52</td>
<td>7.90</td>
<td>4.25</td>
<td>17.91</td>
<td>13.14</td>
</tr>
<tr>
<td>2005-2006</td>
<td>20.12</td>
<td>5.76</td>
<td>5.36</td>
<td>20.31</td>
<td>12.89</td>
</tr>
</tbody>
</table>
On the basis of CV of creditors turnover ratio, greater consistency was found in Apollo Hospitals Enterprise Limited followed by Fortis Healthcare Limited that were below industry CV of 20.00. The lower consistency was realized in other two hospitals. Except Apollo Hospitals Enterprise Limited, all other hospitals and industry as a whole recorded positive CAGR. The highest CAGR of 5.92 per cent was seen in Indraprastha Medical Corporation Limited followed by 5.58 per cent in Kovai Medical Center Hospital, while lowest turnover was found in Fortis Healthcare Limited.

With a view to test the significant difference in the creditors’ turnover ratio of corporate hospital industry study units, the ‘F’ test had been applied. The calculated value of ‘p’ was less than 0.01. Hence significant difference exists and the null hypothesis was rejected. Thus, it can be concluded that significant difference existed in the creditors’ turnover ratio of corporate hospitals.

<table>
<thead>
<tr>
<th>Source of Variations</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Squares</th>
<th>‘f’ value</th>
<th>‘p’ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4511.930</td>
<td>3</td>
<td>1503.977</td>
<td>87.003</td>
<td>.000**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>760.603</td>
<td>44</td>
<td>17.286</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5272.533</td>
<td>47</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**- significant at 1% level

In order to test the hypothesis, analysis of variance was applied among the hospitals. It was understood from Table 1.5 that the calculated value of ‘p’ was less than 0.01. Hence significant difference exists and the null hypothesis was rejected. Thus, it can be concluded that significant difference existed in the creditors' turnover ratio of corporate hospitals.

Working Capital Turnover Ratio

The corporate hospital requires working capital to undertake their day-to-day activities as like any other forms of business organizations. Working capital ratio measures the smooth running of hospitals and effective utilization of working capital. The ratio establishes relationship between "cost of service” and working capital. A higher ratio is an indication of lower investment in working capital and more profit.

It was found from Table 1.6 that Apollo Hospitals Enterprise Limited had recorded high average working capital turnover ratio of 71.75 times followed by Kovai Medical Center Hospital (46.93 times) that were above the industry average of 39.85, while the other two hospitals, Indraprastha Medical Corporation Limited (28.81 times) and Fortis Healthcare Limited (11.92 times) showed below industry average.
On the basis of CV of working capital turnover ratio, greater consistency was found in Kovai Medical Center Hospital followed by Apollo Hospitals Enterprise Limited and Indraprastha Medical Corporation Limited that were below industry CV of 60.03. The lower consistency was realized in Fortis Healthcare Limited. The CAGR of this ratio was positive in all the hospitals and industry as a whole. The highest and lowest CAGR were found in Apollo Hospitals Enterprise Limited and Indraprastha Medical Corporation Limited respectively.

Table 1.6 Working Capital Turnover Ratio of Corporate Hospitals (in times)

<table>
<thead>
<tr>
<th>Years</th>
<th>AHEL</th>
<th>IMCL</th>
<th>FHL</th>
<th>KMCH</th>
<th>Average Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-2004</td>
<td>31.21</td>
<td>27.54</td>
<td>28.87</td>
<td>33.13</td>
<td>30.19</td>
</tr>
<tr>
<td>2004-2005</td>
<td>42.75</td>
<td>24.13</td>
<td>05.86</td>
<td>37.00</td>
<td>27.43</td>
</tr>
<tr>
<td>2005-2006</td>
<td>42.75</td>
<td>24.13</td>
<td>00.08</td>
<td>38.11</td>
<td>26.27</td>
</tr>
<tr>
<td>2006-2007</td>
<td>64.31</td>
<td>07.56</td>
<td>11.09</td>
<td>54.00</td>
<td>34.24</td>
</tr>
<tr>
<td>2007-2008</td>
<td>75.73</td>
<td>05.84</td>
<td>00.95</td>
<td>57.19</td>
<td>34.93</td>
</tr>
<tr>
<td>2008-2009</td>
<td>95.40</td>
<td>18.69</td>
<td>02.00</td>
<td>42.72</td>
<td>39.70</td>
</tr>
<tr>
<td>2009-2010</td>
<td>92.45</td>
<td>29.24</td>
<td>00.50</td>
<td>42.60</td>
<td>41.20</td>
</tr>
<tr>
<td>2010-2011</td>
<td>99.38</td>
<td>45.38</td>
<td>03.49</td>
<td>48.45</td>
<td>49.17</td>
</tr>
<tr>
<td>2011-2012</td>
<td>75.79</td>
<td>29.51</td>
<td>05.67</td>
<td>48.54</td>
<td>39.88</td>
</tr>
<tr>
<td>2012-2013</td>
<td>61.60</td>
<td>40.77</td>
<td>06.90</td>
<td>44.89</td>
<td>38.54</td>
</tr>
<tr>
<td>2013-2014</td>
<td>72.16</td>
<td>47.16</td>
<td>01.18</td>
<td>55.78</td>
<td>44.07</td>
</tr>
<tr>
<td>2014-2015</td>
<td>107.46</td>
<td>45.78</td>
<td>76.45</td>
<td>60.78</td>
<td>72.62</td>
</tr>
<tr>
<td>MEAN</td>
<td>71.75</td>
<td>28.81</td>
<td>11.92</td>
<td>46.93</td>
<td>39.85</td>
</tr>
<tr>
<td>SD</td>
<td>23.35</td>
<td>13.45</td>
<td>20.87</td>
<td>8.35</td>
<td>16.50</td>
</tr>
<tr>
<td>CV</td>
<td>32.54</td>
<td>46.67</td>
<td>175.12</td>
<td>17.80</td>
<td>60.03</td>
</tr>
<tr>
<td>CAGR</td>
<td>13.16</td>
<td>5.21</td>
<td>10.23</td>
<td>6.26</td>
<td>8.71</td>
</tr>
</tbody>
</table>

Source: Computed

With a view to test the significant difference in the working capital turnover ratio of corporate hospital industry study units, the 'F' test had been applied.

H₀: There is no significant difference in the working capital turnover ratio of corporate hospitals.

Table 1.7 Working Capital Turnover Ratio – ANOVA Test

<table>
<thead>
<tr>
<th>Source of Variations</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Squares</th>
<th>'F' value</th>
<th>'p' value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>23636.000</td>
<td>3</td>
<td>7878.667</td>
<td>23.456</td>
<td>.000**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>14779.264</td>
<td>44</td>
<td>335.892</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>38415.264</td>
<td>47</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**- significant at 1% level

In order to test the hypothesis, analysis of variance was applied among the hospitals. It was depicted from Table 1.7 that the calculated value of 'p' was less than 0.01. Hence significant difference exists and the null hypothesis was rejected. Thus, it can be concluded that significant difference existed in the working capital turnover ratio of corporate hospitals.

Conclusion

While analyzing the operational efficiency, Apollo Hospitals Enterprise Limited was efficient in terms of working capital management, and utilization of fixed assets. Indraprastha Medical Corporation Limited was efficient in obtainin high turnover on its invested capital. Fortis Healthcare Limited was efficient in payment of debts, inventory turnover, and utilization of current assets. Kovai Medical Center Hospital was excellent in collection of debts alone.
Findings

- The highest mean of 45.49 times was recorded in Kovai Medical Center Hospital, which was above the industry average of 17.75 times. The other three hospitals far below the industry average of which Fortis Healthcare Limited was very poor in debt collection.

- The lowest average of 5.66 times was registered in Fortis Healthcare Limited followed by 7.39 times in Indraprastha Medical Corporation Limited indicating that the hospitals were efficient in payment of their credit since they were far below the industry average of 16.17 times.

- The highest and above industry average of 71.75 times was registered in Apollo Hospitals Enterprise Limited followed by Kovai Medical Center Hospital 46.93 times. The working capital efficiency of the other two hospitals seems to be dissatisfactory.

- It was also witnessed through ANOVA that significant difference exists among debtors, creditors and working capital turnover ratio of corporate hospitals.

Suggestions

- The Fortis Healthcare Limited seems to inefficient in managing accounts receivables and payables.

- The debtors and creditors turnover ratio was unsatisfactory during the study period.

- The hospital shall adopt enduring credit mechanism so as to protect its goodwill.

- Similarly, the hospital failed to maintain sufficient working capital to meet its day to day requirements also that had to be duly addressed.

References

ELECTRONIC BANKING IN INDIA: INNOVATIONS, CHALLENGES AND OPPORTUNITIES

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Abstract
The present and future of any economy depends upon the success and development of banking. The objective can’t be achieved with the traditional banking as now is the age of technology. Indian banking industry, today, is in the midst of an IT (Information Technology) revolution. The competition among the banks has led to the increasing total banking automation in the Indian banking industry. E-Banking is a generic term encompassing internet banking, telephone banking, mobile banking etc. In other words, it is a process of banking services and products through electronic channels such as telephone, internet, cell phone etc. The concept and scope of E-banking is still evolving. The present paper has focused on the need and benefits of E-banking. It has also revealed the current status of financial innovations in Indian Banking sector. It also highlighted the challenges faced in E-banking and the opportunities available with the banks in E-banking.

Keywords: E-Banking, ATMs, Information Technology, RTGS, Debit and Credit cards

Introduction
Banking is the lifeline of an economy. The present and future of any economy depends upon the success and development of banking. The objective can’t be achieved with the traditional banking as now is the age of technology. Indian banking industry, today, is in the midst of an IT (Information Technology) revolution. The competition among the banks has led to the increasing total banking automation in the Indian banking industry. Finland was the first country in the world to have taken a lead in E-banking. In India, it was ICICI bank which initiated E-banking as early as 1997 under the brand name Infinity.

Need and Benefits of E-Banking
Many inventions and revolutions have taken place in the history of banking but no such things have changed the business of banking as fast as the e-banking revolution. Now-a-days, banks all over the world are making their business strategies in the light of new opportunities offered by e-banking. E-banking has facilitated banks to scale borders, change strategic behaviour and thus bring about new possibilities. E-banking has encouraged real banking behaviour closer to neoclassical economic theories of market functioning. As there is presence of absolute transparency of the market, clients (both business and retail) can make comparison of the services provided by various banks easily. For example, at every click on the internet you’ll face your competitors.

If clients are not happy and satisfied with the products, prices or services offered by a particular bank, they are capable of changing their banking partner very easily as compared to what happens in the physical or real bank-client relationship. Therefore, from the view-point of banks, use of the internet
has significantly reduced the physical costs of banking operations. Thus, e-banking services whether delivered online or through other mechanisms, have spread quickly in recent years. The primary benefit of e-banking from the bank customers’ point of view is significant saving of time by the automation of banking services processing and introduction of an easy maintenance tools for managing customer’s money. Other benefits of E-banking are also there such as reduction in costs in accessing and using the banking services, increase in comfort and timesaving, quick and continuous access to information, better management of cash, convenience in performing banking transactions, speed in getting response, proper management of funds.

Current Status of Financial Innovations in Indian Banking Sector

Today banking is known as innovative banking. Information technology has given rise to new innovations in the product designing and their delivery in the banking and finance industries. Customer services and customer satisfaction are their prime work. Current banking sector has come up with a lot of initiatives that oriented to providing a better customer services with the help of new technologies. Banking through internet has emerged as a strategic resource for achieving higher efficiency, control of operations and reduction of cost by replacing paper based and labour intensive methods with automated processes thus leading to higher productivity and profitability. Financial innovation associated with technological change totally changed the banking philosophy and that is further tuned by the competition in the banking industry. Challenging business environment within the banking system create more innovation in the fields of product, process and market. A study on the Internet users, conducted by Internet and Mobile Association of India (IAMAI), found that about 23% of the online users prefer Internet Banking as the banking channel in India, second to ATM which is preferred by 53%. Out of the 6,365 Internet users sampled, 35% use online banking channels in India.

Plastic money is the alternative to the cash or standard money. It is convenient to carry. The various Plastic money/cards include ATM cards, Debit Card, ATM cum Debit Card, Credit Card. Plastic money was a delicious gift to Indian market. Now several new features added to plastic money to make it more attractive. The introduction of ATMs in banks has transformed banking by providing banking services ANY TIME &ANYWHERE, ANYBANK to the customer. The customer is saved the risk or bother of carrying hard cash or travellers’ cheque while travelling. It has also given cost savings to banks. Entry of ATMs has changed the profile of front offices in bank branches. Customers no longer need to visit branches for their day to day banking transactions like cash deposits, withdrawals, cheque collection, balance enquiry etc. Off-site ATMs has more significance than on-site ATMs for banking penetration. Off-site ATMs play an important role by providing the basic banking services like cash withdrawal, transfer of funds even without the presence of full-fledged brick-and-mortar branches. During 2011- 12, there was an addition of 14,365 new off-site ATMs. However, metropolitan areas accounted for the maximum number of newly opened ATMs. Southern region had maximum number of newly opened ATMs, followed by northern region. However, the share of rural areas in the total number of ATMs continued to remain small.
Challenges in E-Banking Implementation of Global Technology

There is a need to have an adequate level of infrastructure and human capacity building before the developing countries can adopt global technology for their local requirements. In developing countries, many consumers either do not trust or do not access to the necessary infrastructure to be able to process e-payments.

Strengthening the public support

In developing countries, in the past, most e-finance initiatives have been the result of joint efforts between the private and public sectors. If the public sector does not have the necessary resources to implement the projects it is important that joint efforts between public and private sectors along with the multilateral agencies like the World Bank, be developed to enable public support for e-finance related initiatives.

Confidentiality, integrity and authentication

These three are the very important features of the banking sector and were very successfully managed all over the world before the coming of internet. Communication across an open and thus insecure channel such as the internet might not be the best base for bank-client relations as trust might partially be lost.

Customer Satisfaction

In today’s competitive world, satisfaction of customers is a major challenge for the banking sector because customers have alternative choices in various types of services provided by banks.

Availability of Personnel services

In present times, banks are to provide several services like social banking with financial possibilities, selective up gradation, computerization and innovative mechanization, better customer services, effective managerial culture, internal supervision and control, adequate profitability, strong organization culture etc. Therefore, banks must be able to provide complete personnel service to the customers who come with expectations.

Competition

The nationalized banks and commercial banks have the competition from foreign and new private sector banks. Competition in banking sector brings various challenges before the banks such as product positioning, innovative ideas and channels, new market trends, cross selling ad at managerial and organizational part this system needs to be manage, assets and contain risk. Banks are restricting their administrative folio by converting manpower into machine power i.e. banks are decreasing manual powers and getting maximum work done through machine power. Skilled and specialized man power is to be utilized and result oriented targeted staff will be appointed.

Handling Technology

Developing or acquiring the right technology, deploying it optimally and then leveraging it to the maximum extent is essential to achieve and maintain high service and efficiency standards while remaining cost effective and delivering sustainable return to shareholders. Early adopters of technology acquire significant competitive advances Managing technology is therefore, a key challenge for the Indian banking sector.

Opportunities

Indian Customers

The growing Indian banking sector with its strong home country linkages, seek a unique combination of Indian ethnicity and global standards that offers a valuable nice opportunities for Indian banks. The biggest opportunity for the Indian banking sector today is the Indian costumers.
Demographic shifts in terms of income level and cultural shifts in terms of lifestyle aspirations are changing the profile of the Indian customer. This is and will be a key driver of economic growth going forward. The Indian customers now seek to fulfill lifestyle aspirations at a younger age with an optimal combination of equity and debt to finance consumption and asset creation. The consumer represents a market for a wide range of products and services he need a mortgage to finance his house, an auto loan for his car, a credit card for ongoing purchases, a bank account, a long term investment plan to his children’s higher education, pension plans for his retirement, a life insurance policy the possibilities are endless and this consumer does not live just in India’s top ten cities. He represents across cities, towns and villages i.e. in rural areas. Consumer goods companies are already tapping this potential it is for the banks to make the most of the opportunity to deliver solutions to this market

Retail Lending

Recently banks have adopted customer segmentation which has helped in customizing their product folios well. Thus retail lending has become a focus area particularly in respect of financing of consumer durables, housing, automobiles etc., Retail lending has also helped in risks dispersal and in enhancing the earnings of banks with better recovery rates.

Internet Banking

It is clear that online finance will pickup and there will be increasing convergence in terms of product offerings banking services, share trading, insurance, loans, based on the data warehousing and data mining technologies. Anytime anywhere banking will become common and will have to upscale, such up scaling could include banks launching separate internet banking services apart from traditional banking services.

Conclusion

In the past few years, the Indian banking sector has completely transformed. The banks are facing many challenges and many opportunities are available with the banks. Many financial innovations like ATMs, credit cards, RTGS, debit cards, mobile banking etc. have completely changed the face of Indian banking. But still there is a need to have more innovative solutions so that the challenges can be solved and opportunities can be availed efficiently by the banks.

References
PROGNOSES OF BOTTOM OF THE PYRAMID MARKETING IN DEVELOPING MARKETS

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Abstract
The Bottom of the Pyramid (BOP) has appeared as one of the prevailing concepts in business economy. BOP has immersed and made its concrete explosion on the billions of the poor and on managerial practices of the organizations. In the contemporary bygone, BOP market has shown its tremendous attention in marketing world and several positive initiatives has proved that the poor population can be served and remove income inequalities fairly and profitably by developing unambiguous marketing strategy. The paradigm shift in international business has made a significant growth in the economies to global marketing is enormous. This conceptual paper explores that the success of any marketing strategy will be determined by the customer perception and to demonstrate that emerging markets have lot of opportunities for organizations. This paper also focuses on examples of BOP by various organizations.BOP follows blue ocean strategy to market its consumers and thus abolish income inequalities in preceding economy.

Keywords: global market, income inequalities, marketing strategies, bottom of pyramid marketing.

Introduction
The concept of "Bottom of the Pyramid" markets was introduced at the beginning of the century by C.K.Prahalad in his book "The Fortune at the Bottom of the Pyramid"2004. The concept was developed to relieve poverty from unserved or undeserved group of people (around 4-5 billion people earning less than dollar 2 per day) by the large organizations and to promote business opportunities and entrepreneurs among the poor to satisfy their needs. Prahalad suggests that poor has to be seen as innovative and creative entrepreneurs and demand creating consumers and not as victims. The organizations and governments and various business/market agents stop victimizing the poor as there are remarkable profits to the organizations that choose to serve the untapped markets, since these poor are the middle class of tomorrow. The responsibilities of organization are to make profit or to increase its profits. The organization has to examine whether BOP markets helps to achieve the dual concept of making profit while serving the poor consumers and thus ultimately contributing to development of our economy.

The globalization and developing markets have bought tremendous shift on BOP. BOP is been receiving greater attention in addition to size of the untapped market. Fast or rapid developments in the markets, urbanization of the poor consumers and change in technology is allowing the BOP markets to reach huge population of consumers cheaper than ever.

Blue ocean Strategy of BOP
BOP basically is studied on two strategies. 'Blue Ocean Strategies' and 'Red Ocean strategies'; in the book by Kim and Mauborgne (2005) titled "Blue Ocean Strategy; It explains how to create unconcealed market space and make the competition immaterial" the authors define two separate market spaces. One – the “Red Ocean” – is covered of all the branded industries in presence today. In contrast, “Blue Oceans” are branded by untapped market space, opportunities for demand creation, and for highly
profitable growth. For example, thirty years ago many billion-dollar industries did not exist: mutual funds, cell phones, discount retail, express package delivery, and coffee shops, sugarcane bar etc. The driving forces behind blue oceans include:

- Technological advancement has made substantial improvement in the industrial productivity and resulted in huge areas of products and services.
- Working towards globalisation.
- Global competition increasing supply without similar increase in global demand.

**BOP and its Challenges**

- The greater challenges of BOP consumers are that they have been excluded from most of the conventional markets, products, services like banking, information etc.
- Therefore a model that takes BOP consumers into account of serving can reap profit and can reduce income inequality in turn achieving corporate welfare.

**The Evolving Economies - Development**

Some countries are more developed than the other countries. Different theories explain the development patterns around the globe, thus theories are presented by (Harrison et al., 2000, pp 196-9)

The stages of economic development:

- Four stages of development as per Rostow's theory (1960) traditional society; self-sustaining growth; maturity; high consumption. The theory talks about the different phases of development without analysing the reason of their development. The theory was criticised for not analysing various concepts like the reasons for the development, their cultures and political systems.

  **Dependency theory:** The highlights of this theory Is that the developing countries is dependent on developed countries economically and politically. To over the power of dependency, the theory suggests to control the economic development through government, social and political interventions. The neo classical revival: liberalization, privatization, promoting free trade and reducing or elimination the government intervention can bring growth in the economy of the country. The theory is the holds good for bodies likes International Monitory Fund, World Bank and World Trade Organisation.

  **Endogenous growth theory:** This theory tries to explain the prominence of internal factors in an economy, and also explains the countries development at different rates. The theory also argues that growth of free market, increase investment in the field of infrastructure, knowledge market like research and development, new technology, education can create efficiency and economic growth in long run.

**Bottom of the Pyramid (BOP) theory for marketing opportunities:**

This marketing theories was proposed by C.K. prahalad (2005) in his book “The Fortune at the Bottom of Pyramid”. He explains that 75-100 million falls under Tier-1 upper –income group, which includes middle income group, upper income group and few rich people from developing countries. Tier -2 covers poor customers from developed nation; tier-3 covers the growing middle class in developing countries. Tier-4, the untapped market where Four billion people cover at the bottom of the pyramid and the tier covers poor group, which represent multitrillion dollar market (Prahalad, Hart. & Stuart, 2002). BOP tries to highlights the importance of companies in serving the disadvantages market (Majumder, 2012)In attempt to understand the BOP theoretical perspective one tries to deconstruct the notion of poverty in relation to the market and secondly it highlights the role companies in serving the
disadvantaged, (Majumder, 2012). The multinationals corporations, prior to BOP theory formulation were concerned about the higher end of the market of the economic pyramid.

Companies have been negligent to the customers of bottom of pyramid assuming that these markets or customers are inaccessible and they do not contribute to the economy (Prahalad & Hart, 2002). In 2002 Prahalad and Stuart Hart article named “the fortune at the bottom of the pyramid” drew the attention of the corporate world, but also attracted many scholars of different disciplines

BOP as an Opportunity to Overcome Income Inequality

It is understood that even poor need goods to satisfy their needs like all other income group or like all segments of markets. They are ready to procure the product if it is accessible and which fits their pockets, which in turns to high business volume. To work for BOP, the organization or marketer needs to come out with the strategies like small unit of goods, more volume, affordable and noticeable price that pulls the untapped market or untapped market space. This will serve as social responsibility and in the long run process eradicate poverty by changing or by improving their standard of living across the world.

MNCs must develop and package their products and services which can directly cater to the needs of income group, which remains mostly untapped. Most of the bop population is living in rural areas (68% globally), urbanization process is rapidly changing the situation. Compared to the aging population in developed world, high-income countries, the population in BoP is rather young (i.e. In India the median age was 26.2 years in 20117). The young and growing population allows predicting that these people will soon affect employment, demand, savings and investment behaviour throughout the world. Bop is not a homogeneous set of customers (e.g., differences based on urban vs. rural, age, religion, language)), there are several common characteristics that businesses need to understand in order to successfully enter the market:

1. Fluctuating incomes and limited access to credit or insurance, drive the Bop to be smart shoppers and risk-averse investors.
2. Domestic constraints, difficult living conditions, and high prices for products or services are among the daily challenges at the Bop.
3. Bop consumers lack information on many commercial products, and therefore rely on trusted sources or demonstrations to make purchase decisions.
4. Bop consumers and workers conduct their lives with dignity and demand both respect and quality from service providers and employers.

Implementing BOP by Various Organizations

1. Microcredit: Equitas bank

Equitas was driven by the thought of financing low-income people who were underserved by banks, and also those at the bottom of the pyramid, such as slum dwellers and the homeless. Equitas, in 2010, diversified into a non-banking financial company (NBFC), with interests in housing (Equitas Housing Finance) and vehicle finance (Equitas Finance). The diversification was necessary to survive the deluge that swept the MFI industry that year following allegations of unfair loan recovery practices and the subsequent suicides of borrowers in Andhra Pradesh. At the time, microfinance institutions (MFIs) were
the flavour of the season following Sequoia Capital’s $11.5 million investment into SKS Microfinance (now Bharat Financial Inclusion).

**Bop by NH**

Narayana Hrudayalaya (later renamed Narayana Health or NH) in Bangalore with a mission to take affordable health care to the people. It started as a 280-bed hospital then has, in the last 13 years grown to become a 26-hospital network with 6,900 beds across 16 cities employing 13,000 people and 1,500 doctors. It has so far performed over 100,000 cardiac surgeries and 250,000 cath lab procedures. The group performs 150 major surgeries (including 44 cardiac surgeries) daily. NH says about 12 per cent of all cardiac surgeries done in the country are performed at its hospitals and 50 per cent of its patients are from the economically-weaker sections. Thus applying Bop as marketing strategy NH has acquired entire weaker section people to be benefited.

**Hindustan Unilever**

One of many examples of products that are designed with needs of the very poor in mind is that of a shampoo that works best with cold water and is sold in small packets to reduce barriers of upfront costs for the poor. Such a product is marketed by Hindustan Unilever.

**Eyemitra Essilor’s**

Good vision is a force for change – transforming lives and economic futures. The challenge is to find sustainable business models that will continue to support communities as they develop and their vision needs evolve. Essilor’s Bop Innovation Lab and New Vision Generation inclusive business divisions are working hand in hand to help create a world of new wearers who enjoy better vision. The majority of people suffer from uncorrected poor vision because they can’t afford or access it in the areas where they live, or they are simply unaware that they can’t see properly and that simple solutions exist to correct their vision problems. Reaching individuals with low incomes, otherwise referred to as ‘base of the pyramid’ (Bop) consumers, requires a completely new approach to product development, pricing and distribution.

**Conclusion**

BoP marketing strategy is a novel approach, which is not necessarily integrated into the DNA of MNCs and of business leaders in general. It implies a new mind-set that may be profitable to the company through direct operations in the BoP markets and through the ability to learn from these unique markets.

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Abstract
Technology is changing rapidly with new innovation and discoveries being made across the world. Digital innovations are now exigent the conceptual and practical limits of the traditional financial system and reshaping the value proposition they currently offer. In this ultra fintech era where virtual currencies such as Bitcoin, litecoin, Ethereum, Zcash are being contemplated, and countries are expanding their information technology business to recognize virtual currencies’ as having a function similar to real currencies. Money will be invisible virtual that will be the way the world will perceive money in the future. And this perceived future could anywhere around 2025 or 2030 or even 2050. This paper Analyse the future and market growth of Bit coin a kind of virtual currency.

Keywords: Bitcoin, Contemplated, Future, Market, Virtual currency

Introduction
The most renowned virtual currency around the world is Bitcoin. Bitcoin is a digital based online payment system built by Satoshi Nakamoto in 2008 and introduced as open-source software in 2009. It operates on decentralised network, without central controlling system or single administrator. Payments are recorded in a public ledger using its own unit of account. Payments work peer-to-peer and dodge the regulatory operations of central banks and central clearing houses which exists to monitor, verify and approve transactions in ledger tender. This virtual currency can be exchanged for real money based on its determinable current market value. In 2012 the value of bitcoin in dollars has been from as low as $13. During 2013, the value of Bit coin valued as high as $1250. Bitcoin price reached 1,349.19 US$ in April 2017. Although its status as a currency is under fierce dispute. Bitcoin is also referred as a virtual currency, cryptocurrency or digital currency. Hence this paper analyse the future and market growth of bit coin a kind of virtual currency.

Review of Literature
Brito and Castillo (2013) in their report "Bitcoin: A primer of policymakers" Bitcoin (currency) users rely on the Bitcoin protocol to receive and send payments over the internet.

Meiklejohn et.al.2013 in his article “A fistful of bitcoins: characterising payments among men with no names “participants who want to exchange Bit coins connect to a peer-to-peer network (transaction network), the bitcoin network established on the basis of the Bit coin protocol.

Reid & Harrigan (2013) in their study “An analysis of anonymity in the bitcoin system “It is a decentral currency with a peer-to-peer network and control system; the amount of bitcoin is limited to 21 billion.

Trautman, L. (2014) in his study “Virtual currencies: Bitcoin&What Now after Liberty Reserve, Silk Road and MT.Gox?” crypto currencies are a subset of digital currencies, which may have either have centralized institutions or decentralized network.

Objectives of the Study
- To study the future of the bit coin
- To study the Market growth analysis
- To study the impact of virtual currencies in the financial market
Research Methodology

This study is based on secondary data from various sources like economic bulletins, Research articles and legitimate websites.

The Future of Virtual Currencies - Bit Coin

The conventional trend of bit coin has started to snowball and many financial institutions have taken note. Infact, the influences of bitcoin are virtual and digital currencies can challenge the sovereignty of the country and equally impressed. The future of the bitcoin to be extremely bright. Bitcoin are empowering users by eliminating or minimizing many financial intermediaries. This has the potential to be a massive disruption, impact and opportunity in financial market. Hundreds of start-ups and entrepreneurs are finding new ways to build upon bitcoin technology to create financial service possibilities ranging from escrow to bitcoin based loans. This tech is even being applied to voting, music distribution other financial needs. Worldwide, bit coin is now accepted by over 100,000 merchants with transactions averaging the equivalent of $78 million per day. While that is only a fraction of credit card transaction volume; some would say that is why still such a great influence for speculation. Current bitcoin supply is 16.67million and 58% crypto market dominance. The trade volume for 24-hour is $4.9billion.96 countries around the world are unrestricted the bitcoin usage.

Market Analysis of virtual currency-Bit Coin

The below figure 1 explains the gradual growth have been witnessed and there is probabilities of considerable change in the price stimulation. During 2009 the bitcoin was not traded on any exchanges. It recorded its first price in 2010 as $0.39 as highest. Till 2012 the graph shows that the price level was hard to reach in their way as $13.41.In 2013 the value hiked as $817.12.During2014 the price level was declined as $302.00.The graph was dominantly grown-up during 2017 and hit the financial market as $14,341.02.Hence the graph proved that there is proven value for virtual currencies. The specialists initially drawn to bitcoin as a solution to technical, economic and political problems but interest among the general public has historically been inspired and they started considering as a “Digital Gold” gaining investment scenario.

Figure 1
Table 1

<table>
<thead>
<tr>
<th>Period</th>
<th>Dollar Change</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Today</td>
<td>-$0.47</td>
<td>-0.04%</td>
</tr>
<tr>
<td>Last 7 days</td>
<td>$0.01</td>
<td>+4.10%</td>
</tr>
<tr>
<td>Last 30 days</td>
<td>$2.64</td>
<td>+23.62%</td>
</tr>
<tr>
<td>Last 6 months</td>
<td>$7.40</td>
<td>+95.21%</td>
</tr>
<tr>
<td>Last 1 year</td>
<td>$1.20</td>
<td>+177.11%</td>
</tr>
<tr>
<td>Last 2 years</td>
<td>$1.07</td>
<td>+427.30%</td>
</tr>
<tr>
<td>Last 5 years</td>
<td>$1.239</td>
<td>+23,492.22%</td>
</tr>
</tbody>
</table>

Nobody predicts what the price will be in the next hour, let alone the next year, so it is a high risk investment. But at the same time long term investors in bitcoin have really benefited from the price increases, and going forward, the future looks very bright. What we do know is the past performance of bitcoin, as shown in the table 1.

Impact of Virtual currency –BitCoin in the financial market

Many fund managers have not heard of bitcoin and advised their clients to put their money in it. But over the past few months, the virtual currency has become one of the world’s hottest investments.

- **Blockchain** the technology behind the cryptocurrency bitcoin is one of the newest topics in the financial sector. Many large financial entities, including many of the world's major banks, have already launched initiative to explore block chain's potential. Blockchain can be used to transfer the documents of any digital asset, record ownership of physical and intellectual property, and establish rights through smart contracts. It is a decentralised, public ledger that contains the details of every bitcoin transaction that has ever been completed. The ledger has proven to be exceptional accurate and secure. The below figure 2 shows that the financial entities invested US$75 million in block chain technology in 2015. That is more than double the amount invested in 2014 and it expected that the financial entities will be investing 5 times that amounted by 2019.

Figure 2

- **Virtual Finance** virtual currency is one of the dynamic innovations in finance in 500 years. By 2019, global online gaming revenue estimated as $24 billion for several industry regimes. The massive turnover and anonymity, virtual currency and fintech will surely become targets of regulators, tax authority and law enforcement. Gaming providers will need to offer stability and security to gamers to drive revenue growth and loyalty.
Speculation as on 14th January 2015 and as on 24th July 2017, it values at $2,772. There have been many ups and downs in the value of bitcoins and this scenario is likely to continue. Due to the extreme highs and lows, bitcoins present a massive possibility for speculation just like trading in shares, trading in bitcoins is massive and seeing the rise in traction around virtual currencies, it is likely to grow further.

Investment virtual currencies have led to the emergence of a new market. Currencies like Bitcoin and Ethereum have opened gates for investment proposals. A share in Apple or Facebook can cost around $150, while Bitcoins can be infractions at a price as low as one-tenth of a cent. This makes it an easy target for investment gains. Figure 3 shows the current investment hiked as $12,798.90 in 2017.

![Figure 3](image-url)

Findings and Conclusions

- People often think the price of bitcoin and worry that it is too expensive to invest in, but the reality is no need to buy whole bitcoin, they can buy bitcoin to the value of amount which they can afford to spend.
- Virtual currencies like bitcoin are a way to empower the dark web transactions across the globe. This will ultimately result in increasing cybercrime. Hence the entire system should be under austere vigilance by the regulatory authorities of cyberspace.
- The power of virtual currency transactions are vested with the masses. This has the clout of changes in the economic structure.
- To bring security, central banks and financial institutions can maintain a record of all the transactions undertaken by the people to facilitate the legitimate transactions.
- Transparency and traceability of cash flow should be ensured and operationalized through central banks.
- The constant reform in the financial markets framework to have laws keeping up with the digital revolution and technological wizards enhance the reduction of money laundering, tax evasion, and online criminal.

Conclusions

"The Mission is impossible" Nobody can predict the future of the virtual currency, and since bitcoin trades like a commodity, it is possible for you to make great profit, or a huge loss, depending on when the buying and selling of bitcoin happened. Virtual currencies like Bitcoin could cause "massive disruptions" in the global financial market, the IMF has warned. Nevertheless, usage of virtual currencies has continued to boom with more people warming up to them and in the process, revolutionizing international payments. That here we are fears the system would be unable to sustain transactions due to their rapid increase. Virtual currency like bitcoin has become the official currency in...
the dark nets. In Financial market there is greatest impact in crowdfounding. The rise of initial coin offering has offered unique method of funding capital market projects as well.

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FINITE-TIME BOUNDEDNESS OF TIME-DELAYED NEURAL NETWORK WITH MARKOVIAN JUMPING PARAMETER

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Abstract
The stochastic finite-time boundedness (FTB) problem is considered for a class of Markovian jumping neural networks (MJNNs) with time delay and uncertainties. By selecting the appropriate stochastic Lyapunov-Krasovskii functional, sufficient conditions of stochastic FTB of MJNNs are presented and proved. The FTB criteria are formulated in the form of linear matrix inequalities. Simulation results illustrate the effectiveness of the developed approaches.

Keywords: Markovian jumping neural networks (MJNNs), Finite-time boundedness (FTB).

Introduction
In this paper, we deal with the stochastic finite-time boundedness (FTB) problems for a class of MJNNs with time-delays and uncertain parameters. Difference with the main result. The sufficient conditions of this paper are identified to guarantee solutions to stochastic boundedness via finite-time interval for such stochastic neural networks. The stochastic Lyapunov-Krasovskii functional and the LMIs approaches are combined to investigate the problem and to derive the FTB criteria. Distinct from previous investigations, the current study focuses on the stochastic boundedness via the finite-time interval for MJNNs with constant or time-varying delays. The main advantages of the present approach include: (i) it needs no turning of parameters and/or matrices; (ii) it can be efficiently verified via solving numerically the LMI algorithms. It is noted that the results in Theorem 1 for FTB requires that the derivative of the time-varying delay be less than one, and such assumptions are often needed to deal with the stability problem of time-varying delayed neural networks in many other research papers. Finally, a numerical simulation is included to illustrate the effectiveness of the developed techniques.

The rest of this paper is organized as follows. The problem to be studied is stated and some definitions and assumptions are presented. Based on the stochastic Lyapunov-Krasovskii stability theory, in combination with the LMIs approach, the stochastic FTB criteria for MJNNs.

Definition
The nominal time-delayed MJNNs (1) (or(8)) is said to be stochastically finite-time bounded (FTB) with respect to \( (c_1, c_2, T) \), if
\[
E\|x(t_1)\|^2 \leq c_1 \Rightarrow E\|x(t_2)\|^2 \leq c_2, \ t_1 \in [-\tau, 0], \ t_2 \in [0, T]. \quad (1)
\]
Theorem 1

Given a time-constant $T > 0$, the nominal time-delayed MJNNs (1) is stochastically FTB with respect to $(c_1, c_2, T)$, if there exists a positive constant $\alpha > 0$, mode-dependent symmetric positive-definite matrices $P_i > 0$, mode-dependent diagonal matrices $\bar{P}_i > 0$, mode-depend diagonal matrices $R_i > 0$, and symmetric positive-definite matrix $Q > 0$, satisfying the following matrix inequalities for all $\epsilon \in \Lambda$,

\[
\begin{bmatrix}
\Sigma_i & P_i B_i & P_i C_i \\
0 & -R_i + Q & 0 \\
0 & 0 & -\sigma Q
\end{bmatrix} < 0
\] (2)

\[c_1 e^{\alpha T} (\lambda_F + \bar{\lambda}_Q \kappa_1) < \lambda_F c_2
\] (3)

where

\[
\Sigma_i = -A_i^T P_i - P_i A_i - \sum_{j=1}^{N} \pi_{ij} P_j + K_i R_i K_i - \alpha P_i,
\]

\[K_i = \text{diag} \{k_1, k_2, \ldots, k_n\}, \sigma = \inf_{t \geq 0} (1 - \bar{\tau}(t)),
\]

\[\lambda_F = \max_{i \in \Lambda} \lambda_{\max}(P_i), \lambda_Q = \lambda_{\max}(Q), \kappa_1 = \max_i (k_i), \lambda_P = \min_{i \in \Lambda} \lambda_{\min}(P_i).
\]

Proof

Let the mode at time $t$ be $i$; that is $r_t = \epsilon \in \Lambda$. Take the stochastic Lyapunov-Krasovskii functional $V((t), x_t, t > 0): \mathbb{R}^n \times \Lambda \times [0, \infty) \rightarrow \mathbb{R}$ to be

\[V(x(t), r_t = i, t) = x^T(t)P_i x(t) + \int_{0}^{t} f^T(\xi, x(\xi))Q f(\xi, x(\xi)) d\xi
\] (4)

where $P_i > 0, Q > 0$ are the given symmetric positive-definite matrices.

Along the trajectories of the nominal time-delayed MJNNs, the weak infinitesimal operator of the stochastic process \{$(x(t), r_t = i)$\} is given by

\[\mathbb{E}\{V((t), x_t, t > 0); x(0) \in \mathbb{R}^n, r_0 \in \Lambda\} = -x^T(t)\left[ A_i^T P_i + P_i A_i + \sum_{j=1}^{N} \pi_{ij} P_j \right] x(t) + 2x^T(t)P_i C_i f(t, x(t)) + f^T(t, x(t))Q f(t, x(t))
\]

\[\leq \left[ 1 - \bar{\tau}(t) \right] f^T(\xi, x(\xi)) Q f(t, x(t - \bar{\tau}(t)))
\]

\[+ \sum_{j=1}^{N} \pi_{ij} P_j \int_{0}^{t} f^T(\xi, x(\xi)) Q f(\xi, x(\xi)) d\xi
\] (5)

Let $R_i > 0$ be mode-dependent diagonal matrices. We can rewrite the above equation as

\[\mathbb{E}\{V((t), x_t, t > 0); x(0) \in \mathbb{R}^n, r_0 \in \Lambda\} = \mathbb{E}\{V((t), x_t, t > 0); x(0) \in \mathbb{R}^n, r_0 \in \Lambda\} + f^T(t, x(t))R_i f(t, x(t))
\]

\[\leq f^T(t, x(t))R_i f(t, x(t)) + f^T(t, x(t)) R_i f(t, x(t)) (6)
\]

Also, it results from,

\[f^T(t, x(t))R_i f(t, x(t)) \leq x^T(t) K_i R_i K_i x(t)
\] (7)

Combining (6) and (7) with (5), we can get

\[\mathbb{E}\{V((t), x_t, t > 0); x(0) \in \mathbb{R}^n, r_0 \in \Lambda\} \leq \mathbb{E}\{V((t), x_t, t > 0); x(0) \in \mathbb{R}^n, r_0 \in \Lambda\} + \omega^T(t) \Pi \omega(t)
\] (8)

where,

\[
\omega(t) = \text{col} \left[ x(t) f(t, x(t)) f(t, x(t - \bar{\tau}(t))) \right],
\]
\[ \Pi_i = \begin{bmatrix} -A_i^T P_i - P_i A_i - \sum_{j=1}^{N} \pi_{ij} P_j + K_i R_i K_i & P_i B_i & P_i C_i \\ \ast & -R_i + Q & 0 \\ \ast & \ast & -\sigma Q \end{bmatrix} \]

in which \( \sigma = \inf_{t \geq 0} (1-t(t)) \).

Hence, \( 3V(x(t), i, t) < 0 \) can be held by \( \Pi_i < 0 \).

On the other hand, it follows from inequality (3) and the required constant \( \alpha > 0 \) that

\[ E[3V(x(t), i, t)] \leq \alpha E[V(x(t), i, t)]. \tag{9} \]

Multiplying (19) by \( e^{-\alpha t} \), we can get

\[ E[3e^{-\alpha t} V(x(t), i, t)] \leq \alpha E[V(x(t), i, t)] \tag{10} \]

By integrating the above inequality from 0 to \( t \), it follows that

\[ e^{-\alpha t} E[V(x(t), i, t)] \leq E[V(x_0, r_0)]. \tag{11} \]

Note that \( \alpha > 0, 0 \leq t \leq T \), we can obtain the following relation

\[ E[x^T(t)P_i x(t)] < E[V(x(t), i, t)] \leq e^{\alpha t} E[V(x_0, r_0)]. \]

\[ = e^{\alpha t} \left[ x^T(0) P_i x(0) + \int_{-T}^{0} f^T(\xi, x(\xi)) Q f(\xi, x(\xi)) d\xi \right] \]

\[ < e^{\alpha t} \left[ \lambda_P x^T(0) + \bar{\lambda}_Q K_i^2 \max_{t \in [-T, 0]} (x^T(t_i)x(t_i)) \right] \]

\[ < c_1 e^{\alpha t} (\lambda_P + \bar{\lambda}_Q K_i^2) \tag{12} \]

where \( \lambda_P = \max_{i \in \Lambda} \lambda_{\max}(P_i), \bar{\lambda}_Q = \lambda_{\max}(Q), \bar{k}_1 = \max_i (k_i) \).

Similarly, we have

\[ E[x^T(t)P_i x(t)] \geq \lambda_P E[x^T(t)x(t)] \leq \lambda_P \|x(t)\|^2 \tag{13} \]

where \( \lambda_P = \min_{i \in \Lambda} \lambda_{\min}(P_i) \).

Then we can get

\[ E[\|x(t)\|^2] < c_1 e^{\alpha t} (\lambda_P + \bar{\lambda}_Q K_i^2) \]

\[ < c_2 \tag{14} \]

It implies by condition (14) that for \( \forall t \in [0, T], E[\|x(t)\|^2] < c_2 \).

This completes the proof.

Conclusion

In this paper, we have discussed the stochastically FTB problem for MJNNs with both time-delays and uncertain parameters. By employing a Lyapunov-Krasovskii functional, the addressed FTB analysis problem can also be converted into a convex optimization problem, and a LMI approach has been utilized to establish the sufficient conditions for the robust FTB for the MJNNs, with or without parameter uncertainties. These conditions can be readily checked by utilizing the Matlab LMI toolbox. A numerical example has been provided to demonstrate the usefulness of the proposed methods.

References


MEAN SQUARE STABILITY ANALYSIS IN NEURAL NETWORKS

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Abstract
In this paper, we study the mean square stability-based analysis and controller synthesis of stochastic continuous-time linear networked systems. The stochastic uncertainty is assumed to enter multiplicatively in system dynamics through input and output channels of the plant. Necessary and sufficient conditions for mean square exponential stability are expressed in terms of the input-output property of deterministic or normal system dynamics captured by the mean square system norm and variance of channel uncertainty. Linear Matrix Inequalities (LMI) based optimization formulation is provided for the computation of mean square system norm for stability analysis and controller synthesis. For a special case of single input channel uncertainty, we also prove a fundamental limitation result that arise in the mean square exponential stabilization of continuous-time linear system.

Key words: Mean square, Linear Matrix Inequalities (LMI), stability.

Introduction
The problem of stability analysis and control synthesis in the presence of uncertainty has a rich, long history of literature. The literature in this area can be broadly divided into two parts. One part deals with norm bounds on uncertainty and the other part considers the uncertainty to be a stochastic random variable. Classical robust control addresses this problem when uncertainty is norm bounded [1]. In this technical note, we study the robust control problem for continuous-time linear dynamics, where the uncertainty is modeled as a stochastic random variable. The stochastic uncertainty is assumed parametric and hence enters multiplicatively in the system dynamics. The analysis and control problem with stochastic multiplicative uncertainty have received renewed attention lately as a model for network controlled system with communication uncertainty.

Some of the classical results involving stochastic stability analysis and control problem are presented in [2]. The work by Wonham [3] is one of the earliest literature on this topic involving continuous-time dynamics with multiplicative measurement and control noise. In [4], frequency domain-based stability criteria for continuous-time LIT system with state dependent noise is derived. The authors in [5] study the LQR problem for continuous-time linear systems with state-dependent noise entering only in the state dynamics. In [6] mean square exponential stability analysis and state feedback control design for stochastic systems with state-dependent control noise are studied.

Preliminaries and Definitions: This section consists of preliminaries and definitions behind the density function based approach for the analysis of stochastic differential equations (SDE’s). Consider the following linear SDE with stochastic multiplicative uncertainty.
\[ \dot{x} = Ax + \sum_{i=1}^{m} \sigma_i B_i x \xi_i \quad \text{(1)} \]

Where \( x \in \mathbb{R}^n \), for \( l = 1, \ldots, m \), \( \xi_i = \frac{d\Delta_i}{dt} \) with \( \Delta_1, \ldots, \Delta_m \) being the standard independent Wiener process (Brownian motion) and \( \sigma_l > 0 \), for \( l = 1, \ldots, m \) satisfy,

1. \( \text{Prob}\{\Delta_l(0) = 0\} = 1 \).
2. \( \{\Delta_l(t)\} \) is a process with independent increments.
3. \( \{\Delta_l(t) - \Delta_l(s)\} \) has a Gaussian distribution with \( E[(\Delta_l(t) - \Delta_l(s))] = 0 \) and \( E[\Delta_l(t) - \Delta_l(s)]^2 = |t - s| \).

**Notation 1**

In the following, \( x(t) \) is used to denote the solution of system (1) defined in the sense of Itô and notation \( x \) is used to describe the states. We refer the readers to for technical assumptions leading to existence and uniqueness of solution to SDE(1). It is important to emphasize that these assumptions are satisfied by (1).

**Definition 2**

[Mean Square Exponentially stable] system (1) is mean square exponentially stable, if there exists positive constants \( \beta_1 \) and \( \beta_2 \), such that

\[ E[x(t)^T x(t)] \leq \beta_1 \exp(-\beta_2 t) E[x(0)^T x(0)], \forall x(0) \in \mathbb{R}^n. \]

We now consider the following SDE with multiplicative as well as additive stochastic uncertainty.

\[ \dot{x} = Ax + \sum_{i=1}^{m} \sigma_i B_i x \xi_i + H \eta \quad \text{......(2)} \]

Where \( x \in \mathbb{R}^n \), \( H \in \mathbb{R}^{n,n} \), for \( l = 1, \ldots, m \), \( \xi_i = \frac{d\Delta_i}{dt} \), \( \eta = \frac{dc}{dt} \) with \( \Delta_1, \ldots, \Delta_m, \eta \)

Being the standard independent Wiener process (Brownian motion). It is assumed that the standard Wiener process, \( \eta \) is uncorrelated with the processes, \( \Delta_1, \ldots, \Delta_m \). We now define the notion of bounded moment stability for system (2).

**Definition 3**

[Second Moment Bounded] System (2) is said to be second moment bounded if there exists a positive constant \( \beta \), such that

\[ \lim_{t \to \infty} E[x(t)^T x(t)] \leq \beta, \forall x(0) \in \mathbb{R}^n. \]

Instead of analyzing the individual trajectories, \( x(t) \), we adopt density-based approach as proposed in towards the analysis of stochastic system (2). In particular, the density function \( \psi(x,t) \) for the stochastic process \( x(t) \) satisfies

\[ \text{Prob} \{x(t) \in B\} = \int \psi(x,t)dz \text{ for any set } B \subset \mathbb{R}^n. \]

The density function, \( \psi(x,t) \) is obtained as a solution of a linear partial differential equation, known as the Fokker-Plank (FP) equation, also called the Kolmogorov forward equation.

The FP equation is defined as follows

\[ \frac{\partial \psi}{\partial t} = \frac{1}{2} \sum_{i,j=1}^{n} \frac{\partial^2}{\partial x_i \partial x_j} (\sum_{i=1}^{m} \sigma_i^2 (b_i^j x) (b_i^j x) + h_i h_j) \psi - \sum_{i=1}^{m} \frac{\partial}{\partial x_i} (a_i x) \psi, \]

\[ t > 0, x \in \mathbb{R}^n, \quad \text{......(3)} \]

Where \( a_i, b_i^j \) are the \( i^{th} \) rows of \( A, B_i \) respectively and \( h_i \) is the \( i^{th} \) entry of \( H \) in (2).

**Lemma 5**

Define the covariance matrix,
\( \bar{Q}(t) = E[x(t)x(t)^T|\psi] = \int xx^T\psi(x,t)dx \), and \( \bar{Q}(0) : = \bar{Q}_0 < \infty \), then \( \bar{Q}(t) \) satisfies the following matrix differential equation (MDE) for system(2).
\[
\dot{\bar{Q}} = \bar{Q}A^T + A\bar{Q} + \sum_{i=1}^{m} \sigma_i^2 B_i \bar{Q}B_i^T + HH^T. ....(4)
\]

**Proof**

Consider the quadratic function, \( V(x) = \int V(x)\psi(x,t)dx \).

Taking the time derivative on both sides and after simplifications, we obtain
\[
\frac{dE[V|\psi]}{dt} = \int \left\{ \frac{1}{2} \sum_{i,j=1}^{n} \sum_{i=1}^{m} \sigma_i^2 \psi(b_i^T h_i h_j + b_i^T \psi) \right\} \frac{\partial^2 V}{\partial x_i \partial x_j} + \\
\sum_{i=1}^{n} (a_i^T \psi) \frac{\partial V}{\partial x_i} \psi(x,t) = E[LV|\psi] ....(5)
\]

Where,
\[
LV = x^T (A^TP + PA + \sum_{i=1}^{m} \sigma_i^2 B_i^T PB_i) x + H^T PH. ....(6)
\]

The time derivative of \( E[V|\psi] \) is obtained by doing integration by parts where we make use of Remark 4. In particular, we make use of the fact that the products, \( \psi V, \frac{\partial \psi}{\partial x_i} V, \psi \frac{\partial \psi}{\partial x_i} \) vanish exponentially as \(|x| \to \infty \) and hence, the higher order moments become zero. By substituting Eq.(6) in Eq.(5), and using the linearity of trace, expectation and commutativity inside trace, we obtain,
\[
\frac{d(\text{tr}(E[xx^T|\psi]))}{dt} = \text{tr} \left( \left( A^TP + PA + \sum_{i=1}^{m} \sigma_i^2 B_i^T P B_i \right) E[xx^T|\psi] + HH^T P \right).
\]

By definition of expectation, \( E[xx^T|\psi] = \bar{Q} \), we have,
\[
\text{tr} \left( \dot{\bar{Q}} P \right) = \text{tr} \left( \bar{Q}A^T + A\bar{Q} + \sum_{i=1}^{m} \sigma_i^2 B_i^T \bar{Q}B_i^T + HH^T \right) P.
\]

This can be rewritten in terms of an inner product as
\[
< \dot{\bar{Q}} - (\bar{Q}A^T + A\bar{Q} + \sum_{i=1}^{m} \sigma_i^2 B_i^T \bar{Q}B_i^T + HH^T), P > = 0.
\]

Since, \( P > 0 \),
\[
\dot{\bar{Q}} = \bar{Q}A^T + A\bar{Q} + \sum_{i=1}^{m} \sigma_i^2 B_i^T \bar{Q}B_i^T + HH^T
\]

Furthermore, for \( H = 0 \), we obtain the covariance propagation equation for the system (1) without additive noise.

**Lemma 6**

The system (1) is mean square exponentially stable if and only if system (2) is second moment bounded.

**Proof**

Let \( \phi : \mathbb{R}^{n \times n} \to \mathbb{R}^{n^2} \) be a bijective operator which converts a matrix into a column vector. Then, applying the operator, \( \phi \) on both sides of MDE’s, Eq.(1) and Eq.(2), they can be written as linear vector differential equations.
\[
\dot{\bar{v}} = \mathcal{A}\bar{v} ....(7)
\]
\[
\dot{\bar{W}} = \mathcal{A}\bar{W} + \mathcal{B} ....(8)
\]

Where \( \bar{v} = \phi(Q), \bar{W} = \phi(\bar{Q}), \mathcal{B} = (G \otimes G)\phi(I) \in \mathbb{R}^{n^2} \) and
\[
\mathcal{A} = A \otimes A + \sum_{k=1}^{P} \sigma_k^2 (B_k \otimes B_k) \in \mathbb{R}^{n^2 \times n^2},
\]

Where \( I \) is the identity matrix of size \( n \times n \) and \( \otimes \) denotes the Kronecker product, \( \otimes \) is the Kronecker sum.
Necessity

The mean square exponential stability of system (1) yields stability of system (7), that is, $\mathcal{A}$ is Hurwitz. Since $\mathcal{A}$ is Hurwitz, the steady state value of $\bar{v}$ is given by

$$\lim_{t \to \infty} \bar{v}(t) = \lim_{t \to \infty} \phi(\bar{Q}(t)) = -\mathcal{A}^{-1}\mathcal{B}.$$ 

Now, taking the inverse $\phi$ operator, we obtain,

$$\lim_{t \to \infty} E[x(t)x(t)^T|\psi] = -\phi^{-1}(\mathcal{A}^{-1}\mathcal{B}),$$

Where $-\phi^{-1}(\mathcal{A}^{-1}\mathcal{B})$ is finite. Therefore, system (2) is second moment bounded.

Sufficiency

If system (2) is second moment stable, then $\lim_{t \to \infty} \bar{Q}(t)$ is a finite value. Then, we have

$$\lim_{t \to \infty} \bar{Q}(t) = \lim_{t \to \infty} \phi^{-1}(v(t)) = \lim_{t \to \infty} \phi^{-1}(e^{\mathcal{A}t}v(0) + (e^{\mathcal{A}t} - I)\mathcal{A}^{-1}\mathcal{B}),$$

Where $I$ is the identity matrix. The limit on the right-hand side is finite, if and only if $\mathcal{A}$ is Hurwitz, which implies system (7) is stable and hence system (1) is mean square exponentially stable.

Conclusion

Necessary and sufficient conditions for mean square exponential stability of continuous-time LTI systems with input and output channel uncertainties are derived. The mean square exponential stability results are given in terms of a spectral radius condition, which includes the computation of $\mathcal{H}_2$ norms of the SISO deterministic systems. We also derive fundamental limitation results that arise in the mean square exponential stabilization of single input LTI system with input channel uncertainty. These results generalize existing results for discrete-time linear and non-linear system, where the limitations are expressed in terms of the eigenvalues of open-loop system dynamics. Simulation results involving network power system are presented to demonstrate the application of the developed framework.

References

STOCHASTIC MEAN-SQUARE STABILITY IN NEURAL NETWORK

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Abstract
This note extends and interprets a result of Saito and Mitsui [SIAM J. Numer. Anal., 33 (1996), pp. 2254-2267] for a method of Milstein. The result concerns mean-square stability on a stochastic differential equation test problem with multiplicative noise. The numerical method reduces to the Theta Method on deterministic problems. Saito and Mitsui showed that the deterministic A-stability property of the Theta Method does not carry through to the mean-square context in general, and gave a condition under which unconditional stability holds. The main purpose of this note is to emphasize that the approach of Saito and Mitsui makes it possible to quantify precisely the point where unconditional stability is lost in terms of the ratio of the drift (deterministic) and diffusion (stochastic) coefficients. This leads to a concept akin to deterministic A(\alpha)-stability that may be useful in stability analysis of more general methods. It is also shown that mean-square A-stability is recovered if the Theta Method parameter is increased beyond its normal range to the value $\frac{3}{2}$.

Keywords: Mean-square, Milstein method, multiplicative noise, Theta method.

Introduction
The main purpose of this note is to emphasize that the approach of Saito and Mitsui makes it possible to quantify precisely the point where unconditional stability is lost in terms of the ratio of the drift (deterministic) and diffusion (stochastic) coefficients. This leads to a concept akin to deterministic A(\alpha)-stability that may be useful in stability analysis of more general methods. It is also shown that mean-square A-stability is recovered if the Theta Method parameter is increased beyond its normal range to the value $\frac{3}{2}$.

Main Concept
Consider an autonomous scalar Itô stochastic differential equation
\[ dX(t) = f(X(t))dt + g(X(t))dW(t), \quad t > 0, \quad X(0) = X_0, \quad (1.1) \]
driven by the standard Wiener process $W(t)$ [6, 3]. The semi-implicit Milstein scheme [1] for computing approximations $X_n \approx X(t_n)$, with $t_n = n\Delta t$, takes the form
\[ X_{n+1} = X_n + (1 - \theta)\Delta t(X_n) + \theta \Delta f(X_n) + \Delta t^2 g(X_n) V_n + \frac{\Delta t}{2} g(X_n) g(X_n)(V_n^2 - 1), \quad (1.2) \]
where each $V_n$ is an independent Normal (0,1) random variable. Here $\theta$ is a free parameter and $\Delta t > 0$ is the stepsize. We note that in the deterministic case $g \equiv 0$, (1.2) becomes the Theta Method [4,8]. It is usual to apply the Theta Method with $0 \leq \theta \leq 1$, but we will show that allowing $\theta > 1$ in (1.2) offers benefits in terms of stability.
To study the stability properties of the method (1.2) we introduce the test equation where
\[
f(X(t)) = \lambda X(t) \text{ and } g(X(t)) = \mu X(t) \text{ in (1.1), so that}
\]
d\(X(t) = \lambda X(t)dt + \mu X(t) dW(t) \) \( t > 0, X(0) = X_0 \).

Here, \( \lambda, \mu \in \mathbb{C} \) are constants and we assume that \( X_0 \neq 0 \) with probability 1. The zero solution to (1.3) is said to be mean-square stable if \( \lim_{t \to \infty} E(|X(t)|^2) = 0 \) [3,9], where \( E(.) \) denotes the expected value. It is known [1,5] mean-square stability for (1.3) is equivalent to
\[
\Re\{\lambda\} + \frac{1}{2} |\mu|^2 < 0. \tag{1.4}
\]

Applying the method (1.2) to the test problem (1.3) produces the recurrence
\[
X_{n+1} = (p + qV_n + rV_n^2)X_n, \tag{1.5}
\]
Where
\[
p := \frac{1+(1-\theta)\Delta t\lambda-\frac{1}{2}\Delta t\mu^2}{1-\theta\Delta t\lambda}, \quad q := \frac{\Delta t\lambda}{1-\theta\Delta t\lambda}, \quad r := \frac{\Delta t\mu^2}{1-\theta\Delta t\lambda}. \tag{1.6}
\]

And we have assumed that \( 1 - \theta\Delta t \lambda \neq 0 \). Mimicking the definition for the continuous problem (1.3), we say that the method is mean-square stable for a particular \( \lambda, \mu \) and \( \Delta t \) if \( \lim_{t \to \infty} E(|X(t)|^2) = 0 \). We may now follow standard numerical analysis practice and compare the stability properties of the test problem and the numerical method.

Note that setting \( \mu = 0 \) reduces (1.3) to the classical deterministic test problem. In this case, the stability condition (1.4) becomes \( \Re\{\lambda\} < 0 \). We recall that a numerical method is then said to be \( A \)-stable [4,8] if

Problem stable \( \Rightarrow \) method stable \( \forall \Delta t \). \tag{1.7}

The Theta Method is known to be \( A \)-stable for \( \theta \geq \frac{1}{2} \) [4,8]. To accommodate some useful deterministic methods that have good stability properties but are not \( A \)-stable, the concept of \( A(\alpha) \)-stability is also used. A method is said to be \( A(\alpha) \)-stable [4,8] if, for some \( 0 < \alpha < \pi/2 \),

Problem stable and \( \left| \frac{3(\alpha)}{\Re\{\lambda\}} \right| < \tan(\alpha) \Rightarrow \) method stable \( \forall \Delta t \). \tag{1.8}

Our aim here is to investigate the mean-square stability of the method (1.2) on (1.3). The work is inspired by [1], which studies mean-square stability for a number of methods. In [1], Saito and Mitsui derive a condition that characterizes mean-square stability of (1.2) and they give a constraint on \( \lambda, \mu \) and \( \theta \) under which unconditional stability holds. Our contributions are (a) to analyze fully the general case \( \lambda, \mu \in \mathbb{C} \), (b) to point out a natural \( A(\alpha) \)-stability style interpretation of the stability properties, (c) to show that the mean-square extension of \( A \)-stability is achieved for \( \theta \geq \frac{3}{2} \), and (d) to show that with an appropriate choice of variables the connection with \( A(\alpha) \)-stability is particularly striking when \( \lambda, \mu \in \mathbb{R} \). We hope that this interpretation of stability properties will prove useful in the analysis of more general methods.

We mention that removing the last term in (1.2) lowers the strong order of the method and produces the semi-implicit Euler scheme, or Stochastic Theta Method [1,5]. This method was analyzed in [5], and was shown to inherit the mean-square extension of deterministic \( A \)-stability for all \( \frac{1}{2} \leq \theta \leq 1 \). We also note that some authors have studied numerical methods applied to the linear test equation with additive noise; that is, where the term \( \mu X(t) dW(t) \) in (1.3) is replaced by \( \mu dW(t) \), see, for example, [6,7,9]. In this case, the stochastic term has less influence than for the multiplicative noise problem (1.3), and the stability properties of the underlying deterministic method tend to dominate. See [2] for a comprehensive list of references on stochastic stability and a discussion of the relevance of the multiplicative noise problem.
Mean square stability analysis.

Taking the expected value of the modulus squared in (1.5), using \( E(V_n) = 0, E(V_n^2) = 1, E(V_n^3) = 0 \) and \( E(V_n^4) = 3 \), we find that

\[
E(|X_{n+1}|^2) = (|p + q|^2 + |q|^2 + 2|\tau|^2)E(|X_n|^2).
\]

We deduce immediately that mean-square stability is equivalent to

\[
|p + q|^2 + |q|^2 + 2|\tau|^2 < 1 , (2.1)
\]

Which agrees with the condition obtained in [1]. Using (1.6) we may re-write (2.1) in terms of the problem parameters \( \lambda \) and \( \mu \), the method parameter \( \theta \), and the step size \( \Delta t \). After some manipulation this leads to

\[
\Re\{\lambda\} + \frac{1}{2}|\mu|^2 + \frac{1}{2}\Delta t\{(1 - 2\theta)|\lambda|^2 + \frac{1}{2}|\mu|^4\} < 0. \quad (2.2)
\]

We note from (1.4) that the first two terms on the left-hand side of (2.2) govern the mean-square stability of the test problem. Hence, the size and sign of the third term, \( \frac{1}{2}\Delta t\{(1 - 2\theta)|\lambda|^2 + \frac{1}{2}|\mu|^4\} \), determines whether the stability of the method matches that of the test problem. The following result can be obtained directly from (1.4) and (2.2)

**Theorem 2.1**

Consider the method (1.2) applied to the test problem (1.3) and let

\[
\Delta t_s := \frac{\Re\{\lambda\} + \frac{1}{2}|\mu|^2}{\frac{1}{2}|\mu|^4 + (1 - 2\theta)|\lambda|^2}. \quad (2.3)
\]

For \( 0 \leq \theta \leq \frac{1}{2} \),

- Problem unstable \( \Rightarrow \) method stable \( \forall \Delta t \), (2.4)
- Problem stable \( \Rightarrow \) method stable \( \Delta t < \Delta t_s \), (2.5)

For \( \frac{1}{2} \leq \theta \), if

\[
|\lambda|^2 < \frac{|\mu|^4}{2(2\theta - 1)}
\]

(diffusion term dominates) then implications (2.4) and (2.5) are valid, and if

\[
|\lambda|^2 \geq \frac{|\mu|^4}{2(2\theta - 1)}
\]

(drift term dominates) then

- Problem unstable \( \Rightarrow \) method stable for \( \Delta t < \Delta t_s \), (2.6)
- Problem stable \( \Rightarrow \) method stable \( \forall \Delta t \). \quad (2.7)

In the cases where the denominator vanishes in (2.3), we interpret the condition \( \Delta t < \Delta t_s \) as meaning \( \forall \Delta t \).

We remark that the implication (2.7) in Theorem 2.1 coincides with Lemma 5.1 (b) of [1] in the case \( \lambda, \mu \in \mathbb{R} \).

The implications (2.4) and (2.5) are of the form often encountered in the analysis of explicit methods for deterministic problems—the stability region for the method is strictly contained in that for the problem. Theorem 2.1 shown that this behaviour extends to the method (1.2) with \( \theta \geq \frac{1}{2} \) when the diffusion term dominates. However, Theorem 2.1 also shows that if the drift term dominates then the
unconditional stability condition (2.7) holds. This is analogous to deterministic $A(\alpha)$-stability, with $|\Re\{\lambda\} / |\lambda| < \tan(\alpha)$ replaced by

$$|\mu|^2 / |\lambda| \leq \sqrt{2(2\theta - 1)}.$$ 

The following corollary shows that for \( \geq \frac{3}{2} \), if the problem is stable then the drift term automatically dominates, giving unconditional stability. Note that the price to be paid for this property is the loss of positivity in the Theta Method weights.

**Corollary 2.2**

Consider the method (1.2) applied to the test problem (1.3). For \( \geq \frac{3}{2} \),

Problem stable \( \implies \) method stable \( \forall \Delta t \).

**Proof**

The condition (1.4) implies that

$$|\lambda|^2 > \frac{|\mu|^4}{4} \geq \frac{|\mu|^4}{2(2\theta - 1)}$$

For \( \theta \geq \frac{3}{2} \). Hence, (2.7) in Theorem 2.1 applies.

**Conclusion**

In this paper Mean-square, Mlistein method multiplicative noise, Theta Method be proved briefly.

**References**

STABILITY ANALYSIS IN NEURAL NETWORKS

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Abstract  
In this paper, we derive a sufficient condition for stability analysis in neural networks in terms of certain matrix inequalities by using a discrete version of the Lyapunov function.  
Keywords: Asymptotic stability, Neural Networks, Lyapunov function.

Introduction  
In recent decades, Hopfield neural networks have been extensively studied in many aspects and successfully applied to many fields such as pattern identifying, voice recognizing, system controlling, signal processing systems, static image treatment, and solving nonlinear algebraic system, etc. such applications are based on the existence of equilibrium points, and qualitative properties of systems. In electronic implementation, time delays occur due to some reasons such as circuit integration, switching delays of the amplifiers and communication delays, etc. Therefore, the study of the asymptotic stability of Hopfield neural networks with delays is of particular importance to manufacturing high quality microelectronic Hopfield neural networks.

While stability analysis of continuous-time neural networks can employ the stability theory of differential system, it is much harder to study the stability of discrete-time neural networks with time delays or impulses. The techniques currently available in the literature for discrete systems are mostly based on the construction Lyapunov second method. For Lyapunov second method, it is well known that no general rule exists to guide the construction of a proper Lyapunov function for a given system. In fact, the construction of the Lyapunov function becomes a very difficult task.

In this paper, we consider delay-difference control system of Hopfield neural networks of the form

\[ v(k+1) = -Av(k) + BS(v(k-h)) + Cu(k) + f, \]

Where \( v(k) \in \Omega \subseteq \mathbb{R}^n \) is the neuron state vector, \( s \geq 0, A = \text{diag}(a_1, \ldots, a_n), a_i \geq 0, i = 1,2, \ldots, n \) is the nxn constant relaxation weight matrix, \( C \) is nxm constant matrix, \( u(k) \in \mathbb{R}^m \) is the control vector, \( f = (f_1, \ldots, f_n) \in \mathbb{R}^n \) is the constant external input vector and \( S(z) = [s_1(z_1), \ldots, s_n(z_n)]^T \) with \( s_i \in C^1([\mathbb{R}, (-1,1)] \) where \( s_i \) is the neuron activations and monotonically increasing for each \( i = 1,2, \ldots, n \). The asymptotic stability of the zero solution of the delay-differential system of Hopfield neural networks has been developed during the past several years.
We refer to monographs and the references cited therein. Much less is known regarding the asymptotic stability of the zero solution of the sdelay-difference control system of Hopfield neural networks.

Preliminaries

The following notations will be used throughout the paper. $\mathbb{R}^+$ denotes the set of the all non-negative real numbers; $\mathbb{Z}^+$ denotes the set of all non-negative integers; $\mathbb{R}^n$ denotes the n-dimensional Euclidean space with the Euclidean norm $\|\cdot\|$ and the scalar product between $x$ and $y$ is defined by $x^Ty$; $\mathbb{R}^{nxm}$ denotes the set of all $(nxm)$-matrices; and $A^T$ denotes the transpose of the matrix $A$; Matrix $Q \in \mathbb{R}^{nxn}$ is positive semidefinite if $Q \geq 0$ if $x^TQx \geq 0$, for all $x \in \mathbb{R}^n$. If $x^TQx > 0 (x^TQx < 0, resp.)$ for any $x \neq 0$, then $Q$ is positive (negative, resp.) definite and denoted by $Q > 0 (Q < 0, resp.)$.

It is easy to verify that $Q > 0, (Q < 0, resp.)$ iff
$$\exists \beta > 0: x^TQx \geq \beta \|x\|^2, \forall x \in \mathbb{R}^n,$$
$$\exists \beta > 0: x^TQx \leq -\beta \|x\|^2, \forall x \in \mathbb{R}^n, (resp.).$$

Fact:1

For any positive scalar $\varepsilon$ and vectors $x$ and $y$, the following inequality holds:
$$x^Ty + y^Tx \leq \varepsilon x^Tx + \varepsilon^{-1}y^Ty.$$

Let us denote $V_\delta = \{x \in \mathbb{R}^n: \|x\| < \delta\}$.

Lemma:1

The zero solution of difference system is asymptotic stability if there exists a positive definite function $V(x): \mathbb{R}^n \to \mathbb{R}^+$ such that
$$\exists \beta > 0: \Delta V(x(k)) = V(x(k+1)) - V(x(k)) \leq -\beta \|x(k)\|^2,$$
Along the solution of the system. In case the above condition holds for all $x(k) \in V_\delta$, we say that the zero solution is locally asymptotically stable.

We present the following technical lemmas, which will be used in the proof of our main result.

Lemma:2

For any constant symmetric matrix $M \in \mathbb{R}^{nxn}, M = M^T > 0$, scalar $s \in \mathbb{R}^+ \setminus \{0\}$, vector function $W: [0, s] \to \mathbb{R}^n$, we have
$$s \sum_{i=0}^{s-1} (w^T(i)MW(i)) \geq (\sum_{i=0}^{s-1} w(i))^T M (\sum_{i=0}^{s-1} w(i)).$$

Main Results

In this section, we consider the sufficient condition for asymptotic stability of the zero solution $x^*$ of (1) in terms of certain matrix inequalities. Without loss of generality, we can assume that $v^* = 0, s(0) = 0$ and $f = 0$ (for otherwise, we let $x = v - v^*$ and $S(x) = S(x + v^*) - S(v^*)$).

The new form of (1) is now given by
$$x(k+1) = -Ax(k) + BS(x(k-h)) + Cu(k). \tag{2}$$
This is a basic requirement for controller design. Now, we are interested designing a feedback controller for the system (2) as
$$u(k) = Kx(k),$$
Where K is nxm constant control gain matrix.

The new form of (2) is now given by
$$x(k+1) = -Ax(k) + BS(x(k-h)) + CKx(k). \tag{3}$$
Throughout this paper we assume the neuron activations $s_i(x_i), i = 1, 2, \ldots, n$ is bounded and monotonically nondecreasing on $\mathbb{R}$, and $s_i(x_i)$ is Lipschitz continuous, that is, there exist constant $l_i > 0, i = 1, 2, \ldots, n$ such that
$$|s_i(r_1) - s_i(r_2)| \leq l_i|r_1 - r_2|, \forall r_1, r_2 \in \mathbb{R}. \ (4)$$
By condition (4), $s_i(x_i)$ satisfy
$$|s_i(x_i)| \leq l_i|x_i|, i = 1, 2, \ldots, n. \ (5)$$

**Theorem**

The zero solution of the delay-difference control system (3) is asymptotically stable if there exist symmetric positive definite matrices $P, G, W$ and $L = diag[l_1, \ldots, l_n] > 0$ satisfying the following matrix inequalities of the form
$$\psi = \begin{pmatrix}
(1,1) & 0 & 0 \\
0 & (2,2) & 0 \\
0 & 0 & (3,3)
\end{pmatrix} < 0, \ (6)$$
Where
$$(1,1) = APA - APCK - K^TCTPA - C^TK^TPC - P + hG + W + \varepsilon APBB^T PA + \varepsilon_1 K^TCTPB^T PCK,$$
$$(2,2) = e^{-1}LL + \varepsilon_1^{-1}LL + LB^TPBL - W,$$
$$(3,3) = -hG.$$

**Proof**

Consider the Lyapunov function $V(y(k)) = V_1(y(k)) + V_2(y(k)) + V_3(y(k))$. Where
$$V_1(y(k)) = x^T(k)Px(k),$$
$$V_2(y(k)) = \sum_{i=k-h+1}^{k}(h - k + i) x^T(i)Gx(i),$$
$P, G, and W$ being symmetric positive definite solutions of (6) and $y(k) = [x(k), x(k - h)]$.

Then difference of $V(y(k))$ along trajectory of solution of (3) is given by
$$\Delta V(y(k)) = \Delta V_1(y(k)) + \Delta V_2(y(k)) + \Delta V_3(y(k)).$$
Where
$$\Delta V_1(y(k)) = V_1(x(k + 1)) - V_1(x(k))$$
$$= [-Ax(k) + BS(x(k - h)) + CKx(k)]^T P^{-1}Ax(k) + BS(x(k - h)) + CKx(k) - x^T(k)Px(k)$$
$$= x^T(k)[APA - APCK - K^TCTPA - C^TK^TPC - P]x(k) - x^T(k)APBS(x(k - h))$$
$$- S^T(x(k - h))B^T PAX(x(k - h)) + S^T(x(k - h))B^TPCKx(k) + S^T(x(k-h))B^TPBS(x(k-h)),$$
$$\Delta V_2(y(k)) = \Delta \left( \sum_{i=k-h+1}^{k}(h - k + i) x^T(i)Gx(i) \right)$$
$$= hx^T(k)Gx(k) - \sum_{i=k-h+1}^{k} x^T(i)Gx(i). \ (7)$$
Where (5) and fact 1 are utilized in (7), respectively.

Note that
$$- x^T(k)APBS(x(k - h)) - S^T(x(k - h))B^T PAX(x(k) \leq \varepsilon x^T(k)APBB^T PAX(x(k) + \varepsilon^{-1} S^T(x(k - h)Sx(k - h),$$
$$x^T(k)K^TCTPB^T PCKx(k) + S^T(x(k - h))B^TPCKx(k) \leq \varepsilon_1 x^T(k)K^TCTPB^TPCKx(k) + \varepsilon_1^{-1} S^T(x(k - h))S(x(k - h)).$$
Hence
\[
\Delta V_1 \leq x^T(k)[APA - APCK - K^TCTPA - CT^TK^TCP - P]x(k) + \varepsilon x^T(k)APBB^TPAx(k) + \varepsilon_1 x^T(k)K^TCPB^TPCKx(k) + \varepsilon_1 x^T(k)LLx(k-h) + \varepsilon_1 x^T(k)LLx(k-h) + x^T(k-h)LB^TPBLx(k-h)
\]

Then we have
\[
\Delta V \leq x^T(k)[APA - APCK - K^TCTPA - CT^TCP - P + hG + \varepsilon APBB^TPA + \varepsilon_1 K^TCPB^TPCK]x(k) + x^T(k-h)[\varepsilon^{-1}LL + \varepsilon_1^{-1}LL + LB^TPBL]x(k-h) - \sum_{i=k-h}^{k-1} x^T(i)Gx(i).
\]

Using Lemma 2, we obtain
\[
\sum_{i=k-h+1}^{k} x^T(i)Gx(i) \geq \left( \frac{1}{h} \sum_{i=k-h+1}^{k} x(i) \right)^T (hG) \left( \frac{1}{h} \sum_{i=k-h+1}^{k} x(i) \right).
\]

From the above inequality it follows that:
\[
\Delta V \leq x^T(k)[APA - APCK - K^TCTPA - CT^TCP - P + hG + \varepsilon APBB^TPA + \varepsilon_1 K^TCPB^TPCK]x(k) + x^T(k-h)[\varepsilon^{-1}LL + \varepsilon_1^{-1}LL + LB^TPBL]x(k-h)
\]
\[
- \left( \frac{1}{h} \sum_{i=k-h+1}^{k} x(i) \right)^T (hG) \left( \frac{1}{h} \sum_{i=k-h+1}^{k} x(i) \right)
\]
\[
= \left( x^T(k), x^T(k-h), \frac{1}{h} \sum_{i=k-h+1}^{k} x(i) \right)^T \left( \begin{array}{ccc}
1,1 & 0 & 0 \\
0 & 2,2 & 0 \\
0 & 0 & 3,3
\end{array} \right) \left( \begin{array}{c}
x(k) \\
x(k-h) \\
\frac{1}{h} \sum_{i=k-h+1}^{k} x(i)
\end{array} \right) = y^T(k)\psi y(k),
\]

Where
\[
(1,1) = APA - APCK - K^TCTPA - CT^TCP - P + hG + \varepsilon APBB^TPA + \varepsilon_1 K^TCPB^TPCK,
\]
\[
(2,2) = \varepsilon^{-1}LL + \varepsilon_1^{-1}LL + LB^TPBL,
\]
\[
(3,3) = -hG,
\]
\[
y(k) = \left( \begin{array}{c}
x(k) \\
x(k-h) \\
\frac{1}{h} \sum_{i=k-h+1}^{k} x(i)
\end{array} \right).
\]

By the condition (6), \(\Delta V(y(k))\) is negative definite, namely there is a number \(\beta > 0\) such that \(\Delta V(y(k)) \leq -\beta \| y(k) \|^2\), and hence, the asymptotic stability of the system immediately follows from Lemma 2. This completes the proof.

Conclusion

In this paper, based on a discrete analog of the Lyapunov second method, we have established sufficient condition for the stability of control neural networks in terms of certain matrix inequalities.

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MODELS IN NEURAL NETWORKS

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Abstract
In this paper, we analyse the local stability of a gene-regulatory network and immunotherapy for cancer modeled as non-linear time-delay systems and also how the continuous model be used for Gene regulatory networks and predator-prey model be implemented for Cancer immunotherapy be discussed.

Keywords: Gene-regulatory network, time-delay, cancer immunotherapy.

Introduction
Application of control in biology and biochemical systems have a rich history. We focus on two such applications in this paper: (i) gene regulatory networks, which are a set of genes, or parts of genes, that interact with each other to control a specific cell function (Bernot et al., 2013; Chen and Aihara, 2002); (ii) the cancer immunotherapy model (Andrew et al., 2007; Babbs, 2011; d’Onofrio, 2005), where the human immune system is used to treat cancer by provoking the immune system to attack tumour cells using cancer antigens as targets. One of the common modelling techniques is the use of ordinary differential equations (ODEs).

Gene regulatory networks:
The sequence of events which leads to protein synthesis is as follows,
1. an external stimulus such as an environmental condition, a developmental stage of the organism, stress, diseases, etc;
2. stimulation of a transcription factor;
3. Transcription of a particular gene;
4. Production of mRNA (messenger-RNA);
5. Translation of mRNA resulting in the production of protein.

Mathematical modelling: The generic equation which describes the rate of change in concentrations of n molecular species \((x_1, x_2, \ldots, x_n) \in \mathbb{R}^n_+\) is given by the difference between the production or synthesis of i-th molecular species and the degradation or transformation of the same other molecular species,

\[
\dot{x}_i = g_i(x) - d_i(x).
\]
Where \( g_i \) represents the i-th synthesis function and \( d_i \) represents the i-th degradation function. A generic network model representing the dynamics of transcription and translation is given by (Chen and Aihara, 2002)

\[
\begin{align*}
\dot{m}(t) &= -K_m m(t) + c(p(t, T_p)), \quad (1) \\
p(t) &= -K_p p(t) + d(m(t, T_m)), \\
\end{align*}
\]

Where,

\( p = \text{Concentration of proteins}, \)
\( m = \text{Concentrations of mRNAs}, \)
\( K_p = \text{degradation rates of protein}, \)
\( K_m = \text{degradation rates of mRNAs}, \)
\( c(p(t, T_p)) = \text{nonlinear function describing the synthesis/inhibition rate of mRNAs}, \)
\( d(m(t, T_m)) = \text{nonlinear function describing the synthesis/inhibition rate of proteins}, \)
\( T_p = \text{delay in the translation of proteins}, \)
\( T_m = \text{delay in the transcription of mRNA}, \)
\( m = (m_1, m_2, ..., m_n) \in \mathbb{R}_+^n, \)
\( p = (p_1, p_2, ..., p_n) \in \mathbb{R}_+^n, \)
\( K_m = \text{diag}(k_{m1}, ..., k_{mn}) \in \mathbb{R}_+^{n \times n}, \)
\( K_p = \text{diag}(k_{p1}, ..., k_{pn}) \in \mathbb{R}_+^{n \times n}, \)
\( T_m = \text{diag}(T_{m1}, ..., T_{mn}) \in \mathbb{R}_+^n, \)
\( T_p = \text{diag}(T_{p1}, ..., T_{pn}) \in \mathbb{R}_+^n, \)
\( m(t, T_m) = (m_1(t - T_{m1}), ..., m_n(t - T_{mn})), \)
\( p(t, T_p) = (p_1(t - T_{p1}), ..., p_n(t - T_{pn})), \)
\( c(p) = (c_1(p), ..., c_n(p)) \in \mathbb{R}_+^n, \)
\( d(m) = (d_1(m_1), ..., d_n(m_n)) \in \mathbb{R}_+^n. \)

The negative feedback gene regulatory network, where the protein produced by the gene acts as a transcription factor and inhibits its own production. Where the dynamics are given by

\[
\begin{align*}
\dot{x}_1 &= -k_1 x_1 + a_1 x_2 (t - T_1), \\
\dot{x}_2 &= -k_2 x_2 + \frac{a_2}{1 + (x_1(t - T_2))^n}, \quad (2)
\end{align*}
\]

Where,

\( x_1 = \text{concentration of protein}, \)
\( x_2 = \text{concentration of mRNA}, \)
\( k_1 = \text{degradation rate of protein}, \)
\( k_2 = \text{degradation rate of mRNA}, \)
\( a_1 = \text{translation rate}, \)
\( a_2 = \text{transcription rate}, \)
\( T_1 = \text{delay in translation}, \)
\( T_2 = \text{delay in transcription}. \)

The synthesis function \( g(x) \) in the case of an activator is given by \( \frac{x^n}{\theta^n + x^n} \). This is also known as the Hill function, a monotonically increasing S-shaped function. In the case of a repressor, it is \( 1 - \frac{x^n}{\theta^n + x^n} \), i.e., \( \frac{\theta^n}{\theta^n + x^n} \), a monotonically decreasing S-shaped function. Here \( \theta \) is the activation co-efficient and \( n \) is the Hill coefficient. The state variables \( x_i \in \mathbb{R}_+, i = 1,2 \), and the parameters \( k_1, k_2, a_1, a_2 \in \)
The starting point for further analysis would be to find the equilibrium points for the model described by (2). The case for which the Hill coefficient \( n = 1 \) is considered.

With \( n = 1 \), the dynamics given by (2) can be rewritten as

\[
\begin{align*}
    x_1'(t) &= -k_1 x_1(t) + a_1 x_2(t - T), \\
    x_2'(t) &= -k_2 x_2(t) + \frac{a_2}{1 + x_1(t - T_2)}. \\
\end{align*}
\]

Cancer immunotherapy model

Immunotherapy is one such treatment method where the immune system is strengthened to fight against cancer. The tumour-immune-cell interaction is an interesting phenomenon which is non-linear and time-varying by nature. A mathematical model of the Lotka-Volterra type (Melief, 2005; d’Onofrio, 2005) which captures the non-linearity of tumor-immune-cell interactions is adopted.

Mathematical Model

Consider the dynamics of immunotherapy which can be represented by the following predator-prey model (Saleem and Agarwal, 2012):

\[
\begin{align*}
    x_1'(t) &= 1 + a_1 x_1(1 - x_1) - k_1 x_1 x_2 - k_2 x_1, \\
    x_2'(t) &= a_2 x_2(t - T)x_3(t - T) - a_3 x_2 - k_3 x_1 x_2, \\
    x_3'(t) &= a_4 x_3(1 - x_3) - a_5 x_2 x_3 - a_6 x_3 - k_4 x_1 x_3, \\
\end{align*}
\]

Where,

- \( x_1 \) = density of tumour cells,
- \( x_2 \) = density of cytotoxic T cells,
- \( x_3 \) = density of T helper cells,
- \( a_1 \) = growth rate of tumour cells,
- \( a_2 \) = delayed conversion rate of T helper cells to cytotoxic T cells,
- \( a_3 \) = loss rate of cytotoxic T cells,
- \( a_4 \) = growth rate of T helper cells,
- \( a_5 \) = rate of decrease in T helper cells due to conversion,
- \( a_6 \) = loss rate of T helper cells,
- \( k_1 \) = rate of killing tumour cells by cytotoxic T cells,
- \( k_2 \) = loss rate of tumour cells,
- \( k_3 \) = rate of killing cytotoxic T cells by tumour cells,
- \( k_4 \) = rate of killing T helper cells by tumour cells,
- \( T \) = delay in the activation of cytotoxic T cells,
- \( x_i \in \mathbb{R}_+ \), \( i = 1, 2, 3 \), \( T \in \mathbb{R}_+ \), and the normalized parameters \( a_1, a_2, a_3, a_4, a_5, a_6, k_1, k_2, k_3, k_4 \in \mathbb{R}_+ \).

Three equilibrium points for the dynamics described were obtained and are enumerated as follows:

\[
\begin{align*}
    E_1 &= \{ x: x_1 = s, x_2 = x_3 = 0 \}, \\
    E_2 &= \{ x: x_1 = s, x_2 = 0 \}, \\
    x_3 &= 1 - \frac{a_5}{a_4} - \frac{k_4 x_1}{a_4}, \\
\end{align*}
\]

Where,

\[
    s = \frac{1}{2} \left( 1 - \frac{k_2}{a_1} + \sqrt{\left(1 - \frac{k_2}{a_1}\right)^2 + \frac{4}{a_1}} \right).
\]
The equilibrium point $E_2$ exists if and only if $a_3 > a_6 + k_4 x_1$. Let the third equilibrium point be denoted as $E_3 = (x_1^*, x_2^*, x_3^*)$. From we can obtain the relation

$$x_3^* = \frac{a_3 + k_3 x_1^*}{a_2},$$

$$x_2^* = \frac{a_4 (1 - x_1^*) - a_6 - k_4 x_1^*}{a_5},$$

$$1 + a_1 x_1^* (1 - x_1^*) - k_1 x_1^* x_2^* - k_2 x_1^* = 0.$$  

Substituting for $x_2^*$ and $x_3^*$, we obtain a quadratic equation in $x_1^*$,

$$(x_1^*)^2 + \frac{a}{b} x_1^* - \frac{1}{b} = 0,$$

Where,

$$a = k_2 + k_2 a_4 \left( 1 - \frac{a_3}{a_5} - \frac{a_6}{a_4} \right) - a_1,$$

$$b = a_1 - \frac{k_1}{a_5} \left( k_4 + \frac{k_5 a_4}{a_5} \right).$$

A unique positive root exists provided that $-\frac{a}{b} + \sqrt{\frac{a^2}{b} + \frac{4}{b}} > 0$.

**Conclusion**

Here, we conclude that the mathematical modelling for Gene regulatory networks and cancer immunotherapy model be established in this paper.

**References**

A STUDY ON CONSUMER PREFERENCE TOWARDS ONLINE SHOPPING AT ERODE TOWN

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Introduction

Online shopping is the process whereby consumers directly buy goods or services from a seller in real-time, without an intermediary service, over the Internet. It is a form of electronic commerce. The sale or purchase transaction is completed electronically and interactively in real-time such as in Amazon. Com for new books. However in some cases, an intermediary may be present in a sale or purchase transactions such as the transactions on eBay.com.

An online shop, e-shop, e-store, internet shop, web shop, web store, online store, or virtual store evokes the physical analogy of buying products or services at a bricks-and-mortar retailer or in a shopping centre. The process is called Business-to-Consumer (B2C) online shopping. This is the type of electronic commerce conducted by companies such as Amazon.com. When a business buys from another business it is called Business-to-Business (B2B) online shopping.

A large percentage of electronic commerce is conducted entirely in electronic form for virtual items such as access to premium content on a website, but mostly electronic commerce involves the transportation of physical items in some way.

Statement of the Problem

Customer need to provide full name, email address, phone number, credit card and billing address details when creating an account. Customer can login to the system to maintain his account information, such as changing phone number, address, and credit card details, and check the status of his orders. Upon order received, the sales staff will process the order by charge to customer’s credit card. Once the order has been charged, he will then mark the order as paid and pass to online shopping to customer. If the items customer ordered is out of stock, then the order will mark as on hold. Once the items arrived, the order will pass to Courier Company for delivery. Courier Company will pack the item with standard packaging, but if the order is marked as gift, then the items will pack as gift. If the items arrived with damage, customer can return it by register in the online shop. Courier Company will collect the item from customer and sales staff will refund the money for that item. Marketing staff responsible to maintain the product catalog. Through this research we can find the customers satisfaction and problem faced by online shopping.

Scope of the Study

1. Purchase and selling products and service over the internet without the need of going physically to the market is what is online shopping all about.
2. Online shopping is just like a retail store shopping that we do by going to the market, but it is done through the internet.
3. Online shopping has made shopping painless and added more fun. Online stores offer product description, pictures, comparisons, price and much more.
4. Few examples of these are amazon.com, ebay.com, framt.com and the benefits of online shopping is that by having direct access to consumer, the online stores can offer products that cater to the need of consumer; cookies can be used for tracking the consumer selection over the internet or what is of their internet when they visit the site again.

Objectives of the Study
1. To analysis the factors influencing online shopping.
2. To measure the level of satisfaction of the respondents for using the online shopping.
3. To identify the major prosers and problems are faced by the consumer on the basis of online shopping.
4. To suggest various measures based on the finding for improving to offer suggestion in online shopping.

Hypothesis of the Study
Null Hypothesis
There is no significant relationship between age and opinion level regarding safety and measures.

Alternative Hypothesis
There is significant relationship between experience and opinion level.

Research Methodology
Research methodology means a set of methods used in a particular area of activity. Research methodology is a way to systematically solve the problem.

Sampling Procedure
Random sampling technique has been adopted for the study. Erode District has been selected purposively because of its unique characteristics. Totally 120 members have been selected for study.

Tools Used in the Study
The following statistical tools are used in the study for the purpose of analysis.
- Percentage analysis
- Chi-Square test

Simple Percentage Analysis
- Percentage refers to a special kind of ratio making comparison between two or more data to describe relationship between the data. Percentage can also be used to compare the relatives terms, the distribution of two or more series of data.
  - Simple percentage = No of respondents ×100
  - Total no of respondents
Chi-Square Test

- The researcher used chi-square test to find the relationship between the independent variables.

\[
\text{Chi-square} = \sum (O - E)^2
\]

E = Observed frequency
E = Expected value

### Table No. 1.1 Education Level And Respondent Opinion Using Online Shopping

<table>
<thead>
<tr>
<th>Education level</th>
<th>Respondent opinion about variety of product purchase using online shopping</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CD</td>
<td>Computer</td>
</tr>
<tr>
<td>School level</td>
<td>5</td>
<td>(6.25)</td>
</tr>
<tr>
<td>Under graduate</td>
<td>7</td>
<td>(7.3)</td>
</tr>
<tr>
<td>Post graduate</td>
<td>9</td>
<td>(9.4)</td>
</tr>
<tr>
<td>Diploma</td>
<td>4</td>
<td>(2.1)</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>33</td>
</tr>
</tbody>
</table>

Source: Computed by the researcher online shopping.

### Table no.1.2 Chi Square Test Table

<table>
<thead>
<tr>
<th>Factor</th>
<th>Level of significance</th>
<th>Degree of freedom</th>
<th>Table value</th>
<th>Calculated x2 value</th>
</tr>
</thead>
<tbody>
<tr>
<td>School level</td>
<td>5% (0.05)</td>
<td>12</td>
<td>21.026</td>
<td>33.3836</td>
</tr>
</tbody>
</table>

From the above table, it is interpreted that the calculated value is less than table value. So, null hypothesis is accepted. Hence, there is no relationship between education level of the customers and opinion about varieties of products purchased using online shopping.

Source: Computed by the researcher

### Table No.1.3 Results of Chi-Square Test Occupation Level and Brand Preference

<table>
<thead>
<tr>
<th>Occupation level and brand preference</th>
<th>I PHONE</th>
<th>LG</th>
<th>NOKIA</th>
<th>SAMSUNG</th>
<th>OTHER</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private employee</td>
<td>4</td>
<td>7</td>
<td>11</td>
<td>2</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Govt employee</td>
<td>13</td>
<td>10</td>
<td>8</td>
<td>8</td>
<td>6</td>
<td>45</td>
</tr>
<tr>
<td>Self employed</td>
<td>9</td>
<td>7</td>
<td>13</td>
<td>2</td>
<td>4</td>
<td>35</td>
</tr>
<tr>
<td>Student</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>27</td>
<td>34</td>
<td>14</td>
<td>12</td>
<td>120</td>
</tr>
</tbody>
</table>

Null Hypothesis (H0) : There is no relationship between occupation level and brand preference for mobile phone handsets.
Alternative Hypothesis (H1): There is relationship between occupation level and brand preference for mobile phone handsets.

Source: Computed by the researcher

### Chi Square Test Table Table No.1.2

<table>
<thead>
<tr>
<th>Factor</th>
<th>Level of significance</th>
<th>Degree of freedom</th>
<th>Table value</th>
<th>Calculated x2 Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation level and brand preference</td>
<td>5% (0.05)</td>
<td>12</td>
<td>21.026</td>
<td>18.2863</td>
</tr>
</tbody>
</table>

Source: Computed by the researcher
From the above table, it is clear that the calculated value is less than table value. Hence, the null hypothesis is accepted and concluded that there is no relationship between occupation level and brand preference of the handsets.

Findings

- It is imparted that that maximum 67% of the users belong to married category.
- Maximum respondents disperse that they don’t use online shopping due to lack of technical education towards particular sites.
- The users of online shopping are maximum at the level for home based products only.
- The maximum 79.2% of the respondent belong to E-Retailing category.

Suggestions

Online service should be given more importance and can be made more preferable to customers. The online service has to design the strong distribution channels to capture integrated with e-banking sector. Online shopping is to be given for rural people with awareness for operating online business, buying and selling of all the type of goods and services. Clear information to online customer for dispatch, receiving of single and multiple commodious in short as well as long term online shopping has to be created.

In the service sector need and nature of work comfortable for customer action throughout the surety and solutions, decisions making etc., Online service is the most attractive and reliability to the customer preference with day to day service activity. In the modern world, every seller should find the e-banking strategies and techniques for customer’s preference.

Conclusion

Online shopping is a new experience and has greatly impacted the lives of consumers in its short time of existence. It is expected to grow constantly in years to come with advancements in technology. Online shopping has made consumers more effective and efficient in their shopping behaviour and has driven businesses to a new level, forcing many to make the necessary adjustments and changes to reach the new market of knowledgeable consumers. The results of this survey underscore the need for businesses to take the online market seriously. The survey conducted revealed a positive attitude and behaviour toward online shopping even by those consumers who still like traditional stores.

References

ENERGY EFFICIENT MULTIPATH ROUTING CROSS LAYER TECHNIQUES FOR NODE MANAGEMENT TECHNIQUES AND MANET

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Abstract
Due to unbalancing nature, few nodes in the network are exceedingly overloaded with routing duties which causes the large queue size, high packet delay, high packet loss ratio and high power consumption. The performance investigation and simulation are carried out to evaluate network performance using network simulator with 150 nodes. Using NS2 existing protocol AODV compared with proposed protocol JEER the probability of route stability, link break and delay has been possibly decreases in proposed system.

Keywords: Cross Layer, Routing Protocols, Energy Consumption, Link break, Throughput, Joint Routing

Introduction
The primary idea of cross layer method is maintaining the functionality of the unique layers, but communication, synchronization among diverse layers can be allowed, because of this simplicity among the layers can be maintained, and number of control signals can be concentrated[1].

The demanding of designing network protocols for MANET comes from link break which caused network performance degradation. The route rebuilding of link takes major challenge of routing protocols task can be lost making QoS (Quality of Service) of connections depending on the state of networks. A number of MANET routing protocol becomes efficient and correct. There are three types of routing in MANETs float routing versus non-flat or hierarchical routing which benefits of proactive (e.g. DSDV, OLSR), reactive(e.g. AODV, DSR), and hybrid(e.g. ZRP, TORA) mechanism for routing[2].

Routing is necessary feature in wireless networks; in such networks, a node should have the ability to deal with data transmission as required between source nodes and a sink in different situations. These capabilities may cause consumption of extra energy. Hence, efficient MAC and routing protocols need to be designed to enhance the lifetime of the network, and these protocols require efficient algorithms to deal with different situations.

In most cases researches did not go over complex cross layer design completion but try to propose a cross layer design to be able to solve the problem at the present. In most of the proposals only two or perhaps three layers need to share information, and therefore had extensive the original strict layered structure to present a result to the problem with performance development. Cross layer design started a gain lot of concentration from the researches with its performance development and the need for cross layer interaction for different applications and the mobile ad hoc behavior. Though different cross layer design had provided a means for protocols to interact with the protocols of other layers, there may be some interaction that may be estimated by the designer which if occur would create some loops. These kinds of loops caused due to unintentional interactions could compromise the stability of the entire system[3]. The following Figure 1 shows the various applications using the manet and their topoly structure are defined in this diagram.
Figure 1: Mobile Adhoc Network

The layering design of the standard protocol stacks has achieved great success in wired networks. It separates abstraction from implementation and is thus consistent with sound software engineering principles information hiding and end-to-end principle. Though, protocol stack implementations based on layering do not function efficiently in mobile wireless environments. This results from the highly variable nature of wireless links and the resource limitation nature of mobile nodes[4]. As a solution, there has recently been a proliferation in the use of cross layer design techniques in wireless networks.

Ad hoc On-demand Multipath Distance Vector which is an extension of Ad hoc On-demand Distance Vector and it’s also establish the multiple loop-free and link-disjoint paths A starting place node floods a Route Request to the entire network in order to find routes to the destination and when the destination node receives the Route Request via different neighbors, it transmits multiple Route Reply packets to the source node. Lee proposed a multiple routing protocol considering the residual battery capacity of route candidate nodes based on AOMDV[5].

The source and destination IP addresses are constant for the lifetime of the network, source sequence number is increasing indicator of packet "freshness," destination sequence number is the last known sequence number for destination node at source node and hop-count is initialized to zero and incremented at each intermediate node which processes the RREQ. Destination sequence numbers to ensure loop freedom at all times, avoiding problems associated with classical distance vector protocols[6].

The predictable Positioning Distance is used to locate the quality of link between neighbor nodes. It is used to reduce the failure of the path and discover the routes again and again. AODV, AOMDV, EADB-AOMDV are on-demand routing protocol which are based on topology[7].

Wireless sensor networks have gained worldwide attention, academically as well as industrially, because of its great potential for many applications in various scenarios such as military target tracking and surveillance, natural disaster relief, biomedical health monitoring, hazardous environment exploration, and seismic sensing [8].

There are many works seen to make progress the network life span by maximizing power competent protocols and most of them have incorporated conventional layer approach. There are many mechanism are available for dropping power utilization such as period listening and sleeping, collision and overhearing avoidance and message passing etc[9,10]. There are several routine and usefulness of the system drawback are exists in case of conventional layered network having layer independency. The competent cross layer plan method was adapted in different wireless networks. In this approach inter layers communication is achieved and also important information among the layers is exchanged to optimize the desired goal in wireless communication system. Many articles discuss and emphasize the improvement of cross layer based techniques [11,12,13].

Problem Definition

In mobile ad-hoc network all the node are move from one place to another place very frequently. The major challenges in ad-hoc networks are power control, scheduling and routing. These are related
to different layers in the wireless protocol stack. Several protocols have been designed independently without considering the interactions between these layers.

Most of the energy related study in MANET has been done at routing layer to reduce energy consumption in either transmission or suggesting a different routing approach. This paper proposed the new routing techniques for betterment of energy management techniques. So the link break between senders to receiver is very frequent. Source node is not able to predict either data can be send by the source is delivered to the destination or not because of uncertainty of link between sources to destination. The End to end delay between the source and destination also discussed to improve for route stability.

Cross Layer Interaction

Cross layering came into maintenance because of particularly variable nature of links used in the wireless communication systems and due to resource reduced nature of the wireless mobile devices there has been multiple research studies to develop the performance of the protocol stack by allowing cross layer interaction by wireless systems. Because of QoS, energy utilization, poor performance, wireless links, mobility, packet loss, end to delay problems observed in the wireless networks much attention is paid in the cross layer interactions. Normally, wireless sensor nodes avoid straight communication with distance end since maximum broadcast power is required to achieve reliable transmission. Instead in wireless sensor networks, sensor nodes communicate by forming a multi hop network to forward messages to the collector nodes, which is also called the sink node. In situation to energy efficient routing in multi hop becomes critical in achieving energy efficient network. In addition to using multi hop communication for reducing the power condition for communication, an efficient routing protocol is needed to decrease the end - to - end energy consumption when data send to sink node.

Major sources for power consumption are idle listening, re-transmission resulting from collision, control packet overhead, unnecessarily high transmitting power, and sub - optimal utilization of the available resources. If any of the quoted causes are reduced power could be saved to some extent. In circumstances where the transmission power can be diverse with the distance of the link, the link cost is higher for longer hops; the energy aware routing algorithms select a path with a huge number of small remoteness hop. It should find how it leads to an efficient choice between a path with huge number of short distance hops and another with a smaller number of large distance hops. Use of smallest amount energy paths for packet transmission may not always minimize the operational lifetime multi hop wireless network[16].

The Figure 2 described all the levels of cross layer system and how it’s linking or integrated with others layers during the data transmission between the nodes.

**Multipath Routing**

Traffic/Load balancing method it may be valuable for increasing network lifetime. It is create to be a capable responsibility technique for MANET. The use of backup paths may lead to decrease packet loss, makes communication sessions maximum duration and provides strengthens to mobility. And all these factors result in minimum energy utilization so there is a possible benefit
that network lifetime can be extended. The common nature of radio medium may influence the execution of multipath techniques because paths need to be node and link disjoint so making it not easy compared to single path routing but multiple routes can be formed to distribute the data to send and receive within a time period.

The interruption of each node is intended based on packet arrival time and packet broadcast time. The normal delay at node includes the queuing conflict and transmission delays [16]. Then full path delay is calculated by sum of node interruption from source to destination.

\[ \text{Total Packet } T_p = \sum R_k \text{ (k=1...n)} \] (1)

Where \( R_k \) is the node delay. In route discovery process, the Route Request packet carries hop count, and the total path delay \( T_p \) of a path \( P \). On receiving the Route Request packet the destination node send Route Reply packet back. If the duplicate Route Request packet has a minimum total path delay and hop count than the previous one, the destination sends a Route Reply packet again to the source node to change the route immediately. Load Aware On-demand routing protocol is an extension of the AODV.

1) LAOR allows the intermediate nodes to relay duplicate Route Request packets if the new path \( (P') \) to the source of RREQ is shorter than the previous path \( (P) \) in hop count, and \( T_P' \) is smaller than \( T_P \) (i.e., \( T_P' < T_P \)).

2) Each node updates the route entry only when the newly acquired path \( (P') \) is shorter than the previous path \( (P) \) in hop count, and \( T_P' \) is smaller than \( D_P \) (i.e., \( T_P' < T_P \)).

**Proposed Energy Efficient Multipath Jeer**

A Proposed Multipath Power efficient JEER by modifying the obtainable AODV and DSR protocol. The changes are made in the route detection phase of AODV and DSR algorithm. The Route Reply packet is drive to the particular source with the communication power in its header along with the route. Up on receiving the Route Reply packet, the source node measures the received power of the Route Reply packet and collects the transmit power of the Route Reply packet that is piggybacked in the same packet. Then the source node calculates the pathless of the Route Reply packet and calculates its required minimum transmission power using the receiver threshold. The receiver threshold along with the path loss gives the optimum power required for transmission at MAC layer. This algorithm is proposed to prevent link break and increase the throughput in the overloaded network scenario.

**Proposed Algorithm to establish the reduce link break routing**

Step 1: Begin

Step 2: If (R is a RREQ packet = MEL) then

RREQ reaches neighbor nodes

Neighbor node will be Send RREP Packet to the source node

Go to 3

Step 3: Update the destination routing table

MEL=1

Return

End if

Go to step 8

Step 4: If (R is RREQ packet = MaxEL) then

Other neighbor node will rebroadcast the
RREQ (i.e) rediscover the failure
RREP Packet
MEL = 0;
Go to step 3
Step 5: Source node it increase the TTL value by 1
MaxEL=MEL+1
Go to step 4
Step 6: if (Sequence number = MAX) &&
(Broadcast Id = ID) then
Broadcast the RREQ is rebroadcast
packets by Source node.
Update with the RREQ MEL,
MaxEL
End if
Go to 5
Step 7: End

Simulation
In this paper the simulation are carried out based on the following NS-2 simulation setup environment

Table 1: Simulation Properties

<table>
<thead>
<tr>
<th>Simulation Parameters</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simulation period</td>
<td>15M</td>
</tr>
<tr>
<td>Speed</td>
<td>1</td>
</tr>
<tr>
<td>Terrain range</td>
<td>500x500</td>
</tr>
<tr>
<td>No. of nodes</td>
<td>150</td>
</tr>
<tr>
<td>Node placement</td>
<td>Random</td>
</tr>
<tr>
<td>Radio type</td>
<td>Radio accumulated noise</td>
</tr>
<tr>
<td>Mobility model</td>
<td>Gauss Markov</td>
</tr>
<tr>
<td>Pause time</td>
<td>600sec</td>
</tr>
<tr>
<td>Maximum speed</td>
<td>35 m/sec</td>
</tr>
<tr>
<td>Packet size</td>
<td>512 Bytes</td>
</tr>
<tr>
<td>Routing protocol</td>
<td>DSR, AODV,JEER</td>
</tr>
<tr>
<td>Application traffic</td>
<td>CBR</td>
</tr>
</tbody>
</table>

The Used Parameters
These three parameters are:
1) Number of nodes per route.
2) Node mobility speed.
3) Node transmission range.

There are numbers of performance metric by which gives the performance of AODV. we here calculate packet delivery fraction, average end to end delay, normalized routing load and packet loss.

The Gauss Markov Mobility model was originally used to suggest the group of nodes in a Personal Communication System (PCS). In this model, the level of random group of the nodes can be changed by using a tuning parameter. Each movable node is assigned a current speed and direction initially. At fixed time intervals, n, the speed and direction of each node is updated based on the \((n-1)\)th instance using the equations –

\[
d_n = \alpha d_{n-1} + (1 - \alpha)\overline{d} + \sqrt{(1 - \alpha^2)}d_{x_{n-1}}
S_n = \alpha S_{n-1} + (1 - \alpha)\overline{s} + \sqrt{(1 - \alpha^2)}s_{x_{n-1}}
\]

Where,
1. \( s_n \) and \( d_n \) are the new speed and direction of the MN at time interval n;
2. \( \infty \), where \( 0 \leq \infty \leq 1 \), is the tuning parameter used to vary the randomness;
3. \( s \) and \( d \) are constants representing the mean value of speed and direction as
4. \( n \to \infty ; \) and \( S_{x_{n-1}} \) and \( d_{x_{n-1}} \) are random variables from a Gaussian distribution

Packet Delivery Fraction

It is the ratio of the total numbers of packets received by destination to the total number of packets send by the source. The better result is obtained by Enhanced AODV.

\[
\text{PDF} = \frac{\text{Received packets}}{\text{sent packets}} \times 100
\]

Data packet delivery ratio

Total number of delivered data packets divided by total number of data packets transmitted by all nodes. This performance metric will give us an idea of how well the protocol is performing in terms of packet delivery at different speeds using different traffic models.

Normalized Protocol Overhead

Total number of routing packets divided by total number of delivered data packets. Here, we analyze the average number of routing packets required to deliver a single data packet. This metric gives an idea of the extra bandwidth consumed by overhead to deliver data traffic.

Throughput

Total number of delivered data packets divided by the total duration of simulation time. We analyze the throughput of the protocol in terms of number of messages delivered per one second.

Average End-to-End delay (seconds)

The average time it takes a data packet to reach the destination. This metric is calculated by subtracting “time at which first packet was transmitted by source” from “time at which first data packet arrived to destination”. This includes all possible delays caused by buffering during route discovery latency, queuing at the interface queue, retransmission delays at the MAC, propagation and transfer times [17]. This metric is crucial in understanding the delay introduced by path discovery.

Simulation Results

Figure 3 shows the Packet Delivery time with respect to number of nodes in cross layer based system provides high packet delivery ration compared with existing AODV protocol.

Figure 3: Packet delivery fraction of AODV and JEER

Figure 4 shows the Routing Overhead with respect to number of nodes in cross layer based Joint energy efficient multipath routing system reduced routing overhead compared with existing AODV routing protocol.

Figure 4: Routing Overhead AODV and JEER

Figure 5 shows the Throughput with respect to Traffic Load in cross layer based Joint energy efficient multipath system increased the throughput and reduced the traffic link break compared with existing AODV routing protocol.
Figure 6 shows the Delay with respect to number of nodes in cross layer based joint energy efficient multipath system reduced end-to-end delay time compared with existing AODV routing protocol.

Conclusion

In this paper, Simulation results show that cross-layer based routing system design yield considerably improved performance by exploiting the tight coupling between the layers in wireless systems. A disseminated algorithm for joint power control and routing along with cross layer communications in wireless ad-hoc networks had been developed and tested. The performance study shows that there is better progress in this algorithm compared to existing algorithm. The successful sending of Route Request messages are significant in on demand routing protocols for MANET. The breakdown of Route Request causes serious problem in routing protocol. If Route request packet is failed, route re-discovery procedure attempts will be exhausted and adds additional control overhead. Once again the source node reinitiates the Route Request message, increasing the flooding process. To look up the performance, it is very important to balance the load. Load balancing is used to increase throughput of the network. Also it is possible to maximize nodes lifetime, packet delivery ratio, end-to-end packet delay can be minimized, and network energy consumption can be probably balanced. The proposed system achieves the significant results compared to existing AODV and DSR protocols; it decreases the routing overhead, link break and end to end delay.

References

A COMPETITIVE STUDY ON CUSTOMER SATISFACTION TOWARDS NORMAL SUGAR AND BROWN SUGAR WITH SPECIAL REFERENCE TO KARUR DISTRICT

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Introduction

The consumer orientation is the fundamental aspect of marketing management concept under this orientation market related problems are as “consumer problem rather than as fundamental problem.” More over marketing process involves bringing together of two groups viz, sellers and consumer. The manufacturer must be keeping a constant touch with the customer. He must plan his productions and distribution to suit the consumers convenience, rather than his own consumer is not an individual at all but a whole family. It is thought that cane sugar was first used by man in Polynesia from where it spread to India.” The reed which gives honey without bees.” The secret of cane sugar as with many other of man's discoveries was kept a close guarded secret whilst the finished product was exported for a rich profit. It was the major expansion of the Arab peoples in the seventh country AD that led to a breaking of the secret. As a continued action they established sugar production in other lands that they conquered including North Africa and European. Sugar was only discovered by western Europeans as a result of the crusades in the 11 century AD.

Classification of Sugar
1. White sugar
2. Brown sugar
3. Liquid sugar
4. Fruit sugar

Statement of the Problem

The study on consumer behavior to know whom the customers are, what they want, how they use and react to the product. The wants of the customer are carefully studied by conducting survey of consumer behavior. This study also helps to know how various marketing variable such as price, product features, advertising message and the consumers to prefer a particular brand and problem faced by them on using such brands and so on.

Scope of the Study

- Diagnosing the current situation or problem based detailed information.
- Clearly identifying competitive strengths and weaknesses
- Constantly analyzing what is happening in the market place
- Watching out continuously for threats to the achievement of those plans, and monitoring the progress of strategy implementation.
To know brand awareness, the necessary change in product factors that the consumers feel can also be looked into.

Consumer view about quality and quantity of the study the most influencing factor that makes the consumers to purchase the products.

Objectives of the Study
- To study the socio economic factors of the respondents.
- To study on consumer needs and wants.
- To study comparative analysis of normal and brown sugar.
- To study on awareness of the product.

Research Methodology
A research design is purely and simply the framework or plan for a study that guides the collection and analysis of the data. In consumer surveys we have adopted this descriptive research design in collecting and analyzing data.

Sample Technique
We have adopted convenience sampling technique in our survey. In this method, the sampling units are chosen primarily in accordance with the investigator's convenience.

Tools for Analysis
In order to analysis the data, various statistical tools were used in this study.
- Simple percentage analysis
- Weighted average analysis

Simple Percentage Analysis
Simple percentage analysis is one of the basic statistical tool which is widely used in analysis and interpretation of primary data. It deals with the number of respondent’s response to a particular question in percentage arrived from the total.

\[
\text{Simple Percentage} = \frac{\text{No. of Respondents}}{\text{Total No. of Respondents}} \times 100
\]

Weighted Average Analysis
Mean in which each item being averaged is multiplied by a number based on the items relative importance. The result is summed and the total is divided by the sum of the weighted. Weighted averages are used extensively in descriptive statistical analysis such as index numbers also called weighted mean.

Period of the Study
The primary data required for the study have been collected from the respondents during the year 2016 – 2017 and the secondary data from 2006 – 2015.

Table 1 Buying Factors of the Respondents

<table>
<thead>
<tr>
<th>S. No</th>
<th>Factors</th>
<th>No. of Respondents</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Quality</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>2</td>
<td>Quantity</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Price</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>
The table shows that, out of total respondents of the study 42% of the respondents get satisfied due to its Quality, 10% of the respondents towards Quantity, 6% of the respondents towards Price, 2% of the respondents due to Package, 28% of the respondents as per Taste and remaining 12% of the respondents as per Brand image.

Table 2: Influencing Factor

<table>
<thead>
<tr>
<th>S. No</th>
<th>Source</th>
<th>No. of Respondents</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Quality</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>2</td>
<td>Quantity</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Price</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>Freshness</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Primary Data

The table shows that, out of total respondents the most influencing factor to use the sugar blends 46% of the respondents with Quality, 10% of the respondents with Quantity, 8% of the respondents towards Price, and remaining 36% of the respondents due to Freshness.

Table 3: Ranking of Purchase Place of the Respondents - Normal Sugar

<table>
<thead>
<tr>
<th>Normal Sugar</th>
<th>HSD</th>
<th>SD</th>
<th>NE</th>
<th>DS</th>
<th>HDS</th>
<th>Total Weight</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality</td>
<td>80</td>
<td>76</td>
<td>75</td>
<td>16</td>
<td>4</td>
<td>251</td>
<td>2</td>
</tr>
<tr>
<td>Quantity</td>
<td>60</td>
<td>56</td>
<td>66</td>
<td>26</td>
<td>11</td>
<td>219</td>
<td>4</td>
</tr>
<tr>
<td>Price</td>
<td>45</td>
<td>36</td>
<td>75</td>
<td>30</td>
<td>14</td>
<td>200</td>
<td>5</td>
</tr>
<tr>
<td>Package</td>
<td>40</td>
<td>84</td>
<td>78</td>
<td>24</td>
<td>5</td>
<td>231</td>
<td>3</td>
</tr>
<tr>
<td>Taste</td>
<td>140</td>
<td>104</td>
<td>36</td>
<td>4</td>
<td>4</td>
<td>288</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Primary Data

The table shows that, Taste of the sugar ranked 1st with the score of 288, Quality of the sugar ranked 2nd with the score of 251, Package of the sugar ranked 3rd with the score of 231, Quantity and Price of the sugar ranked 4th and 5th with the score of 219 & 200 respectively.

Table 4: Ranking of Purchase Place of the Respondents - Brown Sugar

<table>
<thead>
<tr>
<th>Brown Sugar</th>
<th>HSD</th>
<th>SD</th>
<th>NE</th>
<th>DS</th>
<th>HDS</th>
<th>Total Weight Score</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality</td>
<td>90</td>
<td>16</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>119</td>
<td>1</td>
</tr>
<tr>
<td>Quantity</td>
<td>15</td>
<td>24</td>
<td>33</td>
<td>8</td>
<td>4</td>
<td>84</td>
<td>3</td>
</tr>
<tr>
<td>Price</td>
<td>40</td>
<td>12</td>
<td>18</td>
<td>4</td>
<td>9</td>
<td>83</td>
<td>4</td>
</tr>
<tr>
<td>Package</td>
<td>30</td>
<td>12</td>
<td>6</td>
<td>13</td>
<td>69</td>
<td>93</td>
<td>5</td>
</tr>
<tr>
<td>Taste</td>
<td>15</td>
<td>20</td>
<td>54</td>
<td>4</td>
<td>0</td>
<td>93</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Primary Data

From the table it is clear that the Quality of the Brown sugar ranked 1st with the score of 199, Taste of the Brown sugar ranked 2nd with the score of 93, Quantity of the Brown sugar ranked 3rd with the score of 84, Price and Package of the Brown sugar ranked 4th and 5th with the score of 219 & 200 respectively.

Findings
- Majority (72%) of the respondents family sizes from 3 to 5 members.
- Majority (74%) of the respondents prefer to use normal Sugar.
- Majority (68%) of the respondents belong to Female category.
- Majority (68%) of the respondents using sugar are unmarried.
- As per qualification, majority (64%) of the respondents belong to the category as qualified respondents at the College level.

Suggestions
Most of respondents feel that price of the normal sugar looking high when compared to brown sugar. Based on this research brown sugar’s quality is looking good and most of the respondents using are satisfied.
There is a large number of duplicate brands in markets distributing the normal sugar. It affects the normal sugar sales directly. Hence, it should be considered importantly. Majority of respondents feel that the normal sugar taste is excellent. Hence the taste of the brown sugar must be increased without any adulteration in the process.

Conclusion

The above competitive study of normal sugar and brown sugar, we came to know that most of the customers are satisfied with normal sugar products when compared to brown sugar. The advertisers of brown sugar have to improve its advertisement and also other attributes. It is concluded that companies branding with normal sugar has well imparted promotional strategy and other attributes than that of the companies branding with brown sugar.

References

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TAX PLANNING BY INDIVIDUALS

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Abstract

A self-assessment approach on tax planning excise is quite necessary as one should be aware of those provisions which affect us directly. A study on “Tax planning by individuals” was conducted among the tax paying respondents with special reference to Coimbatore city to find out the motives of savings by individuals, to measure the level of satisfaction on tax saving schemes and process of filing return due to the implementation of e-filing. The primary data was collected through a structured questionnaire from 150 respondents. Chi-square test and t-test were the tools used for analyzing the results. The study revealed that gender, educational qualification and occupation had impact on their level of satisfaction of tax saving schemes. The study also analyses the process of e filing which is made mandatory nowadays.

Keywords: Tax planning, E-filing, Tax saving schemes

Introduction

Tax planning implies keeping the incidence of tax at lowest possible level in a lawful manner. Tax planning can be defined as an arrangement of one’s financial and an economic affair by taking complete legitimate benefit of all deductions, exemptions, allowance and rebates so that tax liability reduces to the minimum. Tax planning is an arrangement by which the tax laws are fully complied to meet all legal obligations and transactions. The main goal of every tax payer is to minimize to tax liability. Tax planning is neither tax avoidance nor tax evasion. Tax payers has no intention to deceit the legal spirit behind the tax laws, would naturally fall with in tax planning. The taxation structure of the country plays an important role in the working of our economy. Hence, the income tax department established a system for centralized process of returns with the introduction of e-filing system for tax payers.

Meaning of E-Filing

E-file is the term for electronic filing or sending ITR from tax software via the internet to tax authority. It is a new and effective method of filing income tax return. E-filing enables a tax payer to file their returns on time without any delay. In view of expansion of internet, e-filing has not only been popular but also made mandatory nowadays to file their returns. E-filing is the process of submitting tax returns over the Internet, using tax preparation software that has been pre-approved by the relevant tax authority. The number of registered users as on 31st January 2018 is 7,02,12,088.

Process of e-Filing Income Tax Return

Registration

To e-file income tax return, it is necessary to register on Income Tax Department’s online tax filing site (incometaxindiaefiling.gov.in). It is mandatory to provide permanent account number (PAN), name and date of birth and choose a password.
E-Filing Procedure

There are two ways for e-filing the income tax return. One is to go to the download section and select the requisite form, save it on your desktop and fill all the details offline and then upload it back on the site. Or you can choose to fill the form online by selecting the quick e-file option.

Select the Requisite Form

*ITR-1*: For individuals earning a salary, pension, or income from property or sources other than lottery.

*ITR-2*: For those earning capital gains. *ITR 2A* for those owning more than one house but no capital gain.

*ITR 3, 4 and 4S*: Professionals and business owners.

Required Documents

It is mandatory to submit the following to e-file the returns:

- PAN, Interest statements, TDS certificates, details of investments, insurance and quantum home loans. *Form 26AS*, summarizes tax paid against PAN. To check tax liability the tax payers can validate the tax with *Form 26 AS*.

Fill Form and Upload

First the tax payers have to log in to upload the XML file saved and click on submit. Else submit the required details which are necessary to upload return through quick e-file options.

Verify ITR V

On submitting ITR form, an acknowledgement number is generated. In case the return is submitted using digital signature, preserve this number. If the return is submitted without a digital signature, an ITR-V is generated and is sent to the registered email ID.

The tax filing process is incomplete and ITR is invalid unless ITR V is verified. We can electronically verify or mail the signed ITR V through the processing centre in Bengaluru within 120 days of filing the return.

Need for the Study

Tax planning is essential for the tax payers to know their tax liability in the right perspective and it is necessary to be aware of the measure of tax planning available to them, so that they can make the best use of their earnings by reducing incidence of tax. To make appropriate savings and wise investment decisions efficient tax planning is necessary. Hence, the study is an attempt made to find out the motives of savings and level of satisfaction regarding tax planning.

Objectives

- To find out the motives of saving by the individuals
- To measure the level of satisfaction regarding tax planning schemes

Research Methodology

The study is confined to tax paying respondents in the Coimbatore city. Samples of 150 respondents were selected for this study. The required primary data was collected from the tax paying respondents through a self-designed questionnaire using likert scale to get the views of the respondent. The current study is an effort made to evaluate the tax planning by individuals and process of filing returns through e-filing.
Results and Discussion

Demographic Profile of the Select Respondents

The profile of the tax paying respondents is discussed by taking into consideration their personal data viz. gender, age, marital status and educational qualification. The results reveal that 56 per cent of the respondents are male. 37 per cent of the respondents fall in the age group of 25-35 years and 85 per cent of them are married. Among the select respondents, 45 per cent of them are post graduates and 29 per cent of them are earning income between Rs. 20001-30000 per month.

Sources of Income of the Select Respondents

In order to know the sources of income of the select respondents, the multiple sources of income were classified into income from employment, investment in house property and securities, bank deposits, income from business or profession and income from agriculture. It is ascertained that, the source of income of 84 per cent of the respondents is from employment.

Level of Income and Savings of the Select Respondents

The savings and investments of the individuals depend on the quantum of income level. On the basis of the level of income and savings of the select respondents, the results disclose that all the select respondents are savers and their percentage of savings vary from 10 per cent to above 50 per cent of their income.

Motives for savings by the Select Respondents

To analyze the different motives of savings ranks were provided for each of the responses by adopting Garrett ranking technique. According to this technique the first rank was occupied by the reason for availing tax incentives, providing for children’s education/marriage and for ensuring peaceful retirement life, holds the second and third rank respectively.

To find out whether there is any change in the motives for saving among the respondent groups with different socio economic profile, t- test was used.

T-Test

H₀: There is no significant difference in the motives of saving of the respondents based on the socio economic factors like gender, age and marital status

H₁: There is significant difference in the motives of saving of the respondents based on the socio economic factors like gender, age and marital status

The results of the t-test are shown in the following Table 1

Table 1 Association between Select Socio Economic Factors and Motives for Saving

<table>
<thead>
<tr>
<th>Variance</th>
<th>Table value of t-test</th>
<th>P value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>2.866479</td>
<td>0.005131</td>
<td>S</td>
</tr>
<tr>
<td>Marital status</td>
<td>13.796745</td>
<td>0.00001</td>
<td>S</td>
</tr>
</tbody>
</table>

Source: Computed data

Table 1 reveals the results of t-test. It was found that there is significant difference in the motives of saving of the respondents based on the socio economic factors like gender and marital status as the p value is found to be significant.

Satisfaction on Tax Planning Schemes

The satisfactions on tax planning schemes among the select respondents are shown in Table 2.
Table 2 Satisfaction on Tax Planning Schemes

<table>
<thead>
<tr>
<th>S.no</th>
<th>Factors</th>
<th>H.S</th>
<th>S</th>
<th>N</th>
<th>D.S</th>
<th>H.D.S</th>
<th>Total Score</th>
<th>WAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tax benefits from investments</td>
<td>305 (41)</td>
<td>240 (40)</td>
<td>75 (16)</td>
<td>8 (3)</td>
<td>-</td>
<td>628</td>
<td>4.18</td>
</tr>
<tr>
<td>2</td>
<td>Safety of the principal</td>
<td>170 (23)</td>
<td>324 (54)</td>
<td>96 (21)</td>
<td>6 (2)</td>
<td>-</td>
<td>596</td>
<td>3.97</td>
</tr>
<tr>
<td>3</td>
<td>Maximum return</td>
<td>245 (33)</td>
<td>228 (39)</td>
<td>111 (25)</td>
<td>8 (3)</td>
<td>-</td>
<td>592</td>
<td>3.94</td>
</tr>
<tr>
<td>4</td>
<td>Maximum coverage of risk</td>
<td>185 (25)</td>
<td>276 (46)</td>
<td>120 (27)</td>
<td>4 (1)</td>
<td>-</td>
<td>585</td>
<td>3.90</td>
</tr>
<tr>
<td>5</td>
<td>Appreciation in the value of investment</td>
<td>195 (26)</td>
<td>276 (46)</td>
<td>120 (27)</td>
<td>4 (1)</td>
<td>-</td>
<td>595</td>
<td>3.96</td>
</tr>
</tbody>
</table>

Source: Primary data (Number in parenthesis indicate percentage)
(H.S- Highly satisfied, S- Satisfied, N- Neutral, D.S- Dis satisfied, H.D.S- Highly Dis satisfied)

Table 2 shows the level of satisfaction of the tax paying respondents on tax planning schemes. The results show that 81 percent of the selected individuals were satisfied with the tax saving schemes specified under the Income Tax Act 1961. The study further revealed that all the select respondents derived satisfaction with the tax benefits along with other investment attributes. The first feature - Tax benefits from the investments scored highest weighted average score (WAS) of 4.19 which was followed by second attribute – safety of principal (3.97). The other criteria’s namely appreciation in the value of investment, maximum return and maximum coverage of risk secured the weighted average scores of 3.96,3.94, and 3.90 respectively. Hence it is clear that the select respondents are satisfied with the different attributes of investment even while investing for the purpose of reducing their tax burden.

Chi-Square Analysis

Chi-square analysis was used to test the following hypothesis

H₀: There is no association between socio economic variables and the level of satisfaction on tax planning schemes.
H₁: There is association between socio economic variables and the level of satisfaction on tax planning schemes.

Table 3 Association between Socio Economic Variables and Level of Satisfaction on Tax Planning Schemes

<table>
<thead>
<tr>
<th>Variables</th>
<th>Calculated value</th>
<th>Table value</th>
<th>Degree of Freedom</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>12.853928</td>
<td>7.815</td>
<td>3</td>
<td>S</td>
</tr>
<tr>
<td>Income</td>
<td>12.47578</td>
<td>21.026</td>
<td>12</td>
<td>NS</td>
</tr>
<tr>
<td>Education</td>
<td>30.19735</td>
<td>16.919</td>
<td>9</td>
<td>S</td>
</tr>
<tr>
<td>Age</td>
<td>7.877414</td>
<td>12.592</td>
<td>6</td>
<td>NS</td>
</tr>
<tr>
<td>Occupation</td>
<td>9.9817</td>
<td>9.488</td>
<td>4</td>
<td>S</td>
</tr>
</tbody>
</table>

Source: Computed data

Table 3 shows the relationship between socio economic variables and level of satisfaction on tax planning schemes. Chi-square test revealed that there is an association between some of the socio-economic variables and the level of satisfaction regarding tax planning schemes. Gender, Education and Occupation of the respondents are significantly associated with level of satisfaction and there is no association between income and age of the respondents and level of satisfaction.

Conclusion

Tax planning is essential basis for minimizing tax burden and it also develops the habit of savings and investment. The results show that there is an association between the socio economic variables like
gender, education, occupation and the level of satisfaction on tax planning schemes. The analysis revealed that the respondents had higher level of satisfaction towards the tax planning schemes. The motives for saving based on the socio economic factors like age, gender, education, income, occupation, marital status was found to be significant. The tax payers are highly benefited with the process of filing their returns through e-filing. They have not faced any difficulties while filing their returns as it enables the tax payers to file their returns on time.

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GROWTH OF ELECTRONIC RETAILING IN INDIA

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Abstract  
Electronic retailing is the sale of goods and services through the internet. The success of e-tailing depends on the effective web site design, effective shopping and prompt delivery, return and replacement process, period of filling out online orders form and speed of response time to e-customers. The Confederation of Indian Industry reported that the business to business (B2B) segment of e-commerce is estimated to be more than double from $300 billion in 2014 to $700 billion in 2020, while business to consumer (B2C) segment will grow more than seven times from $13.6 billion in 2014 to $101.9 billion in 2020."Make in India" initiative will also play a vital role for boost up Indian economy with e-retailing growth. The present study aims to analyze the growth of electronic retailing in India.  
Keywords: Electronic, Growth, retailing and service

Introduction  
Electronic retailing is the sale of goods and services through the internet. Electronic retailing can include business-to-business (B2B) and business-to-consumer (B2C) sales of products and services, through subscriptions to website content, or through advertising. E-tailing requires businesses to tailor traditional business models to the rapidly changing face of the internet and its users. Successful e-tailing requires strong branding and distribution efficiency.

Essentials of E-Retailing  
Electronic retailing or e-tailing, as it is generally being called now, is the direct sale of products, information and service through virtual stores on the web, usually designed around an electronic catalogue format and auction sites. There are thousands of storefronts or e-commerce sites on the Internet that are extensions of existing retailers or start-ups. Penetration of computers and proliferation of the Internet has given rise to many new forms of businesses, such as business process outsourcing, medical transcription, remotely managed educational and medical services and of course, electronic retailing.

There are certain essential ingredients for an electronic retailing business to be successful. One must consider these components well in advance before setting up an electronic storefront. These essential components are:

- Attractive Business-to-consumer (B2C) e-commerce portal
- Right revenue model
- Penetration of the Internet

Support Services in E-Retailing  
The electronic retail business requires support services, as a prerequisite for successful operations. These services are required to support the business, online or offline, throughout the complete transaction-processing phases. The following are the essential support services:
Bottlenecks Faced By E-Retailing in India

Problems with the Payment System

People in India are not used to the online shopping system and moreover the online payment system through the credit card is also totally alien to them. Most of them do not avail of the transaction facilities offered by the credit cards. They are also dubious regarding the online payment system through the credit cards. Hence different payment options should be made available to them like the credit card, cash on delivery and net banking to give them further assurance.

Problems with Shipping

The customers using the online shopping channel should be assured that the products that they have ordered would reach them in due time. For this the retail companies have resorted to private guaranteed courier services as compared to postal services.

Offline Presence

The customers should be assured that the online retailers are not only available online but offline as well. This gives them the psychological comfort that these companies can be relied upon.

Products Offered at Discounted Rates

The online retailers save on the cost of building and employee salaries. Some part of this benefit should also be enjoyed by the online customers by a reduction in the price of the product. The customers should be conveyed this message that they are getting the products at a discounted price.

Language Problem

Most internet retail shops use English as their mode of communication. English may not be comprehensible to the majority of the Indian population. To increase the customer base, content in the online retail shops should be provided in local language.

Indian Retail Sector

Indian retail sector has received global attention in the last few years and is on the verge of a big revolution after the uprising in information technology sector and placed among the top five retail markets. Continuous changes on account of economic reforms and consumer preferences have been observed as trigger of economic growth and multinational retailers preferring Indian market and manufacturers are identifying, redefining, evolving new retail formats. The fundamental drivers of organized retail sector growth are higher disposable income of middle-class consumers due to employment in MNCs, increasing number of working women, favorable demographics, changing lifestyles, growing size of urbanization of economy, growth of the middle class segment with high potential for penetration into rural and urban markets, nuclear families in urban areas, easier consumer credit with low interest rates, rising internet penetration across the country. Young Indians are spending huge amount on apparel & footwear, fashion accessories, Cosmetics, electronics items especially smart phones, furniture, food, grocery, beverages, tour & travelling and etc. are playing the
role of fuel in growth engine of retail sector. This is well-recognized fact that life in metropolitan and big cities in India is more challenging, as time wise consumers are getting poor and money wise becoming rich, so disposable income is reported to be on the rise and disposable time is on the decline due to the raising the employment in multinational corporations, increasing number of working women, work pressure and stress at working place, job timings at corporate sector, increase in nuclear families, urban traffic congestion, busy lifestyle and beyond this peoples are facing difficulties to find the time for offline shopping. Moreover increasing broadband internet with 4G and smart phones penetration, accessibility of internet across the country are changing the taste & preferences and shopping mode of Indian consumers, which increases the growth and share of e-retailing in Indian retail sector. The Indian youth, who is armed with smart phones, shopping likely to be different from what their parents have shopped from local stores & markets, hypermarket and malls. In the results of above facts e-retailing is giving a very stiff competition to organized and unorganized sector of retail with a strong consumer base and high potential of growth in future. followed by electronic items segment by 62 percent, baby care products segment at 53 per cent, beauty & personal care products at 52 per cent and home & furnishings at 49 per cent. It was also revealed that Mumbai ranked first in online shopping followed by Delhi, Ahmedabad, Bangalore and Kolkata. Products such as consumer electronics, consumer appliances and media products are perceived to be less risky and projected to lead the growth of e-retailing in India.

**Growth of E-Retailing in India**

The Confederation of Indian Industry reported that the business to business (B2B) segment of e-commerce is estimated to be more than double from $300 billion in 2014 to $700 billion in 2020, while business to consumer (B2C) segment will grow more than seven times from $13.6 billion in 2014 to $101.9 billion in 2020. The growth of B2C segment will be supported by online shoppers, from 20 million in 2013 is estimated to 220 million in 2020. But this growth will be driven by discounts on products to customers, which has helped them to increase the sale but other side may increase losses as well. The second driver of growth will be internet and smart phones penetration. In Every second, three new Indian experiences the internet at first time and by 2030 more than one billion out of them will be online. The proportion of 3G users among all internet users has improved substantially since 2013. About 28 per cent of the total 150 million mobile internet users in India had 3G connections in 2013, while in 2016; about 59 per cent of the estimated 371 million mobile internet users in India are expected to have 3G connections. India has the highest share of mobile based e-commerce sales (41 per cent), ahead of China 37 per cent and the United States of America 15 per cent. The report also estimates a significant growth in the digital payments segment, from $20 billion in 2014 to $115 billion in 2018, though cash-on-delivery currently comprises 60 per cent of the overall transactions.

**Road of Growth**

In present competitive scenario, online shopping is becoming the important part of Indian consumers. The key factors for significant growth of e-retailing in India are shopping at 24x7 with saving of time, extra efforts and money as compared to shopping from offline store. E-retailers do not required to maintain expensive showrooms in malls, posh areas, crowded locations and in organized markets, so what attract customer attention to go for online shopping are “best prices or best deals or bargains” and a wide variety and range of products available at low prices. Secondly customized payments options: cash on delivery (COD), digital wallet payment, payment through debit and credit card; net banking and etc. with safe transactions (one time password, security question). E-retailing
market leaders in India such as Flipkart, snap deal, and amazon are providing the price comparison of products on online portal and offering a great assortment & variety of products for different segments of customers, so that shopper can choose the products which closely suit them. The another important factor is quick and timely delivery of product at your door step, if product does not suit to consumer expectations or product is faulty than product is easily return or exchange. Even today online purchase of grocery items also prevailing in metropolitan cities and consumers get the delivery of grocery in few minutes, so imagine that how importantly Indian consumer is depends on online shopping. But on second side the significant drivers of growth in e-retailing includes increasing internet penetration, continues growth in broadband acceptance, fast connection speed, providing government support for growth to internet companies, smart phone penetration and dynamically engagement of internet users on various social media platforms are closely correlated with the growth of e-retailers over offline retailers, moreover revolution in the IT sector, arrival of sophisticated software and supporting hardware has endorsed ecommerce players to study consumer behavior in more efficiently manner so that facilitates to sales and increased market share across the world. Social media networks such as Facebook is likely to progressively more and become the channel for sales of products and engagement. “Make in India” initiative will also play a vital role for boost up Indian economy with e-retailing growth. Especially IT hardware & electronics, textiles & garments, leather & footwear, food processing, pharmaceuticals sectors will expand the product line and will offer variety of products at low price. The formation of smart cities across India in response to booming urban population will create huge potential and challenges as well for e-retailing.

Conclusion

Consumer’s preferences are changing rapidity and becoming highly diversified. It is difficult for the retail stores to satisfy all the needs of the customers The most of the consumers want to get some attractive prices, good schemes and offers one every pur chase and a shopping comfort as well. With the help of online shopping facility retailer can fulfill the need and demand of their customers and able to provide better services to their customer.

References

Abstract

The persistence of E-Banking (Electronic Banking) besides turn out to be inevitable due to the standards required to be matched at the international level. For the reason of globalisation every country may upgrade their standard for stand in their position and continuation. Thus the domestic as well as the International standards mandates the embracing of E-Banking at the most primitive plausible moment. More rivalry and intensify regulation may given difficult for banks to stand out from the international crowd. However the development of Information and communication Technology help them to improve the customer retention by customer satisfaction survey of E-banking.

Introduction

An eminence and proficient banking organism is the vertebrae of the financial system. The progress of a nation can function efficiently and without various hassles if the banking organization patronage it is not only resilient but also competent of meeting the new-fangled confront posed by the expertise and additional exterior as well as interior factors. The magnitude and role of information technology for accomplish this benevolent intention cannot be diluted. There is an burning necessitate for not merely technology up gradation but as well its absorption with the universal tactic of execution of banks to bestow them an periphery in admiration of services presented to their customers. The technology has the budding to revolutionize the methods of retention of customers, marketing, further development. So E-Banking is the instance necessitate of the time, which cannot be vanished vision of except at indict of obliteration from the rivalry.

Meaning of Bank

The term bank originally referred to an individual or organization which acted as a money changer and exchanged one currency for another. But these days, a bank is an institution in which people keep their cash balances in the form of deposits. Bank plays a vital role in the modern world. They occupy a unit position in the monitory and economic system of a country. They tape and mobilize the savings of the people. Bank is an institution which deals with money and credit.

Definition of Banking

In our country, the tern bank has been clearly defined by section 5 of the Banking Regulation Act 1949, which states Banking means “the accepting for the purpose of lending or investments of deposits of money from the Public, repayable on demand or otherwise and withdraw able by cheque, draft, and order or otherwise”.

Meaning of E-Banking

Internet banking can be defined as a facility provided by banking and financial institutions, that enable the user to execute bank related transactions through Internet. The biggest advantage of Internet
banking is that people can expend the services sitting at home, to transact business. Due to which, the account holder does not have to personally visit the bank. With the help of Internet banking many transactions can be executed by the account holder. When small transactions like balance inquiry, record of recent transaction, etc. are to be processed, the Internet banking facility proves to be very handy. The concept of Internet banking has thus become a revolution in the field of banking and finance.

**History of E-Banking**

The concept of Internet banking has been simultaneously evolving with the development of the World Wide Web. Programmers working on banking data bases came up with ideas for online banking transactions, sometime during the 1980s. The creative processes of development of these services were probably sparked off after many companies started the concept of online shopping. The online shopping promoted the use of credit cards through Internet. Many banking organizations had already started creating data ware housing facilities to ease their working staffs. The developments of these databases were widely used during the development of ATM’s.

Sometime in 1980s, banking and finance organizations in Europe and United States started suggestive researches and programming experiments on the concept of ‘home banking’. Initially in the 80’s when computers and Internet were not so well-developed, ‘home banking’ basically made use of fax machines and telephones to facilitate their customers. The widespread of Internet and programming facilities created further opportunities for development of home banking. In 1983, the Nottingham Building Society, commonly abbreviated and referred to as the NBS, launched the first Internet banking service in United Kingdom. This service formed the basis for most of the Internet banking facilities that followed. The first online banking service in United States was introduced, in October 1994. The service was developed by Stanford Federal Credit Union, which is a financial institution. The online banking services are becoming more and more prevalent due to the well-developed systems.

**Need of E-Banking**

Every customer, who utilize e-banking be likely to be more lucrative, trustworthy and enthusiastic to refer their bank to friends and family members that do typical traditional banking customers. Internet using bank customer, also sustain higher balances, necessitate less customer support and have lower attrition rates than traditional customers. The E-banking customers who use internet may do their transaction in the happier moods with their banks which translates into deepened relationships. And it may show the development of technology and also proof the progress of human from the former stage to the modern world.

**Benefits of E-Banking**

Normally all the customers and the Government have more benefits from the bank, after the inception of E-Banking all are having more benefits from that, they are

- **Easy to operate**

  Compare to the normal banking operation, the E-Banking operation may easy one. Because of the user friendly computer application software can be used for maintaining the account. The applications are change according to the customer choice and they may be use not only with the computer they can operate their account even in the smart phones and tab also.
• **24 x 7 operation**
  
  In the regular banking, the customer may utilize the banking transaction only at the bank working hours, but in the E-banking they can do the operation not only the day time even in the night time also or whenever they free and also they can operate even in the other country also, so that it means 24 hours and 7 continents they can operate the banking account.

• **Time consuming**
  
  Really the E-banking consume the time of the customer. Taken as example if one person wants to deposit or withdraw the money from the bank, it may take minimum 1 hour to 2 hour from the starting point to end point, it means from the home to bank and bank waiting time and return to home time. But in this banking system no need of travelling, no traffic jam, don’t want to stand in a long queue, no token system, no tension; they can simply finish the work within 5 to 10 minutes in the living place.

• **Safe and Secure One**
  
  The customer don’t bather about theft at the time of carrying money to bank and taken the money from the bank, we can pay or receive the money through the simple transaction through the internet, and the bank may given the customer to PIN number for Debit and Credit Card, User Id and Password for Individual Login, and Money Transfer Code and OTP to the Registered Mobile Number as well as sending the SMS at the time of Login and Logout. So it is safe and secure one.

• **Convenient one for all**
  
  This E-banking system gives more facilities to all the related persons of banking, and its operation and methods are convenient one for banking persons, the customers of the bank and the other bank, and the Government. No hard transaction, no need of facing the troubles, because all are operating their system in a proper manner thus they don’t have a misunderstanding between them, at the time of transaction.

• **Easy to Monitor**
  
  Now a day's all the peoples are having and familiar in using the smart phones and all are having Internet facility in all times. Due to the SMS alert and The E-banking operation they can easily monitor their bank accounts and the single transaction in the course of the place everywhere they be in this world.

• **Convenient Bill Payment System**
  
  Everybody have the struggle of paying their regular bills and other necessary bill payment, in this online payment system the process may very simple. It may help them to avoid late fees because every payment may automatically paid on time if they registered in this website in a proper manner, it is systematically paid the billing at the stipulated time without late. As a result of this the customer may not have any loss and not meet any trouble for the payment of LIC, Electricity, Rent, Mortgage, or any kind of dues.

• **Money can deposit/Transfer from anywhere**
  
  In the normal banking operation if one customer wants to deposit the money, they can go to the bank and deposit only in the respected bank, but in this e-banking anybody can deposit the money from anywhere and any branch because of the core banking system, and also

• **More mode of money transfer**
  
  The customer can transfer the money through the EFT (Electronic Fund Transfer) Mode. Like RTGS (Real Time Gross Settlement) and NEFT (National Electronic Fund Transfer) system, and SEFT (Special Electronic Fund Transfer) Mode. Take an example if the customer's child may study in the School /
college or one of their friend or relative in need of cash, in this transfer mode they can easily send funds immediately in fast with a simple step.

- **E-statement may take Easily**
  
  Every customer need to know their statement for the IT purpose and also know the status of the bank details, for this purpose they may maintain the pass book sometimes if they need more they may take a account statements from the bank, but in this system, that is available on-line. Everybody can taken their account statements in the Pdf (Portable Document File) format at the time of login in the convenient date and period.

- **No need of Paper so go Green**
  
  In this E-banking system the bank and the customers need not use the paper for their transactions. All are using the software and know the details through the internet, here they don’t waste any single paper for their banking transactions, otherwise for maintaining and printing statement they need more and more paper for maintaining the account, but in e-banking they don’t want any single paper, so everybody can save trees and the world becomes green. The E-wallet and E-cash also the other mode of paperless money handling.

**Detriment of E-Banking**

Every coin has both sides like that every system of god creation or the human creation they have some drawbacks. Now a day, almost every banking operation is done all the way through the internet mode. In spite of the benefits of E-banking, such as saving jaunt to a confined bank and stay away from lengthy lines, a substantial number of populace still have a preference of the more traditional manner of banking in person. Habitually, the grounds stem from certain detriments that are also acquired while on the occasion of E-banking. Such as Internet Connection, Technical Know-how, System of Operation, and the security concerns it may have some detriment, if this may be rectified in future, this system will be boon for the Bank and also the Customers.

**Conclusion**

E-Banking is beneficial to the Banks as well as the Customers and the National development. The world people are changing their life style according to the standard from time to time. Now a day the world is depend the new technology and the new innovation. Once upon a time, the people shows the moon into their children and feed them, now a days with the help of satellite they may go to the moon and eat due to the innovation. Today world is known as Internet Era, therefore the bank also change their traditional habit into to modern habit, i.e., E-Banking. And also they upgrade their standards to meet out the global completion the E-banking is needed one. There may some itches here and there but we hope it may reduce and all the banking transactions may goes in an amicable manner. As a result E-Banking may integrate all the countries in one umbrella, there is no variation among the people of the world.
A STUDY ON CITIZENS PERCEPTION TOWARDS E-GOVERNANCE IN COIMBATORE DISTRICT

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Dr. N. G. P. Arts and Science College (Autonomous), Coimbatore

Abstract

E-governance is the use of electronic communications devices, computers and the Internet to provide public services to citizens and other persons in a country or region. The term consists of the digital interactions between a citizen and their government (C2G), between governments and other government agencies (G2G), between government and citizens (G2C), between government and employees (G2E), and between government and businesses/commerce's (G2B). It is an expanded form of E-Government. Because of advancement in technology all the activities of the Government are in digital form. Here there is an interaction between Government and citizens through digital world.

Keyword: E-Governance, Electronic communication

Introduction

While Governance relates to safeguarding the legal rights of all citizens, an equally important aspect is concerned with ensuring equitable access to public services and the benefits of economic growth to all. It also ensures government to be transparent in its dealings, accountable for its activities and faster in its responses as part of good governance. However, this would require the government to change itself – its processes, its outlook, laws, rules and regulations and also its way of interacting with the citizens. It would also require capacity building within the government and creation of general awareness about e-Governance among the citizens.

Government Interaction in e-governance

Government to Government [G2G]
Government to Citizen [G2C]
Government to Business [G2B]
Government to Employee [G2E]

Recent Initiatives

● Direct Cash transfer

To facilitate disbursements of Government entitlements like NREGA, Social Security pension, Handicapped Old Age Pension etc. of any Central or State Government bodies, using Aadhaar and authentication thereof as supported by UIDAI.

● Aadhar Enabled Payment System (AEPS)

AEPS is a bank led model which allows online interoperable financial inclusion transaction through the Business correspondent of any bank using the Aadhaar authentication. This has helped in financial inclusion. The four Aadhaar enabled basic types of banking transactions are Balance Enquiry, Cash Withdrawal, Cash Deposit, Aadhaar to Aadhaar Funds Transfer and Digital India program.
Advantages of E-Governance
- Speed
- Cost Reduction
- Transparency
- Accountability
- Convenience
- Improved Customer Service
- Increased access to information

Disadvantages of e-governance
- Implementation of an E-Government Service
- Advance technology needed
- Literacy of the users
- Ability to use the computer
- Misuse of data
- Misuse of Aadhar

Statement of the Problem
One of the major categories of E-Government is Government-to-Citizens. The G2C category includes all of the interactions between a government and its citizens that can take place electronically. It’s a common belief that the application of E Government will grow and prosper if it has achieved the requirements of users. If the citizens achieve their needs, the level of satisfaction for E-Government will increase. To find out the opinions of people about the E Government, questionnaire was distributed to target audiences. Where they were asked a series of questions related to the use of government, about the extent of their knowledge of the E Government, and what are the services provided by them.

Objectives of the Study
1. To know the awareness level of people about E Governance.
2. To know the purpose for which they visited the E Governance.
3. To know the factors which has more social impact on E Governance
4. To know the satisfactory level of E Governance system.

Research Methodology
Meaning of Research
Research and common parlance refers to a search for knowledge. Once can also define research as a scientific and systematic search for pertinent information on a specific topic.

Research Design
A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

Sampling
It is a process of obtaining information about and entire population by examining only a part of it.
Sample Design

A sample design is a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample. Sample design is determined before data one collected.

The researcher must select reliable and appropriate sample design. So, in this study 532 samples are taken.

Sources of Data Collection

Primary and secondary data were collected for the research study.

- **Collection of Primary Data**
  The first hand information which is being collected by the researcher or assistance is called primary data. The primary data was collected from the respondents through structural questionnaire.

- **Collection of Secondary Data**
  Secondary data was collected from various sources such as records, internet, books, magazine etc.

Statistical Tools

The statistical tools like simple percentage analysis and chi-square analysis are applied.

- Percentage Analysis
- Chi – Square Test
- Mean deviation

Analysis & Interpretation

Analysis

Analysis is the process of placing the data in an ordered form, combining with the existing information and extracting the meaning from them. In other words analysis is an answer to the question. “What is conveyed by each group of data” which are otherwise raw facts and are unable to give a meaningful information. The raw data become information only when they one analyze and put in a meaningful form.

Interpretation

It is the process of “What relationship exists between the findings to the research objectives and hypothesis framed for the study in the beginning”.

Personal Details

In the following table, the researcher discusses about the personal details like age, nativity and level of education of the respondents.

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Number of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-25 years</td>
<td>83</td>
<td>15.6</td>
</tr>
<tr>
<td>26-35 years</td>
<td>133</td>
<td>25.0</td>
</tr>
<tr>
<td>36-45 years</td>
<td>139</td>
<td>26.1</td>
</tr>
<tr>
<td>46-55 years</td>
<td>108</td>
<td>20.3</td>
</tr>
<tr>
<td>Above 55 years</td>
<td>69</td>
<td>13.0</td>
</tr>
</tbody>
</table>
Age is the key variable in understanding the socio-economic status of an individual. Biologically, age signifies the physical and mental maturity of an individual. Keeping in view the relevance of age the data regarding the age structure in the sample have been discussed. Nearly 83 (15.6%) of the 532 respondents of the study area are in the age-group of 20-25 years, 133 (25.0%) respondents are in the age-group of 26-35, 139 (26.1%) respondents are in the age-group of 36-45 years, 108 (20.3%) respondents are in the age-group of 46-55, and 69 (13.0%) of the respondents are found to be in a age-group of above 55 years age.

Nativity is an important Geographical factor to determine the perception level of the respondents. Of the sample respondents, majority 209 (39.3%) of the respondents belong to Tamilnadu, 194 (36.5%) respondents are from Kerala, 69 (13.0%), respondents are from Andhra Pradesh, 32 (6.0%) respondents are from Karnataka and 28 (5.3%) respondents from other States.

Education is one of the major tools which provide individuals the necessary qualification to fulfill economic roles and consequently improve their socio-economic status. Education fosters a sense of independence and develops initiative which were hitherto unknown to them in traditional society.

It makes everyone to understand the terms easily. It is observed that, among the sample respondents, 243 respondents (45.7%) are qualified with UG Degree whereas 133(25.0%) are qualified with PG degree, 86(16.2%) of the respondents are Professionals and 70(13.2%) are in other category.

<table>
<thead>
<tr>
<th>Nativity</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tamil Nadu</td>
<td>209</td>
<td>39.3</td>
</tr>
<tr>
<td>Kerala</td>
<td>194</td>
<td>36.5</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>69</td>
<td>13.0</td>
</tr>
<tr>
<td>Karnataka</td>
<td>32</td>
<td>6.0</td>
</tr>
<tr>
<td>Other States</td>
<td>28</td>
<td>5.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of education</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG degree</td>
<td>243</td>
<td>45.7</td>
</tr>
<tr>
<td>PG degree</td>
<td>133</td>
<td>25.0</td>
</tr>
<tr>
<td>Professional</td>
<td>86</td>
<td>16.2</td>
</tr>
<tr>
<td>Others</td>
<td>70</td>
<td>13.2</td>
</tr>
</tbody>
</table>

Source: Primary Data
Limitations of the Study

Only 532 candidates are selected as respondents. So the results may not be accurate. Among most of them not aware of the schemes in E Governance

Conclusion

Even though the Government takes their best efforts to implement the schemes but most of the citizens not aware of the schemes and the benefits. Not only that, most of the citizens are of the opinion that in their areas poor network coverage. So the Government should take intensive effort to create awareness and remedies for network coverage.

References


BIG DATA IN HEALTH CARE ANALYSIS: A SURVEY

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Abstract  
This paper discusses about the role of big data in health care analysis. Here we introduce the background of the big data, sources and the platforms and tools for big data. Also we focus on the Big Data as a Origin of Innovation in Healthcare.

Introduction  
Big data plays a major role in the evolution of health care practices and research. It is a term for datasets that are so large or complex that traditional data processing application software is incomplete to deal with them. It is the progress of considering huge and varied data sets. It extract to the strategy of analyzing large volumes of data, or big data. The aim in evaluating all this data is to uncover patterns and connections that might otherwise be invisible, and that might provide valuable insights about the users who created it. There are 3 V’s to describe big data. Here are some examples; Gartner, Inc. defines big data in similar terms:

"Big data is high-volume, high-velocity and high-variety information assets that demand cost-effective, innovative forms of information processing for enhanced insight and decision making.” [2]

Also, TechAmerica Foundation defines big data as follows:

“Big data is a term that describes large volumes of high velocity, complex and variable data that require advanced techniques and technologies to enable the capture, storage, distribution, management, and analysis of the information.”[2]

The data in which patients consume health information has changed dramatically with diffusion of the Internet. The healthcare industry historically has generated large amounts of data, driven by record keeping, compliance & regulatory requirements and patient care[3]. Big data analytics has the potential to transform the way healthcare providers use sophisticated technologies to gain insight from their clinical and other data repositories and make informed decisions[4].

Big data and the similar technologies have enhanced health care extremely, from understanding the origins of diseases, improved diagnoses, helping patients to monitor their own conditions. Big healthcare data analytics presents great potential for transforming healthcare, yet there are manifold challenges ahead. These challenges include not only technological hurdles but also organizational, social, economic, and policy barriers that accompany the application of analytics to big healthcare data [5]. It is one of the most motivating areas of research with the objective of finding meaningful information from huge data sets. Now a days it is becoming very popular one in healthcare field because there is a need of efficient methodology for detecting unknown and valuable information in health data.
Background: Big Data

Big Data describes data sets so large and complex they are impractical to manage with traditional software tools. Big Data is used for data creation, storage, retrieval and analysis[12].

Big Data Sources

In the big data we have to consider the three types of data sources:

They are

- Structured data,
- Unstructured data,
- Semi-structured data.

Structured Data

The current data warehouse contains structured data. It is structured because when you placed it in your relational database system a structure was enforced on it. It may be text (name of the person) or numerical values it is structured [13].

Unstructured Data

Essentially everything else that has not been specifically structured is considered unstructured. Unstructured data represent around 80% of data. It often includes text and multimedia content. The list of truly unstructured data includes free text such as documents produced in the hospitals, Images and videos, audio files, and some types of social media[13].

Semi-Structured Data

The combination of unstructured data and structured data is known as semi-structured data. If the data has any organizational structure (a known schema) or carries a tag (like XML extensible markup language used for documents on the web) then it is somewhat easier to organize and analyze, and because it is more accessible for analysis may make it more valuable[13]. Some types of data that appear to be unstructured but are actually semi-structured include:

- Text: XML, email or electronic data interchange messages (EDI)
- Web Server Logs and Search patterns,
- Sensor Data.

Platforms & Tools for Big Data

1. Schema-less databases, or No SQL databases

There are several database types that fit into this category, such as key-value stores and document stores that focus on the storage and retrieval of large volumes of unstructured, semi-structured, or even structured data.

2. Map Reduce

Map Reduce implementation consists of two tasks:

- The “Map” task, where an input dataset is converted into a different set of key/value pairs, or tuples.
- The “Reduce” task, where several of the outputs of the “Map” task are combined to form a reduced set of tuples.
3. Hadoop
Hadoop is by far the most popular implementation of MapReduce, being an entirely open source platform for handling Big Data.
- It is flexible to be able to work with multiple data sources, either aggregating multiple sources of data in order to do large scale processing, or even reading data from a database in order to run processor-intensive machine learning jobs.
- It has several different applications, but one of the top use cases is for large volumes of constantly changing data, such as location-based data from weather or traffic sensors, web-based or social media data or machine-to-machine transactional data.

4. Hive
- Hive is a “SQL-like” bridge that allows conventional applications to run queries against a Hadoop cluster.
- It was developed originally by Face book, but has been made open source for some time now.
- And it is a higher-level abstraction of the Hadoop framework that allows anyone to make queries against data stored in a Hadoop cluster.

5. PIG
- PIG is another bridge tries to bring Hadoop closer to the realities of developers and business users, similar to Hive.
- Unlike Hive, however, PIG consists of a “Perl-like” language that allows for query execution over data stored on a Hadoop cluster, instead of a “SQL-like” language.
- PIG was developed by Yahoo and it is also made fully open source.

6. Sqoop
- This is a tool that connects Hadoop with various relational databases to transfer data. This can be effectively used to transfer structured data to Hadoop or Hive.

7. Stream analytics
- Software that can filter, aggregate enrich and analyze a high throughput of data from multiple disparate live data sources and in any data format.

8. Wibi Data
- Wibi Data is a combination of web analytics with Hadoop, being built on top of HBase, which is itself a database layer on top of Hadoop.

Big Data in Medical Industry
Big data may highly broaden the capacity to generate new ability[16].

Provides Patient Services
To provide faster relief to the patients by providing evidence based medicine--detecting diseases at the earlier stages based on the clinical data available, minimizing drug doses to avoid side effect and providing efficient medicine based on genetic makeups [7]. It helps in reducing readmission rates and also reducing cost for the patients. A key to success in learning from big health care data will be to remain concentrated on our eventual goal: collecting actionable insights into the best ways to treat the patients in the care system that provoked the data [17].

Detecting Disease Earlier
Predicting the viral diseases earlier before spreading based on the live analysis. This can be identified by analysing the social logs of the patients suffering from a disease in a particular geo-location [7]. It helps the professionals to advise the victims by taking necessary preventive measures.
Monitoring Quality of the Hospital

Monitoring the hospitals are according to the norms setup by the Indian medical council. This proper check-up helps government in taking mandatory measures against disqualifying hospitals.

Improving the Treatment Methods

Customized patient treatment---monitoring the effect of medication continuously and based on the analysis dosages of medications can be changed for faster relief[7]. Monitoring patient vital signs to afford proactive care to patients. Making an study on the data generated by the patients who already suffered from the same symptoms, helps doctor to provide adequate medicines to new patients. Specialists may have little information of the changes that are afoot [18].

Big Data as a Origin of Innovation In Healthcare

In the future we’ll see the rapid, widespread implementation and use of big data analytics across the healthcare organization and the healthcare industry [8]. It is essential that there is the proper balance between data protection rights and the need to support public health and medical research objectives. For that the Regulation establishes a privacy friendly environment with legal rules in place so that individuals can trust that the use made of their data will not turn against them [9]. Big Data is only too tool among many in healthcare IT, which in turn, is only one of many specialized disciplines critical to healthcare [10]. The vision is a world of patient-centered care, where analyzyt understand the root of disease and developers design treatments adapt to each individual’s biology. This vision includes fast, actual and exact diagnostics as well as the right match between diagnosis, patient genomics and treatment modality. Beyond that, the vision is of logical decision guide for caretakers, doctors, nurses, and patients themselves, not only for disease treatment and management but, even better, for active prevention and suspension of disease.

Big-data initiatives have the potential to transform healthcare, as they have revolutionized other industries. In addition to reducing costs, they could save millions of lives and improve patient outcomes [11]. By considerate the complicated nature of gaining, practicing and managing health-based data along the entirety of the pharmaceutical development lifecycle, novel technologies and statistical applications can be devised [14]. The data afford a helpful resource for use in developing health, health care delivery and medical decision-making [19]. Healthcare stakeholders that take the advantage in providing a contemporary data capabilities and promoting data transparency will not only gain an aggressive advantage but will lead the industry to a new era.

Conclusion

The big data concern looms massive over many healthcare stakeholders in developed and developing countries [15]. Big Data is necessary for making personalised medicine an existence. Health data have a defined impact if gathered and used within a segregated computer by one doctor. The absolute benefits come from data sharing and access to data, with full respect of all data protection mechanisms. With it we can make an actual variance in health and care for everybody. In recent times, Big data analytics has been applied towards assist the practice of care delivery and disease exploration [20].

References
A STUDY ON EMPLOYEES JOB SATISFACTION TOWARDS JIO WITH REFERENCE TO NAMAKKAL TOWN

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Introduction

Employee satisfaction, a worker’s sense of achievement and success is generally perceived to be directly linked to productivity as well as to personal wellbeing. Employee satisfaction implies doing a employee one enjoys, doing it well and being suitably rewarded for one’s efforts. Employee satisfaction further implies enthusiasm and happiness with one’s work. The Harvard professional Group (1998) sees employee satisfaction as the keying radiant that leads to recognition, income, promotion, and the achievement of other goals that lead a general feeling of fulfillment.

Employee satisfaction and occupational success are major factors in personal satisfaction, self-respect, self-esteem, and self-development. To the worker, employee satisfaction brings a pleasurable emotional state that often leads to a positive work attitude. A satisfied worker is more likely to be creative, flexible, innovative, and loyal.

Importance

Employee satisfaction and occupational success are major factors in personal satisfaction, self-respect, self-esteem, and self-development. To the worker, Employee satisfaction brings a pleasurable emotional state that often leads to a positive work attitude. A satisfied worker is more likely to be creative, flexible, innovative, and loyal. For the organization, Employee satisfaction of its work force that is motiva...
Scope of the Study

- The study is helpful to the organization. For reason that it is useful to find out the opinion of the employees about the job satisfaction.
- The study will predict the need of the guidance for job satisfaction. Through the guidance we can improve the employee’s job satisfaction.
- Research has given information about the job satisfaction prevailing in the organization.
- Study will suggest some recommendations to improve the work environment, welfare measures and all other things in the work environment

Research Methodology

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them. It is necessary for the researcher to know not only the research methods techniques but also the methodology.

Sampling Techniques

The sampling technique used in this study is “convenience sampling” when the population element for inclusion in the sample is based on the ease of access. It can be called as convenience. The research has selective respondent 120 samples only.

Tools for Analysis of Data

1. Simple Percentage Method
2. Chi-square Test
3. Correlation

Simple Percentage Analysis

The percentage refers to a special kind of ratio. Percentages are used in making comparison between two or more series of data percentage are used to describe relationships. The percentage reduces everything to a common base (say 120) and it allows a meaningful comparisons.

\[
\text{Percentage} = \frac{\text{Number of respondents in each clause \times 100}}{\text{Total Number of Respondent}}
\]

CHI-Square Test

This was used to find out the significance of relation between the factors that are compared the quality \(X^2\) describes the magnitude of discrepancy between theory and observation and we are in a position to know whether a given discrepancy between theory and observation may be attributed to chance or whether it result from inadequacy of the theory to fit the observed facts.

If \(X^2\) is zero it means observed and expected frequencies coincide completely.

\[
X^2 = \sum \left( \frac{O_i - E_i}{E_i} \right)^2
\]

\(O_i = \text{Observed frequency} E_i = \text{Expected frequency}\)
Table No 1.1 Level of Employee Satisfaction

<table>
<thead>
<tr>
<th>Benefits / Satisfaction level</th>
<th>Excellent Res</th>
<th>Excellent Per</th>
<th>Good Res</th>
<th>Good Per</th>
<th>Moderate Res</th>
<th>Moderate Per</th>
<th>Poor Res</th>
<th>Poor Per</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowances</td>
<td>28</td>
<td>23%</td>
<td>61</td>
<td>51%</td>
<td>25</td>
<td>21%</td>
<td>6</td>
<td>5%</td>
</tr>
<tr>
<td>Training</td>
<td>34</td>
<td>28%</td>
<td>49</td>
<td>41%</td>
<td>29</td>
<td>24%</td>
<td>8</td>
<td>7%</td>
</tr>
<tr>
<td>Welfare measures</td>
<td>56</td>
<td>47%</td>
<td>28</td>
<td>23%</td>
<td>26</td>
<td>22%</td>
<td>10</td>
<td>8%</td>
</tr>
<tr>
<td>Primary facility</td>
<td>20</td>
<td>17%</td>
<td>41</td>
<td>34%</td>
<td>53</td>
<td>44%</td>
<td>6</td>
<td>5%</td>
</tr>
<tr>
<td>Job security</td>
<td>22</td>
<td>18%</td>
<td>66</td>
<td>55%</td>
<td>22</td>
<td>18%</td>
<td>10</td>
<td>9%</td>
</tr>
<tr>
<td>Work hours</td>
<td>44</td>
<td>37%</td>
<td>49</td>
<td>41%</td>
<td>19</td>
<td>16%</td>
<td>8</td>
<td>6%</td>
</tr>
<tr>
<td>Work load</td>
<td>17</td>
<td>14%</td>
<td>24</td>
<td>20%</td>
<td>64</td>
<td>53%</td>
<td>15</td>
<td>13%</td>
</tr>
</tbody>
</table>

Source: Primary data

The above tables show that level of employee satisfaction, 51% of the respondents are said benefit of allowances and good, 41% of the respondents are training and good, 47% of the respondents are benefit of welfare measures and excellent, 44% of the respondent are primary facility and moderate, 55% of the respondents are job security and good, 41% of the respondents are work hours and good remaining 53% of the respondents are work load and moderate.

Most 55% of the respondents are job securities are good.

Table No 1.2 Chi-Square Income Wise

The table depicts the analysis of the relationship between No of Years of Experience infrastructure facilities prevailing in the Organization

<table>
<thead>
<tr>
<th>No of experience / infrastructure facility</th>
<th>Below 5 years</th>
<th>5 - 10 years</th>
<th>10 - 15 years</th>
<th>Above 15 years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>14</td>
<td>9</td>
<td>5</td>
<td>4</td>
<td>32</td>
</tr>
<tr>
<td>Very good</td>
<td>11</td>
<td>7</td>
<td>4</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>Good</td>
<td>21</td>
<td>14</td>
<td>8</td>
<td>6</td>
<td>49</td>
</tr>
<tr>
<td>Normal</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>34</td>
<td>20</td>
<td>14</td>
<td>120</td>
</tr>
</tbody>
</table>

(Source: Primary Data)

Null Hypothesis

H₀: There is no significance relationship between No of Years of Experience infrastructure facilities prevailing in the Organization.

Alternative Hypothesis

H₁: There is a significance relationship between No of Years of Experience infrastructure facilities prevailing in the Organization.

Correlation

The table shows that the relationship between Years of Experience and Monthly Income

\[ r = \frac{\sum XY}{\sqrt{(\sum X^2)(\sum Y^2)}} \]

\[ r = \frac{3612}{\sqrt{4456(3988)}} \]

\[ r = 0.87 \]
Result

This is a positive correlation in Years of Experience and Monthly Income.

Findings

- Majority 61% of the respondents are said 26 to 30 years in age.
- Majority 65% of the respondents are said yes in job security.
- Majority 86% of the respondents are said supervisors periodically reinforce somewhat.
- Majority 61% of the respondents are said no prevailing conditions.
- Majority 76% of the respondents are said yes in job security.
- Majority 83% of the respondents are said feedback training program yes.

Suggestions

The researcher wish to bring the following suggestion to the management of jio employee, Namakkal. Majority of the employees feels that their workload is heavy. So, the necessary steps to be taken to reduce the workload. The organization should improve the benefit and services provided to the employee interest would be stimulated. The company should plan out the welfare activities in an effective way to improve the organization image in the eyes of the public. The organization should make all the employees aware of the rules and regulations of the company. The industries should be providing safety measures to employees.

Conclusion

Welfare facilities provided to the employees was found to be satisfactory. It has been found from the study that the worker had a positive attitude towards their job and management. The study conducted also revealed that a majority of the workers of jio employee at Namakkal were satisfied with their job and work environment.

The relationship with the supervisors and the co-workers also provides conductive work environment for the workers. The study therefore highlights the various aspects on welfare facilities provided satisfaction for the employees. Finally the study has helpful to my knowledge about job satisfaction to the employees in jio Industries.

References

COMPARISON OF INTERNET INFRASTRUCTURE AMONG BRICS COUNTRIES

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Abstract

Internet plays a significant role in the globalised world. Apart from improving communication and entertainment purpose, it acts as a source of information for the users. Information asymmetry is not desirable for a sustainable development as it augments inequality. Increasing the infrastructure in telecommunication is important for developing countries development. Developed countries have better internet connectivity than developing countries. India has the second highest number of internet users in the world next to China. However, the percentage of individuals in the country was ranked very poor. Among the BRICS countries, India ranked the least among them. The position hasn’t changed for India since the beginning of this century. Russia ranks top followed by Brazil, South Africa and China in percentage of individuals using the internet. India has to expand its infrastructure especially in the rural areas to reduce the gap with the other developing countries.

Keywords: Internet, BRICS, Infrastructure, Sustainable development, Developing countries

Introduction

Internet plays a significant role in the globalised world. Apart from improving communication and entertainment purpose, it acts as a source of information for the users. It is a worldwide system of interconnected computer networks. The computers and computer networks exchange information using TCP/IP (Transmission Control Protocol/Internet Protocol) to communicate with each other. The computers are connected via the telecommunications networks, and the Internet can be used for e-mailing, transferring files and accessing information on the World Wide Web.

It is widely believed that the digital revolution holds many promises for developing countries, allowing them to advance through stages of development and catch up with more developed countries. The idea of joining the global information society is pursued vigorously worldwide, not the least by commercial interests.

In most developing countries, telecommunications infrastructure has long been low on the agenda, and other development goals have received higher priority. As a result, the telecommunications infrastructure is often seriously underdeveloped, and the cost of using it is generally more expensive in developing countries than in developed ones. Information asymmetry is not desirable for a sustainable development as it augments inequality. Increasing the infrastructure in telecommunication is important for developing countries development. The study compares the internet infrastructure among the BRICS countries.
Objective
This study is based on the following objectives –

- To rank the countries with highest number of internet users in the world and their percentage of individuals using internet
- To identify the percentage of individuals using internet among BRICS countries

Methodology
Source of Data
The study is based on published sources of data collected from the International Telecommunication Union (ITU). It is the United Nations specialized agency for information and communication technologies.

Period of Study
The study is focusing on the percentage individuals using internet among BRICS countries since 2000. Therefore study is undertaken for a period of 16 years from 2000 to 2016.

Tools Used For Analysis
The study employed the percentage analysis and percentage for the analysis.

Findings
It was observed from the below table that China has highest internet users in the world. It has 746 million people using the internet. India is ranked second where 391 million people use the internet. United States of America, Brazil, Japan, Russia, Mexico, Germany, Indonesia and United Kingdom ranks respectively after India in the top ten countries which has highest number internet users. However, when the indicator of percentage of population using the internet is employed the picture is different. Only 53.20 percent of the population in China has internet connectivity. It is ranked 109 in the percentage of internet users in a country. India is ranked 143 with just covering 29.55 percent of the population with internet infrastructure. United Kingdom ranked 11 and Japan ranked 15 in the percentage of population with internet infrastructure. Other countries were not in the top 15 with percentage of population with internet infrastructure.

<table>
<thead>
<tr>
<th>Country or area</th>
<th>Internet Users</th>
<th>Rank</th>
<th>%</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>746,662,194</td>
<td>1</td>
<td>53.20%</td>
<td>109</td>
</tr>
<tr>
<td>India</td>
<td>391,292,635</td>
<td>2</td>
<td>29.55%</td>
<td>143</td>
</tr>
<tr>
<td>United States</td>
<td>245,436,423</td>
<td>3</td>
<td>76.18%</td>
<td>54</td>
</tr>
<tr>
<td>Brazil</td>
<td>123,927,230</td>
<td>4</td>
<td>59.68%</td>
<td>90</td>
</tr>
<tr>
<td>Japan</td>
<td>117,528,631</td>
<td>5</td>
<td>92.00%</td>
<td>15</td>
</tr>
<tr>
<td>Russia</td>
<td>110,003,284</td>
<td>6</td>
<td>76.41%</td>
<td>53</td>
</tr>
<tr>
<td>Mexico</td>
<td>75,937,568</td>
<td>7</td>
<td>59.54%</td>
<td>92</td>
</tr>
<tr>
<td>Germany</td>
<td>73,436,503</td>
<td>8</td>
<td>89.65%</td>
<td>20</td>
</tr>
<tr>
<td>Indonesia</td>
<td>66,244,991</td>
<td>9</td>
<td>25.37%</td>
<td>157</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>62,354,410</td>
<td>10</td>
<td>94.78%</td>
<td>11</td>
</tr>
</tbody>
</table>

Source: International Telecommunication Union

It was observed from the table 2 that among the BRICS countries India had lowest penetration of internet throughout the study period. 0.53 percent of population had internet access in India in 2000. Other countries did not have huge difference compared to India in 2000. China and Russia had their internet coverage less than 2 percent of their population, Brazil covered 2.87 percent of its population and South Africa had 5.35 percent of population covered with internet access. In 2010, India
had increased its internet coverage to 7.50 percent. Brazil, China and Russia performed vigorously in raising internet infrastructure in their countries. They had 40.65 percent, 34.40 percent and 43 percent coverage respectively. South Africa did not improve its infrastructure, unlike Brazil, China and Russia during the decade. However, it had coverage of 24 percent of its population with internet access which is better than the percentage of internet infrastructure in India.

India covered 10 percent of its population with internet infrastructure in 2011. In 2015, all the other countries of the BRICS except India covered at least half of the population with internet facilities. India had covered only 26 percent of its population with internet facilities by 2015. Brazil, China, Russia and South Africa accounted for covering 58.33 percent, 50.30 percent, 73.41 percent and 51.92 percent of their population with internet access. Russia has performed strenuously in ensuring its citizens with internet infrastructure facilities. Among the other four countries, South Africa has expanded internet facilities for its citizens at a slower pace.

### Table 2 Percentage of Individuals using the Internet in BRICS Countries

<table>
<thead>
<tr>
<th>Year</th>
<th>Brazil</th>
<th>China</th>
<th>India</th>
<th>Russian Federation</th>
<th>South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>2.87</td>
<td>1.78</td>
<td>0.53</td>
<td>1.98</td>
<td>5.35</td>
</tr>
<tr>
<td>2001</td>
<td>4.53</td>
<td>2.64</td>
<td>0.66</td>
<td>2.94</td>
<td>6.35</td>
</tr>
<tr>
<td>2002</td>
<td>9.15</td>
<td>4.60</td>
<td>1.54</td>
<td>4.13</td>
<td>6.71</td>
</tr>
<tr>
<td>2003</td>
<td>13.21</td>
<td>6.20</td>
<td>1.69</td>
<td>8.30</td>
<td>7.01</td>
</tr>
<tr>
<td>2004</td>
<td>19.07</td>
<td>7.30</td>
<td>1.98</td>
<td>12.86</td>
<td>8.43</td>
</tr>
<tr>
<td>2005</td>
<td>21.02</td>
<td>8.52</td>
<td>2.39</td>
<td>15.23</td>
<td>7.49</td>
</tr>
<tr>
<td>2006</td>
<td>28.18</td>
<td>10.52</td>
<td>2.81</td>
<td>18.02</td>
<td>7.61</td>
</tr>
<tr>
<td>2007</td>
<td>30.88</td>
<td>16.00</td>
<td>3.95</td>
<td>24.66</td>
<td>8.07</td>
</tr>
<tr>
<td>2008</td>
<td>33.83</td>
<td>22.60</td>
<td>4.38</td>
<td>26.83</td>
<td>8.43</td>
</tr>
<tr>
<td>2009</td>
<td>39.22</td>
<td>28.90</td>
<td>5.12</td>
<td>29.00</td>
<td>10.00</td>
</tr>
<tr>
<td>2010</td>
<td>40.65</td>
<td>34.30</td>
<td>7.50</td>
<td>43.00</td>
<td>24.00</td>
</tr>
<tr>
<td>2011</td>
<td>45.69</td>
<td>38.30</td>
<td>10.07</td>
<td>49.00</td>
<td>33.97</td>
</tr>
<tr>
<td>2012</td>
<td>48.56</td>
<td>42.30</td>
<td>12.58</td>
<td>63.80</td>
<td>41.00</td>
</tr>
<tr>
<td>2013</td>
<td>51.04</td>
<td>45.80</td>
<td>15.10</td>
<td>67.97</td>
<td>46.50</td>
</tr>
<tr>
<td>2014</td>
<td>54.55</td>
<td>47.90</td>
<td>21.00</td>
<td>70.52</td>
<td>49.00</td>
</tr>
<tr>
<td>2015</td>
<td>58.33</td>
<td>50.30</td>
<td>26.00</td>
<td>73.41</td>
<td>51.92</td>
</tr>
<tr>
<td>2016</td>
<td>59.68</td>
<td>53.20</td>
<td>29.55</td>
<td>76.41</td>
<td>54.00</td>
</tr>
</tbody>
</table>

**Source:** International Telecommunication Union

### Conclusion

India has the second highest number of internet users in the world next to China. However, the percentage of individuals in the country was ranked very poor. Among the BRICS countries, India ranked the least among them. The position hasn’t changed for India since the beginning of this century. Russia ranks top followed by Brazil, South Africa and China in percentage of individuals using the internet.

India faces hurdles in implementing latest generation technology of internet. Its policy of providing spectrum at a nominal price to the telecom companies was used as a political tool by opposition parties and media to overthrow the Government rather than to address it in the sense of beneficiaries available for the people. India took long time to transform from 2G to 3G due to the political turmoil. Defining the spectrum auction in the view of beneficiaries and coverage to the people of India is the need of the hour than notional loss. Selling the spectrum at a higher price can generate higher revenue to the Government, but India will face setback in covering more number of people with internet. Asymmetry of internet needs to be addressed to ensure that India competes with other developing countries in its internet coverage. India has to expand its infrastructure especially in the rural areas to reduce the gap with the other developing countries. As the future world, has turned internet into necessity than luxury, it is the duty of policy makers to ensure wider coverage, which can help in sustainable development.
A STUDY ON WORKING CAPITAL MANAGEMENT OF TAMILNADU NEWSPRINT AND PAPERS LIMITED, KARUR

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Abstract
The importance of working capital in any industry needs no special emphasis. Working capital is considered to be life-giving force to an economic entity. Management of working capital is one of the most important functions of corporate management. Every organization, whether profit oriented or not, irrespective of its size and nature of business, needs requisite amount of working capital. Capital to keep an entity working is working capital. The efficient working capital management is the most crucial factor in maintaining survival, liquidity, solvency and profitability of the concerned business organization. It needs sufficient finance to carry out purchase of raw materials; payment of day-to-day operational expenses including salaries and wages, repairs and maintenance expenses etc and funds to meet these expenses are collectively known as working capital.

Introduction
Financial analysis is the process of identifying the financial strength and weakness of the firm by properly establishing relationships between the items of the balance sheet and profit and loss account. Management should be particularly interested in knowing the financial analysis of the firm to make their best use and thereby they can spot out the weakness of the firm to take corrective actions and keep things going on the right track. The future plans of the firm should be laid according to the financial position of the firm. Thus financial analysis is the starting point of the planning procedure.

Need for Financial Analysis
- The operational efficiency of the concern as a whole is known.
- To know the long term and short term solvency of the firm.
- To forecast the future and to prepare efficient budgets.
- To make a comparative study within and outside the concern.

Objectives of the Study
Primary Objective
- To analyze the Working capital management of TNPL in terms of financial parameters

Secondary Objectives
- To find out the liquidity position of TNPL
- To measure the profitability and activity of TNPL

Scope of the Study
The study under gone to analyze the financial position of the Tamilnadu Newsprint And Papers Limited.
Limited The study under taken to know about the maintenance of current assets and current liabilities. The study under gone to provide few suggestions for improvement in financial position of Tamilnadu Newsprint And Papers Limited

**Research Methodology**

A research is the blue print or plan of the research undertaken the researcher. It is the specification of methods and procedures for acquiring the information needed to structure to solve problem. It is the overall patterns or framework of project that estimate what information to be collected from which source, and what procedure to be followed.

**Period of the Study**

The period of the study was three months. During the period all the required data was collected through secondary sources and analyzed with the help of financial tools of analysis. It includes data collection and analysis of data, and interpretation.

**Tools used**

Various ratios have been calculated to analyze the liquidity, profitability and activity position of the firm. Trend analysis was also used to understand the current and future trend of working capital and net profit.

**Tools Used for Financial Analysis**

- Ratio-analysis
- Trend analysis

Capital required for a business can be classified under two main categories via,

- Fixed Capital
- Working Capital

**Working Capital**

Working capital is that part of company's capital which is used for purchasing raw material and involve in sundry debtors. We all know that current assets are very important for proper working of fixed assets. Suppose, if you have invested your money to purchase machines of company and if you have not any more money to buy raw material.

**Concept of Working Capital**

There are two concepts of working capital

1. Gross working capital
2. Net working capital

- Gross working capital refers to the amount which the company has invested into the current assets; current asset includes cash, stock, debtors or anything which can be converted into cash within a year.
- Net working capital is used to measure the short-term liquidity of a business. The measurement can also be used to obtain a general impression of the ability of company management to utilize assets in an efficient manner.
Importance of Working Capital

Working capital is just like the heart of the business. If it becomes weak, the business can hardly prosper and survive. It is an index of the solvency of a concern. Its proper circulation provides to the business the right account of cash to maintain regular flow of its operations. Following are the some worth mentioning advantages of maintaining an ample working capital fund in the business.

Table No 1.1 Schedule of Changes in Working Capital for the Year 2016-2017

<table>
<thead>
<tr>
<th>Particulars</th>
<th>AS ON 31.03.2013</th>
<th>AS ON 31.03.2014</th>
<th>INCREASE</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventories</td>
<td>3,035.91</td>
<td>3,80,876</td>
<td>77,285</td>
<td></td>
</tr>
<tr>
<td>Sundry debtors</td>
<td>8,989.68</td>
<td>9,496.29</td>
<td>50,661</td>
<td></td>
</tr>
<tr>
<td>Cash &amp; Bank</td>
<td>22,805</td>
<td>27,294</td>
<td>4,489</td>
<td></td>
</tr>
<tr>
<td>Loans &amp; Advances</td>
<td>11,99,132</td>
<td>12,57,699</td>
<td>58,567</td>
<td></td>
</tr>
<tr>
<td>Other Current Assets</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Current Asset (A)</td>
<td>24,244.96</td>
<td>26,15,498</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less: Current Liabilities</td>
<td>8,23,655</td>
<td>10,56,064</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total current</td>
<td>16,00,841</td>
<td>16,00,841</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Secondary data from annual report
Interpretation

Statement of changes in working capital is concerned with current assets, current liabilities current ratio, liquid ratio, inventory turnover ratio, current asset turnover ratio, fixed asset turnover ratio, debtors turnover ratio, networking capital turnover ratio, creditors turnover ratio, return on investment and return on shareholders of current year and the previous year, the working capital is shown as the increase or decrease in working capital as the final result.

Current Ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>Current Assets</th>
<th>Current Liabilities</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-2013</td>
<td>1466478</td>
<td>499450</td>
<td>2.94</td>
</tr>
<tr>
<td>2013-2014</td>
<td>889289</td>
<td>1020841</td>
<td>1.85</td>
</tr>
<tr>
<td>2014-2015</td>
<td>1655496</td>
<td>964886</td>
<td>1.72</td>
</tr>
<tr>
<td>2015-2016</td>
<td>2424495</td>
<td>823655</td>
<td>2.94</td>
</tr>
<tr>
<td>2016-2017</td>
<td>2615498</td>
<td>1056064</td>
<td>2.47</td>
</tr>
</tbody>
</table>

Source: Secondary data from annual report

Liquid Ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>Liquid assets</th>
<th>Current liabilities</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-2013</td>
<td>1232800</td>
<td>499450</td>
<td>2.47</td>
</tr>
<tr>
<td>2013-2014</td>
<td>1594574</td>
<td>1020841</td>
<td>1.56</td>
</tr>
<tr>
<td>2014-2015</td>
<td>1358272</td>
<td>964886</td>
<td>1.41</td>
</tr>
<tr>
<td>2015-2016</td>
<td>2120904</td>
<td>823655</td>
<td>2.57</td>
</tr>
<tr>
<td>2016-2017</td>
<td>2234622</td>
<td>1056064</td>
<td>2.12</td>
</tr>
</tbody>
</table>

Source: Secondary data from annual report

Findings

Trend analysis is very helpful in making a comparative study of the financial statements of several years. Under this technique, information for a number of years is taken up and one year (usually the first year) is taken as the base year. Each item of the base year is taken as 100 and on that basis, the percentages for other years are calculated. For example, if sales in the base of year is Rs.10,000 and in the next year it is 20,000 the trend percentage for large amounts makes the statements brief and easily understandable.

Suggestions

- The current ratio of the firm shows a fluctuating trend. It will affect the liquidity position of the firm. So the company should take some efforts to maintain the their current ratio by efficiently their current assets and liability.
- Quick ratio was more than the standard level of 1.1 high investment in Quick assets affects the profitability of the form by blockage of working capital. So necessary measures should be takes to reduce the blockage of capital.
- The company should into duce new policies and schemes to cut down the unnecessary expenses. So that they can increase the profit.
The firm should avoid utilization of assets.

The top management of the company should look into the reason for fluctuation in all ratio they have to put an additional and put extra effort to turn up the operation of the company.

Conclusion

The research was done with the purpose of analyzing various items in the financial statements of the company. The financial management that managerial activity which is concerned with planning a controlling of firms financial resources. A good financial management in turn results in to sound financial position. The financial analysis was done to identify the financial strengths and weakness of the firm and to establish the relationship between the items.

The study was undertaken in TAMILNADU NEWSPRINT PAPERS LTD, with a view to have insight into the financial performance of the firm. The main tool used in this study is ratio analysis. Here standard of performance is based on the time series i.e., the ratios are calculated from the past five year's financial statements of the firm.

References

2. Publication
A STUDY ON FACTORS INFLUENCING THE PASSENGERS TO SELECT TRAIN TRAVEL AT ERODE, SALEM DIVISION - SOUTHERN RAILWAY

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Abstract
In India, among the various infrastructure sectors, transport is the prime sector performing dual role as a commercial organisation and vehicle for fulfillment of social obligations. It has a crucial role in the movement of people and goods from one place to another. Now-a-days, there is a steep increase in the mobility of the people with an ultimate aim to earn for their livelihood. In order to facilitate easy movement of people to different corners of the world, there are various modes of transport like road, rail, air and water ways. The better means of transport is the need of the hour. There is a stiff competition prevailing among various modes of transport. Long distance road transport network is non-existent, underdeveloped or poorly maintained in most parts of India. The burden of carrying long distance traffic, whether people or goods falls mostly on railways. It is due to largest network, number of trains, convenience, speed, safety and affordability. Even though the Indian Railways offer many services, the preference and need of the passengers are dynamic. It differs among the passengers based on their level of income, purpose of travel, distance of travel, age and other factors. As the needs of the passengers vary, the reason for them to select railways as convenient mode of travel also varies. There are various factors which influence the passengers to select train as their mode of travel among the various ways of transportation. In this aspect, this paper highlights the factors influencing the passengers to prefer train as their mode of travel.

Introduction
India is the seventh largest and second most popular country in the world. The economic reform deregulates the country and stimulates foreign investment. It has moved India firmly into the front ranks of rapidly growing Asia Pacific region and unleashed the latent strengths of a complex and rapidly changing nation. The creation of world class infrastructure becomes essential for the development of the country. The growth of the infrastructure sector is a critical pre-requisite for a sustainable growth of the economy. It also affects international competitiveness and flow of direct international investment.

As an Indian railway is one of the pillars on India's infrastructure, it has a symbiotic relationship with the country's economy. It is fondly called as the “Life line of the Nation”. The Indian Railways acts as a premier mode of transport joining all parts of the country. The railroads of India are the fourth most heavily used system in the world. Earlier there were only three of trains via, the passenger, the mail and the express. But at present, there are many trains with different features in different names. The Indian Railways is increasingly becoming more outward looking and customer centric. Now-a-days many people prefer train travel due to various reasons. The passengers in the present scenario are highly sensitive. So, they should be handled with due care. Otherwise, it is not possible to achieve the desired goal.
Statement of the Problem

Indian Railways has been the prime movers to the nation and have the distinction of being one of the largest railway systems in the world under a single management. Railways being the more energy efficient mode of transport are ideally suited for movement of bulk commodities and for long distance travel. As compared to road transport, the railways have a number of intrinsic advantages.

Railways are five to six times more energy efficient, four times more efficient in land use and significantly superior from the standpoints of environment impact and safety. Indian Railways, therefore, rightly occupy pride of place in the growth and development of the nation. Customer care and customer service are the subjects being given a lot of importance in the present competitive market in all customer related services.

Similarly, the Railways are also equally concerned since the “customer care” is a very important tool in enhancing the image of the organization and thus the market share. The present study highlights the passenger to prefer rail transport than other transports.

Scope of the Study
1. This report will help to understand the passengers influencing a factor of southern railway.
2. It also opens the various factors which can influence the passenger level.
3. This report provides a frame of mind of people, what are the expectations of passengers and up to how much level this expectation.
4. This report will be helpful for southern railway, so that they can understand the passenger behavior or can satisfy the passenger on better manner.

Objectives of the Study
The specific objectives of the study are as under:
1. To know the problems faced by the respondents on southern railway in the study area.
2. To analyze the respondents opinion on preferring train travel in Erode.
3. To find the factors influencing the passengers to prefer train travel in Erode.
4. To offer suitable suggestions based on the findings of the study to improve the services of the Indian Railways.

Hypothesis of the Study
1. There is no significant Association between the age of the respondents and mode of reservation.
2. There is close Association between the age of the respondents and mode of reservation.
3. There is no significant association between annual income of respondents and preferred class of travel.
4. There is close significant association between annual income of respondents and preferred class of travel.

Research Methodology
The present study is an empirical one. Field survey method and personal interview technique have been adopted for the collection of the required data. The secondary data have been gathered from the railway department and primary data have been collected from the selected respondents by using schedules constructed for the purpose.
Sampling Procedure

Random sampling technique has been adopted for the study. Erode District has been selected purposively because of its unique characteristics. Totally 150 members have been selected for study.

Tools Used in the Study

The following statistical tools are used in the study for the purpose of analysis.

- Percentage analysis
- Chi-Square test

Percentage Analysis

The percentage refers to a special kind of ratio. Percentages are used in making comparison between two or more series of data percentage are used to describe relationships. The percentage reduces everything to a common base (say 150) and it allows a meaningful comparisons.

\[
\text{Percentage} = \frac{\text{Number of respondents in each clause} \times 100}{\text{Total Number of Respondent}}
\]

CHI-Square Test

This was used to find out the significance of relation between the factors that are compared the quality $X^2$ describes the magnitude of discrepancy between theory and observation and we are in a position to know whether a given discrepancy between theory and observation may be attributed to chance or whether it result from inadequacy of the theory to fit the observed facts.

If $X^2$ is zero it means observed and expected frequencies coincide completely.

\[
X^2 = \sum \left( \frac{(O_i - E_i)^2}{E_i} \right)
\]

$O_i$ = Observed frequency $E_i$=Expected frequency

Period of the Study

The primary data required for the study have been collected from the respondents during the year 2016 – 2017 and the secondary data from 2006 – 2016.

Review of Literature

Ramamoorthy and Ponnuraj (2001)\(^1\) in their study aim at “Passenger perception of Omnibus services – An analysis”. The study indicates that an efficient transport system is essential for the movement of both goods and passengers. The omnibuses are however a refreshing contrasts to the government-owned buses. The omnibus operators constantly endeavor to improve the quality of their services. They aim at passenger comforts and keep their buses clean and well-maintained. Breakdowns are very rare in their operations. Above all they are time-conscious. Though they charge higher fare, the public patronize them as their service is much better than the ones provided by the state owned buses. In this direction, the prescribed criteria with some of the proven methods of analysis are brought forward through this article.

Amit Singla(2015)\(^{15}\) The effect of perceived service quality on customer satisfaction in Indian Railway: To know about the perception of Indian people regarding the services provided by Indian Railways and to understand what factors lead to customer satisfaction and loyalty in the Indian Railways. To understand and conceptualize the future marketing strategies of services in Indian
Railways and The research was intended to the various service quality factors and their impact on customer satisfaction as well as loyalty towards Indian Railways.

The analysis of this study is based wholly on primary data collected by means of questionnaire method. The data after collection has to be processed and analysis in accordance with the outline lay down for the purpose of developing the research plan. This is essential for a specific study and for ensuring that we have all relevant data for making contemplated comparisons and analysis.

Results of Chi Square Test

“Association between Age of Respondents and Mode of Reservation”

<table>
<thead>
<tr>
<th>Age</th>
<th>Internet</th>
<th>Through Agent</th>
<th>At station</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 20 years</td>
<td>26 (34.2%)</td>
<td>18 (23.6%)</td>
<td>32 (42.2%)</td>
<td>76</td>
</tr>
<tr>
<td>21-30 Years</td>
<td>32 (36.4%)</td>
<td>12 (13.6%)</td>
<td>44 (50%)</td>
<td>88</td>
</tr>
<tr>
<td>31-40 Years</td>
<td>08 (26.6%)</td>
<td>12 (40%)</td>
<td>10 (33.4%)</td>
<td>30</td>
</tr>
<tr>
<td>Above 40 Years</td>
<td>2 (33.3%)</td>
<td>2 (33.3%)</td>
<td>2 (33.3%)</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>68</td>
<td>44</td>
<td>88</td>
<td>200</td>
</tr>
</tbody>
</table>

Source: Computed by the researcher

Chi Square Test Table

<table>
<thead>
<tr>
<th>Factor</th>
<th>Level of significance</th>
<th>Degree of freedom</th>
<th>Table value</th>
<th>Calculated value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age and mode of reservation</td>
<td>0.05</td>
<td>3</td>
<td>16.919</td>
<td>18.397</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

Source: Computed by the researcher

From the above analysis we conclude that there is close association between age and mode of reservation.

Chi Square Test

“Association between annual income of respondents and preferred class of travel”

<table>
<thead>
<tr>
<th>Annual Income</th>
<th>First class AC</th>
<th>Two tier AC</th>
<th>Sleeper class</th>
<th>General class</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below Rs.5000</td>
<td>06 (16.6%)</td>
<td>08 (22.2%)</td>
<td>10 (27.8%)</td>
<td>12 (33.4%)</td>
<td>36</td>
</tr>
<tr>
<td>Rs.5001-Rs.10000</td>
<td>06 (15.8%)</td>
<td>10 (26.4%)</td>
<td>14 (36.8%)</td>
<td>08 (21%)</td>
<td>38</td>
</tr>
<tr>
<td>Rs.10001-Rs.15000</td>
<td>34 (40.8%)</td>
<td>22 (26.2%)</td>
<td>18 (21.1%)</td>
<td>10 (11.9%)</td>
<td>84</td>
</tr>
<tr>
<td>Above Rs.15001</td>
<td>14 (33.3%)</td>
<td>12 (28.6%)</td>
<td>10 (23.8%)</td>
<td>06 (14.3%)</td>
<td>42</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>52</td>
<td>52</td>
<td>36</td>
<td>200</td>
</tr>
</tbody>
</table>

Source: Computed by the researcher

Null Hypothesis (H₀): There is no significant association between annual income of respondents and preferred class of travel.
Alternative Hypothesis (H₁): There is close significant association between annual income of respondents and preferred class of travel.

Chi Square Test Table

Table No 1.4

<table>
<thead>
<tr>
<th>Factor</th>
<th>Level of significance</th>
<th>Degree of freedom</th>
<th>Table value</th>
<th>Calculated value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual income and preferred class of travel</td>
<td>0.05</td>
<td>12</td>
<td>21.026</td>
<td>4.127</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Source: Computed by the researcher

From the above analysis we conclude that there is no significant association between annual income of respondents and preferred class of travel.

Table No 1.5 Ranking of Factors Influencing to Prefer Train Travel

The above table reveals the ranking factors which influence to prefer travelling by the respondents they ranked Iˢᵗ for convenience I𝐼ⁿᵈ rank for economy, I𝐼𝐼ⁿᵈ rank for facilities at station, I𝑉ᵗʰ rank for travelling distance, I𝑉ᵗʰ rank for punctuality, I𝑉Ⅵᵗʰ rank for reservation facility, I𝑉Ⅵᵗʰ rank for easy to carry more luggage, I𝑉Ⅷᵗʰ rank for safety, I𝑉Ⅹᵗʰ rank for speed and Xᵗʰ rank for concession and free pass.

<table>
<thead>
<tr>
<th>Description</th>
<th>Mean Score</th>
<th>Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economy</td>
<td>52.67</td>
<td>II</td>
</tr>
<tr>
<td>Facilities at station</td>
<td>54.18</td>
<td>III</td>
</tr>
<tr>
<td>Travelling distance</td>
<td>53.09</td>
<td>IV</td>
</tr>
<tr>
<td>Reservation facility</td>
<td>47.52</td>
<td>VI</td>
</tr>
<tr>
<td>Convenience</td>
<td>56.07</td>
<td>I</td>
</tr>
<tr>
<td>Speed</td>
<td>43.09</td>
<td>IX</td>
</tr>
<tr>
<td>Punctuality</td>
<td>51.34</td>
<td>V</td>
</tr>
<tr>
<td>Concession and free pass</td>
<td>41.96</td>
<td>X</td>
</tr>
<tr>
<td>Easy to carry more luggage’s</td>
<td>45.74</td>
<td>VII</td>
</tr>
<tr>
<td>Safety</td>
<td>44.45</td>
<td>VIII</td>
</tr>
</tbody>
</table>

Findings

- 68% of the respondents belong to male category and 32% of the respondents belong to female category.
- 67% of the respondents are unmarried & 33% of the respondents are married.
- 41% of the respondents travels in train for official/business purpose, 27% of the respondents travels in train for personal purpose, 19% of the respondents travels in train for education purpose, 13% of the respondents travels in train for Tour / pilgrimage purpose.
- 64% of the respondents mode of travel ticket booking is by reservation, 36% of the respondents mode of travel ticket booking is by current booking.
- Among the ten factors “convenience” has been ranked first. It is followed by the “economy”, “facilities at station”, “travelling distance”, “punctuality”, “reservation facility”, “easy to carry more luggage”, “safety”. speed has been given ninth rank which is followed by concession and free pass.

Suggestions

- It is suggested that the Ministry of Railways can provide better medical facilities to the passengers. Safety of passengers’ belongings is highly required, hence better protection can be provided by the Ministry of Railways. Majority of the passengers have a very bad perception on the cleanliness of the train which can be maintained considering the hygiene factors by the Ministry of Railways.
- Factors considered are arrangement of medical facilities on the train, safety of passenger’s belongings, accessibility to station, travelling charges, parking facility, facilities for disabled, cleanliness of the station, cleanliness of the train, adequacy of retiring rooms and total scheme.
Conclusion

By realizing the significance of the contribution of the service sector in the Indian economy, an attempt has been made to examine the factors influencing the passengers to prefer train travel. Every facet has been thoroughly examined on the basis of collected data and with the statistical tools. The effect of the present study shows that the performance of Indian railways is not up to the mark. With the aim of making Indian railways more efficient, few suggestions have been offered. If all the suggestions are considered by the Indian railway Policy Makers, it is hope that the Indian Railways will excel in the near future.

References
4. www.kotelrmarketing.com/phil
A STUDY ON CUSTOMER PERCEPTION TOWARDS VALUE-ADDED SERVICES OF COMMERCIAL BANKS IN SALEM CITY

Dr. S. Mani
Assistant Professor in Commerce, Jairam Arts and Science College, Salem

Abstract

The Banking Industry is considered service oriented Industry. It renders manifold services to the customers. Effective customer service is the center to all business operations and also plays an integral part in the growth strategy of the Banking Industry. A sound, progressive and dynamic banking system is the fundamental requirement for economic development. Hence, Commercial Banks act as the backbone of economic development. They inculcate the habit of saving and investment. They mobilize funds from numerous small household activities and help business firms spread over a wide geographical area.

Keywords: Banking, service oriented Industry, business operations, economic development, mobilize funds, geographical area.

Introduction

The banking sector is one of the most important economic sectors and the most influential and reactive to changes, whether international or domestic. Present scenario focuses, the environment of cut-throat competition, where private and foreign banks are leaving no stones unturned to attract new customers and existing customers of the banking sector to their turf, customer retention has become the key to the survival of national and international banks. In the competitive world, awareness level of customers is increasing day by day, their expectations are increasing as they have wider choice of products and services, and the concept of generation to generation banking has also undergone changes. Customers’ loyalty is now conditioned by the quality of products and its delivery mechanism i.e. Service. All these have necessitated the banks to provide better and excellent customer service. New products are added to the basket and above all, computerization and networking is adopted for faster place and widely deployed to no longer provide substantive differentiation on a relative basis. They have unique characteristics and they relate to other services in a completely different way to the customers via; ATMs, Telebanking, Internet Banking, Credit Cards and Debit Cards and so on. Banks have been offering Value-added services in many product areas, either by way of additional attractive features or delivery mechanisms. Many banks have introduced Credit Cards, Insurance Linked Deposit Products, 24 Hour Banking, Any Day Banking, Mobile Banking, Cash Back Offers, Core Banking, Anywhere Banking and So on.

Statement of Problem

The banking industry like any other financial services industries is facing a market that is rapidly changing; new technologies being introduced, fear of economic uncertainties, fierce competition and more demanding customers and the changing climate have presented an unparalleled set of challenges. Banking, being a customer oriented services industry, the customer is the centre of attention and customer service has to be the distinguishing factor. The challenge for banks is to lower costs and to increase efficiency while improving the quality of their service and increase customer satisfaction.
Review of Literature

Koushiki Choudhury in his study (June, 2010) on “Service Quality: Insights from the Indian Banking Scenario” revealed that the Indian banking industry is going through turbulent times. With the lowering of entry barriers and blurring of product lines of banks and non-banks since the financial sector reforms, banks are functioning increasingly under competitive pressures. Hence, it is imperative that banks maintain a loyal customer base. In order to achieve this and improve their market and profit positions, many retail banks are directing their strategies towards increasing customer satisfaction and loyalty through improved service quality. Moreover, with the advent of international banking, the trend towards larger bank holding companies, and innovations in the marketplace, customers have greater and greater difficulty in distinguishing and selecting one institution from another. Therefore, the current problem for the banking industry in India is to determine the dimensions of customer-perceived service quality. This is because if service quality dimensions can be identified, service managers should be able to improve the delivery of customer perceived quality during the service process and have greater control over the overall outcome. The objective of the study was to explore the dimensions of customer perceived service quality in the context of the Indian retail banking industry. A set of service quality parameters, drawn from customers’ perceptions about service quality as well as the bank marketing and service quality literature, were drawn up. These parameters have been used in the context of four of the largest banks in India to identify the underlying dimensions of service quality, using Factor Analysis. The study suggests that customers distinguish four dimensions of service quality in the case of the retail banking industry in India, namely, attitude, competence, tangibles and convenience. Identifying the underlying dimensions of the service quality construct in the Indian retail banking industry is the first step in the definition and hence provision of quality service. This article has drawn upon the findings of the service quality dimensions to contend the initiatives that banks’ managers can take to enhance employees’ skills and attitudes and instill a customer-service culture.

A study on (January, 2011) “Service quality gap analysis in private sector banks a customer’s perspective” by A.Ananth. et.al., evaluates the customer perceptions of service quality in selected private sector banks. Data was collected from 200 customers of Private Sector Banks using structured questionnaire. Gap Analysis and Multi Regression were used for analysis of data. The result shows that the dimension of service quality such as Empathy and Accessibility has more gap, as the customer expectations are high to their perceived service. The result also indicates that Empathy-Reliability-Assurance positively influence the service quality. The study implies that bank should reduce the service gap to deliver superior quality of service to retain existing customers as well as to attract new customers.

Need for the Study

Value-Added Service has become a strong force now-a-days. Of service sector, the banking services play a vital role to satisfy the varied requirements of customers, both the government on one side and the public on the other. Banks, either public sector banks or private sector banks, are highly competitive with each other with their own objectives and attaining their objectives and targets.

Objectives of the Study

The main objective of this study is to identify the banking services in the salem city. The study is conducted with the following objectives:

- To examine the various value-added services provided by the banks.
- To know about conclusions based on analysis of primary data.
Scope of the Study

The selected banks related to the present research study are important banks of banking sector. For the deep study of area of the present research study, it includes Brief Profile of Commercial Banks, Various Deposit and Services Provided by Banks and Analysis of Various Services in Commercial Banks.

Methodology and Research Design

This study is an empirical study; it is based on the primary and secondary data. The primary data relating to the level of customer perception of the banks about the value added services offered by commercial banks were collected from persons having their accounts in commercial banks in Salem City by interviewing them directly by the researcher with the help of an interview schedule.

Data Collection

Data was collected from two sources:

Primary data

Primary Data has been collected from Public undertaking banks customers from the area of Salem region by administering the questionnaire and personal interview.

Secondary data


Statistical Tools

Simple Percentage method is used for analysis of data. The result of the research is presented through tables followed by bar charts.

Limitation of the Study

The primary data is collected through a structured questionnaire and the sample size is only limited to 110 respondents.

Interpretation and Analysis of Data

Gender wise Classification of Respondent

<table>
<thead>
<tr>
<th>S. No</th>
<th>Gender</th>
<th>No of Respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male</td>
<td>108</td>
<td>72</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>42</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>150</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Primary Data

The above table shows that out of the total respondents taken for the study, 72 per cent of the respondents are male and 28 per cent of the respondents are female. The majority of respondents are belonging to male category. In this City, the female population has just now started taking up dual career for economic independence, so compared to the males, female respondents are less.

Gender Wise Classification of Respondent

Rank for Value-Added Services Provided By Bank

<table>
<thead>
<tr>
<th>S. NO</th>
<th>Factors</th>
<th>Total Score</th>
<th>Mean Score</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ATM</td>
<td>23451</td>
<td>78.17</td>
<td>I</td>
</tr>
<tr>
<td>2</td>
<td>Tele Banking</td>
<td>18792</td>
<td>62.64</td>
<td>III</td>
</tr>
<tr>
<td>3</td>
<td>Demat Account</td>
<td>19257</td>
<td>64.19</td>
<td>II</td>
</tr>
<tr>
<td>4</td>
<td>Electronic Clearing Systems</td>
<td>14607</td>
<td>48.69</td>
<td>VII</td>
</tr>
</tbody>
</table>
It reveals the ranking of Value-added services provided by Bank. “ATM” was ranked first by the selected sample respondents with the total score of 23451 and mean score of 78.17. “Demat Account” was ranked second with the total score of 19257 and mean score of 64.19. “Tele Banking and Mobile Banking” occupied third and fourth position with the total score of 18792 and 18210 and mean score of 62.64 and 60.70 respectively. “Anywhere banking” was ranked fifth with the total score of 18183 and mean score of 60.61. “Credit Card” occupied sixth position with the total score of 17877 and mean score of 59.59. “Electronic Clearing Systems and Financial Advisor” occupied seventh and eighth position with the total score of 14607 and 13933 and mean score of 48.69 and 46.44 respectively. “Real Time Gross Settlement” was ranked ninth with the total score of 12303 and mean score of 41.01. “Multicity Cheque book facility” occupied tenth position with the total score of 12174 and mean score of 40.58. “Online Tax Accounting System” was ranked eleventh with the total score of 11571 and mean score of 38.57. “International Debit Card” occupied twelfth position with the total score of 11550 and mean score of 38.50. “Cash Management Services and Electronic Fund Transfer” occupied thirteenth and fourteenth position with the total score of 11261 and 11061 and mean score of 37.54 and 36.87 respectively. “MICR Processing Centre” occupied last position with the total score of 8937 and mean score of 29.79. It is evident that most of the respondents gave top priority to ATM as the first rank for Value-added services provided by bank.

Findings and Suggestions
1. Gender wise respondent survey, male participants were three times more than female participates, as it is indicated 108 (72%) responses from males and only 42 (28%) from females.
2. “ATM” was ranked first by the sample respondents with the total score of 23451 and mean score of 78.17.
3. “Demat Account” was ranked second with the total score of 19257 and mean score of 64.19.
4. “Tele Banking” occupied third position with the total score of 18792 and mean score of 62.64.
5. “Mobile Banking” occupied fourth position with the total score of 18210 and mean score of 60.70.
6. “Anywhere banking” was ranked fifth with the total score of 18183 and mean score of 60.61.
7. “Credit Card” occupied sixth position with the total score of 17877 and mean score of 59.59.
8. “Electronic Clearing Systems” occupied seventh with the total score of 14607 and mean score of 48.69

Conclusion
The study is aimed at measuring the customer perception towards value-added services of commercial banks in salem city. Business and vehicle loans are fast moving than other value-added services and overall satisfaction resulted at 50%. Further, overall satisfaction on bank deposit schemes
resulted positively while other value-added services of banking still need to be given attention by focusing on customer issues. New innovative schemes, strategies to cater to non users other value-added services have to be adopted. A study or future research is recommended on all verticals of banking value-added services. Finally, if they want to sustain customers on a long term basis, bankers should work towards 100% customer satisfaction that automatically fosters customer delight.

References
A STUDY ON WOMEN CUSTOMER’S PERCEPTION TOWARDS ONLINE SHOPPING IN SALEM DISTRICT

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Government Arts College for Women, Salem

Abstract

Online access has enabled people from all walks of life to bring entire libraries, entertainment venues, post offices and financial centers to a workplace, to a desktop or to a shirt pocket. The Internet's largest and most meaningful impact may very well be on the way consumers shop for everything from gifts, gadgets and groceries to clothing, cars, and cruises. In this significance the study was conducted from 50 women respondents in the study area. The main objective of the study is perception of respondents towards online shopping. Percentage analyses were used to analyse the demographic profile of the respondents. This study is also employed Friedman Ranking analysis to rank factors considered for Mode of Applying order, Type of Product and Reason for selecting online shopping. Finally the study concluded that inability to touch and try the goods before purchase, fear of faulty products, fear of posting their personal and financial details online and the inability to bargain are some of the factors affecting online shopping. Keywords: Debit card, Credit Card, Faulty products

Introduction

Online shopping is the process whereby consumers directly buy goods or services from a seller in real-time, without an intermediary service, over the Internet. It is a form of electronic commerce. The sale or purchase transaction is completed electronically and interactively in real-time such as in Amazon.com for new books.

An online shop, e-shop, e-store, internet shop, web shop, web store, online store, or virtual store evokes the physical analogy of buying products or services at a bricks-and-mortar retailer or in a shopping centre. The process is called Business-to-Consumer (B2C) online shopping. This is the type of electronic commerce conducted by companies such as Amazon.com. When a business buys from another business it is called Business-to-Business (B2B) online shopping. Online stores are usually available 24 hours a day, and many consumers have Internet access both at work and at home. A visit to a conventional retail store requires travel and must take place during business hours.

In 1990, Tim Berners-Lee created the first World Wide Web server and browser in UK. It opened for commercial use in 1991. In 1994 other advances took place, such as online banking and the opening of an online pizza shop by Pizza Hut. During that same year, Netscape introduced SSL encryption of data transferred online, which has become essential for secure online shopping. Also in 1994, the German company Intershop introduced its first online shopping system. In 1995, Amazon launched its online shopping site, and in 1996, eBay appeared. Originally, electronic commerce was identified as the facilitation of commercial transactions electronically, using technology such as Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT). These were both introduced in the late 1970s, allowing businesses to send commercial documents like purchase orders or invoices electronically. The growth and acceptance of credit cards, automated teller machines (ATM) and telephone banking in the 1980s were also forms of electronic commerce. Another form of e-commerce was the airline reservation system typified by Sabre in the USA and Travecom in the UK.
Best Online Shopping Sites in India
1. Flipkart
2. E-bay India
3. Jabong
4. Myntra
5. Homeshop 18
6. Snap Deal
7. Tradus
8. Shopclues
9. Infibeam
10. Junglee

Need for Internet Shopping
Few developments have altered India’s lifestyle more quickly and more completely than the Internet. Online access has enabled people from all walks of life to bring entire libraries, entertainment venues, post offices and financial centers to a workplace, to a desktop or to a shirt pocket. The Internet’s largest and most meaningful impact may very well be on the way consumers shop for everything from gifts, gadgets and groceries to clothing, cars, and cruises. Because online stores are open 24 hours a day, seven days a week, and their inventories are often more complete than those of their brick-and-mortar counterparts, the Internet makes it easy for shoppers to compare products within or between stores, to read product reviews from other customers, to access vendor return policies and to find warranty information.

Objectives of the study
- To study the Demographic Profile of the customers in study area.
- To analyse the Perception of customers towards online shopping in study area.
- To analyse the factors influencing the customers to buy online shopping in study area.
- To offer suitable suggestions to improve the online shopping.

Methodology
The study is purely based on primary and secondary data. The primary data were collected from online shoppers by administering a pre-structured questionnaire schedule and the same was administered to the sample respondents in Salem district. The secondary data were collected from the research journals, magazines etc.

Sampling design
In Salem district, 75 online shopping customers were selected from each taluk. By using Simple random sampling method equal representation to cover entire area of Salem district.

Framework Analysis
Percentage analyses were used to analyse the demographic profile of the respondents. This study is also employed Fredman Ranking analysis to rank factors considered for Mode of Applying order, Type of Product and Reason for selecting online shopping.
Analysis and Interpretation

Table 1 Age Wise Classification of Online Customers

<table>
<thead>
<tr>
<th>Age</th>
<th>No of respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 30</td>
<td>23</td>
<td>46</td>
</tr>
<tr>
<td>31-40</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>41-50</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>Above 50</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Primary data.

Table 2 Mode of Applying Order

<table>
<thead>
<tr>
<th>Mode</th>
<th>Rank</th>
<th>Mean Score</th>
<th>Consolidated Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Through Mobile Phone</td>
<td>8</td>
<td>5 3 1.32</td>
<td>1</td>
</tr>
<tr>
<td>Mail</td>
<td>3</td>
<td>4 3 0.64</td>
<td>2</td>
</tr>
<tr>
<td>Direct contact</td>
<td>4</td>
<td>2 3 0.40</td>
<td>3</td>
</tr>
<tr>
<td>Fax</td>
<td>1</td>
<td>1 1 0.20</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: Primary data

Table 3 Mode of Payment

<table>
<thead>
<tr>
<th>Mode</th>
<th>No of respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash on delivery</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>Credit card</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Debit Card</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>Net Banking</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Primary data

Table 4 Reason for Selecting Online Shopping

<table>
<thead>
<tr>
<th>Reason</th>
<th>Rank</th>
<th>Mean Score</th>
<th>Consolidated Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Price</td>
<td>4</td>
<td>3 3 2 0.66</td>
<td>2</td>
</tr>
<tr>
<td>Convenience &amp; Time Saving</td>
<td>2</td>
<td>3 2 0.48</td>
<td>4</td>
</tr>
<tr>
<td>Fast Shopping</td>
<td>3</td>
<td>3 3 2 0.58</td>
<td>3</td>
</tr>
<tr>
<td>7days X 24 hours</td>
<td>6</td>
<td>4 4 3 0.64</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Primary data

Findings of the Study

Regarding the age of the respondents, 46 percentage are belongs to Below 30, 26 percentage of respondents are under the 31-40 age groups, 24 percentage of respondents are under the 41-50 age groups and 4 percentage of respondents are above 50 age groups. In most of the respondents are in the age group of Below 30.
Majority of the respondents have opined that they applying order through Mobile Phone hence it occupies first rank, followed by mail and direct contact holds second and third rank. 38% of the respondents have opined cash on delivery is the easier mode, whereas 12% were opined credit card for payment purpose.

Majority of the respondents have opined that 7 daysX24 hours opening for shopping is the reason for selecting online shopping hence it occupies first rank, followed by low price and fast shopping holds second and third position. Similarly convenience and time saving occupies fourth rank under study.

Suggestions

- For better revival of problems of consumers, It is being suggested that free demo of online transactions should be shown on E-commerce website.
- An online bill should also be generated, if any online transaction takes place.
- Read the terms and conditions carefully, including those relating to any dispute resolution procedures in the site offers.

Conclusion

The consumers highlighted cash back guarantee as the number one benefit, ability to give cash on delivery, fast delivery, great deals and access to branded products were highlighted amongst the other benefits of shopping online. The consumers also highlighted some barriers that deter them from shopping online – the number one factor was inability to touch and try the goods before purchase, fear of faulty products, fear of posting their personal and financial details online and the inability to bargain were cited among the other reasons.

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ISSUES AND CHALLENGES OF E-FILING IN INDIA

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Abstract

Tax e-filing is one of the e-government services that have been adopted by many developed countries today where the public has to discharge their responsibility to the government via online tax filing. In developing countries like India due to high perceived risk by the public, a well-established integrated system is required is very difficult to implant responsible behavior within a community, if an individual perception of risk of the e-government services is the concern. Present study is beneficial for tax authorities, policy makers, present and prospective tax payers, e-filing intermediaries of e-filing in India.

Keywords: E-filing, government, individual perception, India.

Introduction

An e-filing program was first introduce by the US-IRS as a pilot project for the 1986 filing period with the primary objective of improving its efficiency in processing tax returns. Prior to the launching of the project, the IRS worked closely with tax-preparation software. Provides and tax professionals to ensure a successful launch of the program. E-filing is one of the e-government services that have been adopted by, many developed countries today where the public has to discharge their responsibility to the government, via online tax filing.

What is E Filing?

Efiling or electronic filing is submitting your income tax returns online. There are two ways to file your income tax returns. The traditional way is the offline way, where you go the Income Tax Department’s office to physically file your returns. The other way is when you e-file through the internet. Over the past few years, e-filing has become popular because it is easier, doesn’t require prints of documents, and can be done for free.

Review of Literature

Barati, Shokrinia, Najaf, & Safar (2015), the main objective of the study is to judge the implantation of electronic tax obstacles. During this study descriptive survey type is employed to analyze the obstacles and issues of implementation of e-taxation. The result showed that technical and infrastructure variables, social effects, expectation of effort and efficiency, the legal problems, access to data and also the perceived risk have a lot of importance and a lot of influence on the factors poignant the acceptance of e-taxation system.

Xin, Khai, Fong, & Chenn (2015), the study focuses on analyzing the factors poignant individual tax payers in Malaysian tax filing system. This study is carried out to see factors poignant individual tax payer’s compliance in Malaysian tax filing system and also the factors known are tax knowledge and tax agents.
Objective of the Study

- To understand the awareness level of individual Tax Payers about e-filing.
- To study the factors that motivate for the use of e-filing.
- To know the problems of respondents towards e-filing.
- To know the process and benefits of e-filing Income Tax Returns.

Need of the Study

Indian economy is at a developing stage and there is still more to come in every stage of its development and E-filing system is up-to-the-minute beginning in India. So it is necessary to know the progress done in this area of direct taxation system in India. Main think is technology development and its work quickness is important one. The current study focuses on measuring the progress of e-filing of tax return for e-taxation in India in the recent past, the present position and the future prospects.

Research Methodology

Research Design

Descriptive methodology has been placed for this study. Data used is secondary data. It has been collected from sources such as books, journals, newspapers and online database.

Problems of E-Filing

- As you work on your return, we alert you to obvious errors, such as missing Social Security numbers and incompletely filled-out forms. When you go down the path to e-file your return, TurboTax runs a second, more rigorous error check. It looks for subtle things that might cause the IRS or state e-filing systems to reject your return.
- (If you’re wondering why TurboTax didn’t alert you earlier, it’s because TurboTax hadn’t asked you yet if you were planning to e-file. Before you can successfully transmit your return, you will need to correct your return and/or update your program by following the on-screen instructions.

The ‘Statutory’ Requirement Problems of Income Tax Returns

This year’s online filing of income tax returns has been plagued by difficulties faced by various categories of taxpayers. Very senior citizens and foreign citizens have been unable to file their returns in the absence of an Aadhaar number, though there is a specific exemption from linking their Permanent Account Numbers (PANs) to Aadhaar. Foreign companies and non-residents not having bank accounts in India but receiving income taxable in India were required to give details of an Indian bank account and its IFSC code.

General Details

- Bank account details
- PAN Number

Reporting salary income

- Rent receipts for claiming HRA
- Form 16
- Pay slips
Reporting House Property Income

- Address of the house property
- Details of the co-owners including their share in the mentioned property and PAN details
- Certificate for home loan interest
- Date when the construction was completed, in case under construction property was purchased.

Reporting Capital Gains

1. Stock trading statement is required along with purchase details if there are capital gains from selling the shares
2. In case a house or property is sold, you must sought sale price, purchase price, details of registration and capital gain details

Reporting Other Income

- The income from interest is reported. In case of interest accumulated in savings account, bank account statements are required and Interest income from tax saving bonds and corporate bonds must be reported

Types of E-Filing

Benefits of e-filing

- **Faster refunds** - e-filed refund returns are processed much faster than paper filed returns. **Proof of Receipt** - confirmation that your return was received and accepted.
- **Convenience** - available online 24 hours a day, 7 days a week. File your federal and state tax return at the same time. **Ease of use** - user friendly, with step-by-step instructions. **Greater Accuracy in Processing** - fewer math errors because software catches many mistakes. **Security** - safer than mailing your tax return.
- **Electronic Banking** - convenience of direct deposit for refunds and direct debit for tax payments

Option to File Now, Pay Later - Decide what day we debit your bank account for your tax payment.

**Trends in the Usage of Indian**

<table>
<thead>
<tr>
<th>Assessment Year</th>
<th>Total Numbers</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2006-07</td>
<td>363,000</td>
<td></td>
</tr>
<tr>
<td>FY 2007-08</td>
<td>1,69,367</td>
<td>497.62%</td>
</tr>
<tr>
<td>FY 2008-09</td>
<td>4,830,122</td>
<td>122.65%</td>
</tr>
<tr>
<td>FY 2009-10</td>
<td>5,073,977</td>
<td>5.05%</td>
</tr>
<tr>
<td>FY 2010-11</td>
<td>9,050,242</td>
<td>78.37%</td>
</tr>
<tr>
<td>FY 2011-12</td>
<td>16,433,684</td>
<td>81.58%</td>
</tr>
<tr>
<td>FY 2012-13</td>
<td>21,486,807</td>
<td>30.75%</td>
</tr>
<tr>
<td>FY 2013-14</td>
<td>29,681,794</td>
<td>38.14%</td>
</tr>
<tr>
<td>FY 2014-15</td>
<td>34,173,994</td>
<td>115.13%</td>
</tr>
<tr>
<td>FY 2015-16*</td>
<td>34,978,906</td>
<td>102.36%</td>
</tr>
</tbody>
</table>

(Source: Data Released by the Income Tax Department)

**Advantages of E-filing**

- **Convenience** - Returns can be filed at anytime (day or night).
- **Fast refunds** - It allows taxpayers receiving refunds to get them sooner,
- Taxpayers get instant acknowledgement of receipt.
- Value added services like viewing Form 26AS, tracking of refunds, email, SMS alerts regarding status of processing and refunds. Certainty of delivery and quick confirmation - provides immediate confirmation.
From tax administration that returns have been received, Taxpayers can correct their mistakes or make and save changes in their ITR many times before the final submission of ITR form. Eliminates error notices from tax administrations caused by data entry errors, Increment in freelance job opportunities as Tax Consultant and TRPs etc.

- Reduction in Documents handling and storage space.
- Reduced operating costs for tax administration by reducing the cost of handling paper returns and eliminating unnecessary staff. Online help facilities and user guides.

### Disadvantages of filing a late return

A tax return may be furnished any time before the expiry of two years from the end of the financial year in which the income was earned’. But there are some disadvantages if you don’t file your returns on time. They are

- You will not be able to carry forward your Business loss due to owning and maintaining of race horses.
- Loss of Interest on refund: You may lose interest on refund, in case if you are claiming a Major amount as refund.
- You cannot revise your return and Late filing can delay processing for tax refunds.
- Incremental Interest U/s. 234A – If the tax has not been paid before the end of the tax year concerned and you file the return late, incremental interest at the rate of 1% per month will be payable on the unpaid amount after the due date.

### Reasons for Limited Growth

- Lack of awareness towards use of internet.
- Lack of adequate financing to set-up the appropriate infrastructure in tax offices.
- Insecurity towards e-payment among the users.

### Conclusion

In the present world new technologies are introduced in all fields. The new technology and some modifications to be given to a tax payer for filling their income Tax Returns is e-filing. One of main challenges in e-filing of Income tax is reducing the risk. This study shows that e-filing is the new effective method of filing income tax return through online and make a e-payment mode for tax. It saves our golden time and energy and cost also reduces our mistakes from e-filing technology for simple and effective.

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Abstract

E-marketing is a process of planning and executing the conception, distribution, promotion, and pricing of products and services in a networked environment, such as the Internet etc... to facilitate exchanges and satisfy customer demands. To make e-marketing effective and efficient, managers of e-businesses need to know online customer behaviour, e-marketing techniques, costs and benefits of e-marketing over etc... e-marketers must assure their customers, that their concerns must be met or else they may abandon their online shopping sites. E-marketing techniques can be broken down to pull and push marketing. E-mail promotion is also widely used by e-marketers to promote information to their registered customers. There are different e-marketing tools like content and video marketing, marketing analysis and automation etc... which are used to build their marketing programs. Electronic markets are information systems (IS) which are used by several organizations in their economic value chains. E-Marketing has both pros and cons which can be analysed it from two points of view – these being: companies and consumers. E-Marketing creates many opportunities for businesses to grow their presence via the Internet and build their audiences, there are also inherent challenges with these methods of marketing. With all this I want to explain that to succeed in business today, you must be on the Internet, but know how to be there, otherwise you will fail. Many people say that 'if you’re not online, it means that you don’t exist'. Actually, I think that this phrase is not far from reality.

E-Marketing

Introduction

According to Kotler, e-marketing “is what a company does to publicize, promote and sell products and services online”. This meaning that e-marketing covers all activities businesses performs using the internet, so that they can generate more business and develop its brand identity, overall reaching their target audience. With this form of marketing companies can increase sales, improve visibility and brand recognition. E-Marketing goes beyond creating a website. It focuses on online communications through the use of direct dialogues with user, overall reaching potential customers. Because of this type of marketing business can be done in a simpler way.

E-marketing is one of the simplest things. This type of marketing is for people looking for online products, for example, the items in which you are selling, they can find them, and learn about your store via the internet. Once they do this they will be within your website, and from here they can see your products and what you can offer them. The next step would be to see if they like what you are offering, and if they understand what it is you want to say with what you’re offering. If this is the case they will go to your store or call to ask for more information, therefore making it very likely that your sales will increase.

It can include content management, public relations, customer service and sales. E-marketing has become popular to the extent that internet service providers are becoming more accessible. Over a third of consumers who have internet access in their homes have reported that they use the internet as a means to make their purchases. However, in order to achieve this, you will need more than a website or an account with social media as this is something everybody has access to. To be different and get
people’s attention of what it is you’re offering, you will need a plan of action in order to communicate everything you want, because otherwise it may become unfavourable.

Advertising and e-marketing are two things that go together. It is considered one of the largest industries worldwide. Therefore, investing in advertising is necessary for any business that wants to sell. Over time, the means and strategies will have to evolve through innovation and creativity, as competition is demanding. It is for this reason that online advertising plays an important role in recent times. Marketing is a way by which you can reach millions of potential customers annually. It is a way to interact with customers and consumers. Many will ask why go for e-marketing? The first reason is cost efficiency; it is one of the cheapest means. It is a fast and flexible way, since you can run it in a relatively short period.

E-Marketing - Meaning

E-marketing is a process of planning and executing the conception, distribution, promotion, and pricing of products and services in a computerized, networked environment, such as the Internet and the World Wide Web, to facilitate exchanges and satisfy customer demands. It has two distinct advantages over traditional marketing. E-marketing provides customers with more convenience and more competitive prices, and it enables businesses to reduce operational costs.

To make e-marketing effective and efficient, managers of e-businesses need to know online customer behaviour, e-marketing techniques, costs and benefits of e-marketing over traditional marketing etc... A discussion of each of these aspects follows:

Online Customer Behaviour

E-customers’ most serious concern is security and privacy, followed by price, delivery cost, return policy, customer service, site design, navigation, one-click shopping, and personalization. E-marketers must assure customers that their sites use cybercrime-proof systems to protect e-customer information and clearly display the security/privacy statement on their sites. Competitive prices, discounts, e-coupons, free delivery, and standard return policies motivate initial online purchases and repeat purchases. Nevertheless, requiring too many mouse clicks for navigating on a site, a lack of easily accessible help, technical difficulties, and requesting too much customer information for purchasing goods often causes shoppers to abandon their online shopping carts before reaching the checkout.

E-Marketing Techniques

E-marketing techniques can be broken down to pull and push marketing. Pull marketing is a passive technique by which online shoppers take the initiative requesting specific information on the Web. Search engines, product/service advertising, e-coupons, and e-samples are part of pull marketing. For example, e-marketers can register their e-commerce sites, products, and services with search engines such as Google and or Yahoo, thereby enabling online shoppers to search for product/service information using Google or Yahoo and link to their sites. Similarly, e-marketers can also register their e-coupons and e-samples with e-coupon sites such as ecoupons.com and e-sample sites such as yes-its-free.com.

Push marketing is a proactive technique that enables e-marketers to "push" their product/service information to Web visitors or shoppers without their requesting it. Banner advertising, pop-up advertising, e-mail promotion, and spamming belong to push marketing. For instance, e-marketers can rent designated space from Internet service providers such as America Online or MSN for their banner
or pop-up ads. Using animated graphics, appealing messages, and links, e-marketers try to lure visitors to their sites to buy their products or services. Many Internet users, however, find such ads annoying and employ software that blocks pop-ups and banner ads.

E-mail promotion is widely used by e-marketers to send new product/service information to their registered customers. For example, airline companies periodically e-mail their registered customers about their e-fares and promotional vacation packages. Spamming refers to sending millions of e-mail promotions to recipients who have never asked for the information. These recipients' e-mail addresses are often purchased or swapped with other businesses. Spamming is at best unethical and at worst illegal.

**E-Marketing Tools**

There are a number of tools that can be used to build and maintain a robust online marketing program:

- Email Marketing
- Social Media Marketing
- Search Engine Optimization (SEO)
- Display Advertising
- Search Engine Marketing (SEM)
- Events & Webinars
- A/B Testing & Website Optimization
- Content Marketing
- Video Marketing
- Marketing Analytics
- Marketing Automation
- Customer Relationship Management (CRM)
- Content Management System (CMS)

**Electronic Markets**

Electronic markets (or electronic marketplaces) are information systems (IS) which are used by multiple separate organizational entities within one or among multiple tiers in economic value chains. The topology of electronic markets may be centralized or decentralized in nature. Centralized electronic markets are hubs which often provide services to their participants. Decentralized settings involve sequential relationships within value chains which often are found when electronic messages are exchanged directly between businesses (electronic data interchange, EDI). The services provided by electronic markets may serve infrastructural or allocation purposes. Among the infrastructure services are routing, messaging, identification and partner directories whereas allocation services enable pricing process which in turn may be static or dynamic in nature. Typical implementations are catalogues, exchanges and auctions. In a narrow sense Electronic Markets are mainly conceived as allocation platforms with dynamic price discovery mechanisms involving atomistic relationships.

**Examples of E-Markets**

Some examples of online marketing campaigns include:

- Canon advertises for search keywords related to "photography" on Google, Yahoo, and Bing search engines to market their cameras to a relevant audience.
Whole Foods collects email addresses on their website to advertise new products, sales, and events in their stores.

Dove creates video advertisements and shares them with their audience on Facebook, Twitter, and other social networks to promote favourable conversation about their brand and products.

Advantages and Disadvantages

Now that we know more about this concept I think we can think about the advantages and disadvantages, as well as analysing it from two points of view – these being: companies and consumers.

Advantages for Companies

Representing a product on a website is very important to capture the attention of the user, and this is an advantage because a good image of the product ensures a large demand. It has other benefits such as:

- Increased opportunities for sales as it’s a wider market and your business is International.
- The transaction costs will decrease as you’ll be using electronic means.
- Your business will be “open” 24 hours a day, 365 days a year. You can also have your own working hours; you can even modify and apply as you want.
- Work from the comfort of your home and also free to move to any part of the country or the world, by bringing your business with you.
- Your “virtual office” requires less investment than traditional businesses require.
- No matter what age, class, race, gender or any other characteristic, you can still do business online.

Advantages for Consumers

- Variety of products and prices.
- Ability to purchase 24 hours 365 days a year.
- Many options to suit your needs.
- Immediate purchases.
- The consumer has the advantage of knowing the product and all its features through information given by the company.

Disadvantages

E-Marketing creates many opportunities for businesses to grow their presence via the Internet and build their audiences, there are also inherent challenges with these methods of marketing. First, the marketing can become impersonal, due to the virtual nature of message and content delivery to a desired audience. Marketers must inform their strategy for online marketing with a strong understanding of their customer’s needs and preferences. Techniques like surveys, user testing, and in-person conversations can be used for this purpose.

Online marketing can also be crowded and competitive. Although the opportunities to provide goods and services in both local and far-reaching markets is empowering, the competition can be significant. Companies investing in online marketing may find visitors’ attention is difficult to capture due to the number of business also marketing their products and services online. Marketers must develop a balance of building a unique value proposition and brand voice as they test and build marketing campaigns on various channels.
Disadvantages for Companies

- Constantly updating their systems as they change almost daily and also finding suitable staff to manage your business.
- Security issues and vulnerability of their systems co-exist with technology.
- The lack of consumer confidence.
- Limitation of languages, cultures, business trends, currencies, politics and economics.
- Avoid problems with loopholes.
- Constant control in insurance payment processes.

Disadvantages for Consumers

- The main disadvantage for the consumers is the risk of a burglary, a fake account, hackers, among others, for direct payment to the credit card or pre-delivery consignment exposed to any of the aforementioned types of fraud (i.e.) Fear for the safety of transactions and data privacy.
- Do not physically meet sellers.
- Not having the opportunity to touch, feel or try on products to buy (physical products). It does not guarantee that the product you receive is exactly like the one you saw on the pictures.
- Distrust by not having a physical support for transactions.
- Fear for guarantees.

Conclusion

E-marketing can offer more competitive prices than traditional marketing because e-marketing reduces costs by not having to maintain physical store space and by strategically placing distribution centres throughout the country. Research indicates that the cost of Internet-based promotion is one-fourth of traditional promotion and is more effective. With all this I want to explain that to succeed in business today, you must be on the Internet, but know how to be there, otherwise you will fail. Many people say that ‘if you’re not online, it means that you don’t exist’. Actually, I think that this phrase is not far from reality.
A STUDY ON CUSTOMER RELATIONSHIP MANAGEMENT PRACTICES ORGANISED RETAIL STORES

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Introduction
The most challenging and exciting time to live is shifting. Where is India today? This large, multicultural country is the creation of a creative economy for consumption from a socialist India. The purpose and depth of the change in the history of India as described in retail. This change is a huge challenge and offers a huge opportunity for marketers and retailers.

The retail economy is not just an impotent aspect but a part of our lives too. While commodities are traded even after festive days, it is the dominance of the purchase and sale of goods in recent times. In fact, today retailing is becoming a global, high-tech business. Customer Relationship Management (CRM) in retail isn't a new concept, but it's one that could help retailers win the battle for sales in these competitive times. Tesco introduced their loyalty club card in 1995, collecting data on shoppers and using the information to personalize discounts and rewards. Fast forward 21 years and the majority of retailers offer some kind of reward or locality program with Marks & Spencer being the latest to launch their Sparks card, a new 'Members Club' which includes bespoke offers and priority access to sales for those that sign up.

Customer Relationship Management
CRM is a mixture of policies, processes and techniques implemented by an organization that provides an algorithm to integrate customer relationships and monitor customer information. This involves using the new and lucrative customers to embrace technology and create a tight bond with existing ones.

Customer Relationship Management is a developing tool that helps marketers to maintain their presence in the marketing environment. Customer Relationship Management is much higher in the corporate agenda. A recent study conducted by business intelligence has already begun six companies in ten companies at the CRM Journey.

Retail Industry Scenario in India
Due to the entrance of many new players, the Indian retail industry has become one of the most dynamic and fastest industries. More than 8 percent of the Gross Domestic Product (GDP) account for over 10 percent of the Gross Domestic Product (GDP). India is the fifth largest global target in retail trade.

CRM and Organized Retail Segment
Products are easy to copy, difficult to copy the services, but it is increases in five key ways of retail business:
- Customer loyalty is translated as low cost competition
Allowing customer information companies to target lucrative customers.

- Pre-purchase methods costs, loot and low inventory delivery costs.
- Customer loyalty reduces advertising and marketing costs.
- Customer confidence extends the product life cycle.

**Review of literature**

According to Raman than (2008), customer relationship management helps the retailers maintain their presence in the market environment. CRM is the preferred tool for manufacturers in the early days, which promotes and retains retailers. Customers now use the same tool to retain customers.

Praveen k. According to Deb (2009), customer loyalty programs are in today's retail world and food in Mumbai is leading this industry in western India. He pointed to typical consumer response: “Offer cards or special offers are not only the retailers’ retailers, but consumer pay more for this opportunity.”

“According to Sreekumar B. (2009), the life expectancy customer’s value is the most important measure to implement any CRM initiative or specialty loyalty benefits.

**Objectives of the Study**

- To understand and identify the customer Relationship Management Practices followed by the retail stores.
- To study the various CRM techniques adopted by organized retail firms and stores.
- To study the benefits of CRM to the retailers and customers

**Research of the Study**

The prepared paper is descriptive study in nature. The study has been carried out based on the collecting of the relevant secondary data. Secondary data collection was based on various sources such as published books; article published in difference conferences paper periodicals, working paper and websites, journals and news paper etc.

**Role of CRM in Retail Business**

**Customer History**

CRM saves all customer information, last purchase, business cards, phone numbers etc. It helps to record a customer’s history so that you can see each individually, who you know their needs. It covers demands, receives better business and helps customers "get a better experience in your store.

**Segmenting**

Collecting all information about customers allows your customers to be placed in different sectors so that you can participate accordingly, This way you can in your market segment Families, young people, vegetarian food, non-vegetarian, fresh buyers, long – term customers, easy buying customers. The segment in your market helps your customers get the best strategy.

**Tracking**

CRM software helps you keep track of all customers individually. It does not mean you are benefiting any customers, it provides no clear information. Which customers have proven to be trustworthy? So you can provide then with the best service, sometimes for your loyal customers to maintain their loyalty and get more buyers indirectly.
Promotions

Advertisers are helping to target the right audience when each observer watches. So you can manage them as groups or individually. This will help them provide the best service. When a customer visits your website, see what they are searching for and can add an ad of that particular product in their newsletter. For example, you can add that promotion to their newsletter or emails so that you have a sports store and a customer are some fitness wear.

Purchase Tracking

CRM helps you monitor individual customers’ purchases separately, so you know their interests and their product has any problem or any damage. This way you can provide the best service through their SMS and emails or message included in their interests. In case of damage or trouble, you may provide them with the same item at the next purchase or provide a free service, and provide them with more customer satisfaction.

Loyalty

CRM can focus on each individual customer and look closely to your needs. This way you can focus on your long-term clients and provide them with points, bonuses and rewards to help customer gain loyalty. This way, because you are loyal, you will bring your customers, which will be set in the right path of your sales and profit.

Cost effective

This allows you to manage customers in the most cost-effective manner. Easy up-to-date sales, privileges and emails can be allowed to allow you to take care of them individually by observing their personal needs. CRM implementation is a simple and cost-effective performance that saves you extra income because you have to spend less money and less resources.

The Effects of CRM in Retail Markets

Customer relationship management in retail sales, customer satisfaction increases, reducing costs and improving company performance in the market. CRM software manages relationship with individual customers to benefits for both clients.

Segmentation

CRM helps you gather information, including information about your customers, priorities for your market and personalize your approach to young families in a section, you can create a family friendly retail environment. If you have multiple data, you can install a snake for wheelchairs and easily access your store. The CRM data-based segment is the best solution for your customers to adjust your retail strategies.

Advertising

The data you collect in the CRM system will target individual customers without targeting only the market segment that advertises its members. For example, if you know that a customer is reaching the retirement age, you can encourage suitable entertainment products for him. If you see customer who has visited your website and has seen certain products, you can add advertisement in their emails. In this way CRM recipients do not have any interest in advertising and increase the meaning of the information sent.
Purchases

A CRM system holds records of customer purchases and customer service calls. You can see that every customer has a supervision of purchased products and can see whether buying or getting discontent issues. Special offers for customers allow the information to be sent when their purchased products reach the end of their lives. Such a strategy should keep your products in the hands of the customers, and if he has purchased, they will need them and will be less affordable for him. On your side, such a goal promotion is less than the marketing and a few responses to a larger team.

Retention

The overall outcome of CRM is to focus on customers by focusing more on the customers. You can increase this effect by using CRM software to implement customer loyalty programs. Because apps will monitor your purchase, you can also reward and bonuses for holding valuable customers. Because long-term customers are at lower prices than new customers, these plans allow you to reduce your fee further.

Suggestions

- Supply of private marketing to retail customers. This will encourage customers to frequently meet retail sales.
- To maintain a healthy and friendly relationship with customers, retail sales management should provide special training.
- Temporary comments from customers should be taken by the retailer, which will make customers feel important for the company's development.

Conclusion

Customer Relationship Management is widely used in hospitality and service sectors, but it is important in retail business. Customers do not take a second to change the customer’s choice and to break the loyalty of a company and in such a scenario the customer’s relationship management will again re-invite customers to look at retail sales again. In this way, we finally help achieve its vision “giving to every Indian consumer the most lucrative, every time, every time”.

References

Abstract

This article places emphasis on relationships and interaction in marketing, an emphasis which has developed out of new theories of services marketing and industrial marketing and also out of practical experience. Building and maintaining relationships have significant long-term implications and therefore affect the strategic and long-range planning of the firm’s marketing. In the author’s view, the present Marketing Concept, as it appears in research, textbooks and seminars, is unrealistic and needs to be replaced. One reason is its inability to absorb new developments in marketing and its rigid attachment to traditional consumer goods marketing. The conclusions can be seen as part of a progress report from an ongoing research project which aims at developing a New Marketing Concept that draws both on theory and on the views of practitioners.

Introduction

Electronic marketing refers to the application of marketing principles and techniques via electronic media and more specifically the Internet. The terms E-Marketing, Internet marketing and online marketing, are frequently interchanged, and can often be considered synonymous. Online marketing is the practice of leveraging web-based channels to spread a message about a company's brand, products, or services to its potential customers. The methods and techniques used for online marketing include email, social media, display advertising, search engine optimization, and more.

How can we do e Marketing?

Step 1: Establish your goals. It can be tempting to simply sign up for an email marketing tool like Campaign Monitor and start sending your first campaign. ...
Step 2: Build your email list. ...
Step 3: Select the type of campaigns you want to send. ....
Step 4: Create your first campaign. ...
Step 5: Measure your results.

Importance of Electronic Marketing in Business Today

The requirements and wants of the consumers can be better understood, by knowing more about the consumers and also analyzing ways of providing their needs. ... The usage of electronic marketing or existing communication schemes can help to improve such circumstances.

Future Scope of Digital Marketing in India

Digital Marketing is still in it’s initial phase in India. With the rising technology demand for digital marketers is rising. Most of the companies are still thinking to adopt the medium while many top brands have already started their digital marketing campaigns. Thus there will be a huge change in coming future.
Objectives
1. Establish a Presence
2. Build Visibility
3. Generate Sales

Limitations
Online Marketing as people allegedly say does not happen to be of free of cost, there are a lot of things that adds to the cost of internet marketing and they are not at all cheap. Some of the major expenses are the cost of hardware, software, website designing, online content and product distribution costs, maintenance of the site as well as server, web hosting of the website and the costliest thing is time, all of these must be considered while planning for Internet Marketing budget and strategies.

Where conventional marketing helps in spreading awareness as well as selling, the internet is considered as a medium to gain information to most of the customers. There are still many industry and areas where internet marketing is incapable of generating a trust and sale of the product or the service. There are still lots of fields where people prefer the live interaction when they buy.

1. Still, 50% of the world does not have access to the internet and there are many such areas where people are not even literate enough to access the internet. This is a major limitation for internet marketing in the current scenario.
2. Cyber Crimes are increasing day by day as well as the scams. The rules if cyber security are still not that secure and that leaves a fear in the mind of the people and leaves internet marketing vulnerable.
3. Internet marketing faces a major current as well as the future issue of “infoluition” – the issue of distracting and old data on the internet. There are lots of websites that are decades old and no information is updated on it from a long time. If a customer relies on it and makes a decision, there is a high chance that it can lead to some trouble. This thing is not an issue in conventional marketing as people timely update things in the real world. Whereas there is no such filter available in the virtual world.
4. One major issue and an important question is that “is your website safe?” In internet marketing it is very easy for competitors to attack your website and put in some hack in it, there are a lot of such examples where competitors tried and also succeeded in damaging the brand image via some online hack or negative attacks.

Findings
a. It is evident from the study that Social Networking Sites benefits the growth of hotels in Pune based on the responses the benefits includes that it increase the product/service awareness among customers
b. Through Social Networking Sites the hotel awareness has identified that it improve customer relation, built more business connection and social networking sites since act as connection between business owners and consumers
c. Through research it is found that marketing strategy through Social Networking Sites is relatively efficient and it reduce money spend on advisements ie it is cost effective also.
d. From the study it is evident that the most common member of website used by customers for hotel bookings are Facebook Google, twitter and LinkedIn.
Hotel using Social Networking Sites for advertisements and promotion have a competitive advantage over other unions traditional methods of marketing as the Social Networking Sites is cost effective way and it also help them to capture large customers. The most common marketing tool used by Social Networking Sites for Hotel growth includes wall posting & photo gallery of Hotel displayed on the Social Networking Sites.

Suggestions

a. It is suggested that offline and online marketing strategies be brought into alignment to prevent mixed messages and to promote the availability of the online forums for interaction. Offline advertising should be used to complement the online media. Adding “visit us on Facebook” and other such texts to promotional material will help to raise awareness.

b. The social networking strategy should sufficiently flexible to allow it to adapt to new developments and to determine what works and what does not work.

c. A dedicated social media co-ordinator is recommended to monitor the impact of any changes implemented. A dedicated co-ordinator would also allow for consistency in communication. At the very least a profession agency experienced in social media marketing should be consulted at from the earliest planning stages.

d. The reviews and complaints raised by the customers on the SNS should be effectively managed and proper actions should be taken by the hotels management and the action taken should also be communicated to the customer.

Conclusion

a. Social media has become an integral part of the algorithms that decide where a particular website is placed in the search rankings. The higher the ranking the more visible it is to the consumer. One of the core questions behind this research was to find out what impact social networking sites is having on the hotel sector.

b. The feedback shared on the review social networking sites such as Facebook, LinkedIn, Twitter, Google+, holidayiq.com & TripAdvisor is an opportunity to improve the service offering.

c. In conclusion the ability to reach out to such a huge volume of potential guests would make ignoring social media a poor business choice. The other side of the coin is that potential for damage to the brand by reaching out in a haphazard fashion could be quite destructive and costly to repair.

d. A well planned and coherent marketing strategy is needed to limit potential damage and give the chance of succeeding greater odds. It would be wise to consider hiring a qualified dedicated member of staff or to consult with an outside agency or expert from the earliest stages to avoid negative outcomes.

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E-MARKETING -PRICING STRATEGIES, QUALITY AND CUSTOMER SATISFACTION

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Abstract

The E-Marketing is one of the interesting topics for researchers in the marketing field. In modern way of marketing a product or service to the targeted market around the world through online. Hence E-Marketing plays an important role for every business, this paper is an attempt to show theoretical analyze of pricing strategy, quality and customer satisfaction in E-marketing. The primary goal of this paper is to discuss about recent trends in E-Marketing pricing strategy. The theoretical framework discusses in brief about the importance of pricing objective and customer satisfaction.

Introduction

With the widespread application of the Internet, E-Marketing plays an increasingly important role in modern economies. Electronic marketing is more than just buying and selling products online. It also includes the entire online process of developing sales through pricing, marketing of quality product, selling, delivering, and servicing and customer satisfaction. Internet and the World Wide Web have amended the business competitions and tailored the Business-to-Consumer (B2C) relationship by introducing an innovative retailing platform that provides for electronic one-on-one communication with the customers.

In the modern era the wonderful expansion of the Internet, various businesses have globalized their sales and marketing efforts for their products and services all through the net. Maximum business organizations have been providing various products like books, hardware, software, toys, household appliances etc to their customers through online. Through E-Marketing different type of business and organizations has gained a tremendous opportunity to increase their sale and to maintain a direct relationship with its customers and attaining their satisfaction. The increasing use of internet by the young generation in India provides an emerging prospect for online retailers. Unlike traditional marketing, online marketing has many advantages like global reach, availability of wide variety and cheaper products. Customer satisfaction is the key factor for customer retention and acquisition in online shopping system.

E-Marketing

E-Marketing is defined as a marketing of products and services over the internet. It is also known as web marketing, digital marketing and online marketing. Online marketing includes a wider range of marketing elements than traditional business marketing due to the extra channels and marketing mechanisms available on the Internet.
Types of E-Marketing

- **Search Engine Optimizer**
  Search engine optimizer (SEO) for short, is possible for popular search engine to index a website and boost it up to the top of the result page. It helps to revise the structure of website, correct the errors, develop own content and to manage online campaign.

- **Social Media Marketing**
  Social media marketing (SMM) is the process of gaining website traffic or attention through social media sites. The goal of SMM is to produce content that users will share with their social network to help a company increase brand exposure and broaden customer reach. The use of social media services to garner attention and website traffic is gaining just as much popularity as the networks themselves.

- **Blog Marketing**
  Blog marketing is any process that publicises or advertises a website, business, brand or service via the medium of blogs. This includes, raising the visibility of company, to increase the sale growth and profit, to make a contribution to our industry.

- **Pay Per Click Advertising PPC**
  Stands for pay-per-click, a model of internet marketing in which advertisers pay a fee each time one of their ads is clicked. Essentially, it’s a way of buying visits to your site, rather than attempting to earn those visits organically.

- **E-mail Marketing**
  Email marketing is a way to reach consumers directly via electronic mail. It includes, easy and effective affordable way to keep our customer coming back, Promoting their products by giving special events, can response to feedback and also Save paper and postage.

- **Networking**
  A business model in which is a distributor network is needed to build the business. Usually such businesses are also multilevel marketing in nature in that payouts occur at more than one level.

Concept of E-Marketing

E-Marketing is the wave of the future. Businesses turn to the internet to market themselves in place of billboards and paper advertisements, and find that it is not only more effective, but much less expensive.

However, E marketing plays by an entirely different set of rules than traditional marketing does, and it is important to understand the basic concepts before embarking on any marketing.

In most general terms, any marketing in the Internet should be considered electronic marketing. As it has been mentioned, due to the technical peculiarities of the Internet, almost all forms of electronic marketing have certain features of direct marketing. It should be noted that marketing by e-mail is not a predominant form of electronic marketing. Marketing by e-mail has the notably expressed advantages of electronic marketing, i.e. apart from businessmen’s own websites; marketing by e-mail is the cheapest and the most accessible. Very often marketing by e-mail is identified with a socially undesirable or even negative marketing, spam, since social challenges raised by electronic marketing manifest
themselves in its form rather dislikes. Due to the above mentioned reasons, in this article marketing by e-mail is regarded as the fair representative of all types of direct electronic marketing.

**Impact of Internet Marketing**

The Challenge Facing the Companies Today is How to Take Strategic Advantage of Opportunities to build more desirable products and services, build brand equity and increase revenues and profits. The Internet represents new opportunities for the marketers and sales people because it provides a wide reach for all marketing efforts conducted on it. International markets can be opened up at low costs. Advertising and promotion costs in other countries can be significantly reduced, if not eliminated.

With the use of the Internet there can be continuous customer support. Services can be made available through interactive e-mail systems on the net. This saves time and money. In addition, feedback (i.e., research data) from the marketplace can be likewise collected on an on-going basis, and in many cases, in the form of real-time data. New products and services can be tested through interactive questionnaires on the Internet. This feedback forms the basis of market identification and segmentation that enables marketers to better position their products.

Many studies frequently mention that there is a vast amount of window shopping taking place online but the number or the rate of surfers who turn into purchasers or regular buyers are very low. This might happen because of the lack of consumer intention to purchase an offering from the online environment at the outset. It might also happen because of various problems that arise during online shopping driving the consumer to abandon the task in the middle. In other words, some consumers accept to shop from the Internet in principle but technical complexities or ineffective systems discourage them.

**Categories of E-Marketing**

The Internet Marketing into four categories: communicating, selling, providing content and providing a network function

**Communication**

A range of different businesses uses the Internet as a way to communicate with their customers. Marketers can use this essentially useful medium to build relationships with new customers or enhance the interaction with existing customers. Internet provides many alternative options for marketers that help them to interact and communicate with the consumers. Email, email lists, online chat and forums offer quick and easy communication between different parties

**Selling**

Consumers today have less time to work. Companies use direct marketing to sell their goods. The significant advantage of the Internet selling is that it is available 24 hours per day, 7 days per week. Large and small businesses develop websites and sell via the Internet through innovative use of technology and more attractive features than in traditional marketing. The way the information appears to the consumer can affect the online decision of purchasing a product. As to that, firms should pay attention on the designing and structuring of an effective website. Moreover, online selling sites can be used to offer much more products than can be shown in a printed catalogue. In addition, consumers can enjoy self-service services such as, tracking their purchases and orders or saving their information to be used in later transactions

**Providing Content** Businesses must provide their customers with all the necessary information about their company, their services and products. A content website allows visitors to interact with
interesting and useful information and not with unnecessary and irrelevant data. Every website should have the capability of keeping people on the website and getting people to return. Companies performing in the world of internet marketing should create websites that provide all the needed information to their customers by keeping the content fresh and updated.

Providing a Network Function

Except from content, websites can also provide useful functions for visitors. This can be done by using the network to make access to information provided by another website possible. For example, Yahoo! created a menu for websites that enables owners of other websites to register their URLs.

There are different marketing strategies for the Internet:

- **Targeting**
  This is different from the traditional segmentation because the customers come to you, they initiate contact, control information flow and control message content. Accessibility is primordial for customers. Market the Web sites through packaging or “click-through” from other companies’ Web sites. “Click-through” banner advertising is a sort of digital word-of-mouth which is becoming a stronger means of the Web.

- **Product Strategy**
  Brand recognition is made clear on the Internet but the number of purchase is not there yet. Sometimes the products are not available on the Web site and consumers hesitate before getting this particular product. To increase their confidentiality, recognized vendors should be mentioned on the Net. Authenticity is important for both sellers and products.

- **Pricing Strategy**
  In the long run, it will be good if firms can concentrate on offering products with the unique characteristics. Online shoppers will differentiate by the benefits and quality of the products/services. Otherwise, a low price strategy should rely on cost advantage and high volume to be able to compete.

- **Distribution Strategy**
  There is a necessity of a direct-to-customer mechanism. The industry has to be the first providing unique services to always be ahead of competitors.

- **Promotional Strategy**
  This depends on the marketing research and consumer preferences. A “frequently asked questions” (FAQ) section should be provided in the Web site and high-level marketing officers should also be involved for a stronger marketing message for the company’s vision. In fact, the FAQ, through Internet, can save over one million dollars by providing what customers want. It also reduces online catalogue processing costs and cycle time. Other than that, grouping and Ranking the content of the Web site is effective so as to group consumer needs and to provide a good Structure for navigation of the Web site according to a consumer.

Pricing Strategies

Good pricing strategy helps to determine the price. A business owner needs to consider a wide range of factors including production and distribution costs, competitor offerings, positioning strategies and the business’ target customer base for pricing.
Pricing at a Premium

With premium pricing businesses set costs higher than their competitors. Premium pricing is often most effective in the early days of a product's life cycle, and ideal for small businesses that sell unique goods. Because customers need to perceive products as being worth the higher price tag, a business must work hard to create a value perception.

Pricing for Market Penetration

Penetration strategies aim to attract buyers by offering lower prices on goods and services. While many new companies use this technique to draw attention away from their competition, penetration pricing does tend to result in an initial loss of income for the business. Over time, however, the increase in awareness can drive profits and help small businesses to stand out from the crowd. In the long run, after sufficiently penetrating a market, companies often wind up raising their prices to better reflect the state of their position within the market.

Economy Pricing

Used by a wide range of businesses including generic food suppliers and discount retailers, economy pricing aims to attract the most price-conscious of consumers. With this strategy, businesses minimize the costs associated with marketing and production in order to keep product prices down. As a result, customers can purchase the products they need without frills.

Price Skimming

Designed to help businesses maximize sales on new products and services, price skimming involves setting rates high during the introductory phase. The company then lowers prices gradually as competitor goods appear on the market. One of the benefits of price skimming is that it allows businesses to maximize profits on early adopters before dropping prices to attract more price-sensitive consumers.

Psychology Pricing

Psychology pricing refers to techniques that marketers use to encourage customers to respond on emotional levels rather than logical ones. One explanation for this trend is that consumers tend to put more attention on the first number on a price tag than the last. The goal of psychology pricing is to increase demand by creating an illusion of enhanced value for the consumer.

Bundle Pricing

With bundle pricing, small businesses sell multiple products for a lower rate than consumers would face if they purchased each item individually. Not only is bundling goods an effective way of moving unsold items that are taking up and also increase the value perception in the eyes of customers.

Customer Satisfaction towards Online Marketing

Online shopping involves seeking information and carrying out activities that provide the customers the information that help them to arrive at an informed decision and conduct business. On the other hand, online buying represents technological infrastructure used to exchange data and purchase product or services electronically.

The important online marketing such as types online buyers, online purchase experience, website highly used, mode of payments, influenced the purchase of products in the online marketing, type of products are buying in the online marketing, awareness regarding online marketing, Customer satisfaction towards the website, Customer satisfaction price in online marketing, Customer satisfaction towards products in Online marketing, after sale services, delivery of product and so on.
Main Potential Drivers For Customer Adoption of Online Marketing

- **Accessibility and Convenience**
  The possibility to shop anytime, from anywhere is the most obvious and most commonly cited advantage of online marketing, and was found to be the most important perceived consumer benefit of internet shopping.

- **Global Choice**
  Since the boundaries of online marketing are not defined by geography or national borders, consumer will benefit from a wide selection of vendors and products - including a wider availability of hard-to-find products.

- **Online Delivery**
  For digital products, the whole commercial cycle, including distribution, can be conducted via a network, providing instant access to products immediately when a need arises.

- **Test and Trial Online**
  Digital products can be tested over the internet prior to making purchase decisions, reducing uncertainty.

- **The Real Time Nature of the Medium**
  The internet can provide consumers with up-to-the minute information on prices availability, etc.

- **Time Savings**
  Consumers may benefit from the shopping process being faster in the market space than in the market place as a result of the rapidity of the search process and the transactions.

- **Possibilities for Comparison Shopping**
  By allowing consumers to shop in many places and conduct quick comparisons of offerings and prices (Hoffman et. al. 1995, Hart et al. 2000), Internet market places have the ability to reduce search costs for price and product in formations.

- **Access to Extensive Information**
  An important consumer benefit is the access to greater amounts of dynamic information to support queries for consumer decision-making.

- **Privacy and Anonymity**
  The internet has the potential to offer consumers benefits with respect to a partial, or even a total privacy and anonymity/pseudonymity throughout the purchasing process.

- **Competitive Prices**
  By embracing online marketing consumers may benefit from price reductions as a result of increased competition as more suppliers are able to compete in an electronically open market place as a result of reduced selling prices due to reduction in operational/transaction costs and manufacturers internalizing activities traditionally performed by intermediaries.

**Availability of Personalized Offers**

Consumers can benefit from IT enabled opportunities for personalized interactions and one-to-one relationships with companies, which allow for products, services and web content to be, customized more easily.

**The Social Nature of Purchasing Process** Since consumers differ in their social disposition, Many customers may find an impersonal purchasing situation desirable for social reasons or simply because they find the verbal contact with a seller time-consuming. Moreover, the lack of physical sellers creates sales setting where there is virtually no pressure to buy.
Conclusion

Customer satisfaction has a direct impact on loyalty and hence businesses should focus on satisfying their customers. Customers should be encouraged to make use of the online customer support services in case of any inconvenience. Also, in internet shopping, customers decide to purchase a product or service based on its review. By providing reviews, a customer indirectly recommends the brand or product to others. Since product or service review is increasingly important for its growth, online customer should encourage their customers to provide constructive feedback in their websites.

To summarize, online businesses will have to focus on acquiring new customers through advertisement, publicity and discount packages. These customers will have to be retained and satisfied as both lead to higher levels of customer loyalty. However, it is a big challenge to retain customers and urge them to be loyal in a volatile environment like internet shopping.

Online shopping is becoming more popular day by day with the increase in the usage of World Wide Web known as www. Understanding customer's need for online selling has become challenge for marketers. Specially understanding the consumer's attitudes towards online shopping, making improvement in the factors that influence consumers to shop online and working on factors that affect consumers to shop online will help marketers to gain the competitive edge over others.

References
CUSTOMER PERCEPTION TOWARDS BANK SYSTEM (BS) IN COIMBATORE DISTRICT

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Abstract

IMPS – is formed as Inter-bank Mobile Payment Service or Immediate Payment Service. This explained an inter-bank electronic instant mobile money transfer service through mobile phones. It is similar to NEFT, the electronic fund transfer service; it can be initiated only through mobile phones. Financial services provided through digital mobility technologies have multiple configurations, goals, and characteristics. Depending on the combination of agents, technologies and objectives, they may have banking features, which are known as mobile banking. The study has made an attempt to study about the customer perception towards inter bank mobile payment system (imps) in Trichy district.

Introduction

Mobile payment is defined as the use of mobile devices, such as mobile phone, to commit payment transactions. Mobile devices can be used both for proximity and remote payments. Payment transactions have also several other attributes, such as the timeliness, size and credit aspects of payment transactions. The term payment solution is used as a condensed concept, which includes payment method, payment instrument, one or more application areas (use cases) of mobile payments, technologies applied, payment transaction parties and other attributes of payment transactions. The rapid rise in the growth of mobile technology throughout the world is a phenomenon that has been particularly remarkable among poor people, largely because of the prepaid model. As a result, all classes of society now have access to financial services as people become increasingly familiar with a mobile-money system. In fact, mobile technology, viewed as a payment or banking channel, has the potential to allow two important questions to be addressed at the same time: on the demand side, it represents an opportunity for financial inclusion among a population that is underserved by traditional banking services.

Immediate Payment Service (IMPS) is a payment service introduced by National Payments Corporation of India (NPCI). The service, launched as an instant mobile remittance solution in November, 2010 has today evolved as a multi-channel, multi-dimensional remittance platform. The IMPS platform today is capable of processing P2P (Person to Person), P2A (Person to Account) and P2M (Person to Merchant) remittance and transactions can be initiated from Mobile, Internet as well as ATM channel. In addition to banking customers, on-banking customers can also avail the IMPS facility through Reserve Bank of India (RBI) approved PPIs.

Challenges –Key

- Leveraging on new technology
- Acquire various services as part of their existing settlement networks
- Fraud prevention and security standards
- Risk Management
- Reporting, auditing and Campaign Management
Asokan, (2000) Over the years we have experienced a progression of value transfer systems starting from barter, through bank notes, payments orders, cheques, and later Credit Cards. This has finally evolved into Electronic payment systems which enables commerce on the Internet.

Ackorlie, (2009) Modern trends indicate that electronic payment systems have become a significant element in all trade and commerce activities globally. The scope of electronic payments extends from under one dollar to Multi-Million dollar transactions. Despite the benefits that electronic payment systems has brought to other economies such as the western developed countries, economies in Africa, which are still in the early stages of applying electronic payment systems are yet to experience its maximum economic and operational impact.

**IMPS - An Overview**

Its NPCI (National Payment Corporation of India) who has carried out IMPS as a pilot project based on mobile payment system initially 4 member banks viz State Bank of India, Bank of India, Union Bank of India and ICICI Bank in August 2010. After that Yes Bank, Axis Bank and HDFC Bank have joined this pilot in month of September, October and November 2010 respectively. Thus Immediate Payment Service (IMPS) publicly launched on 22nd November 2010 by Smt. Shyamala Gopinath, DG RBI Mumbai.

**Mobile Payment Characteristics**

- **Simplicity and Usability:** The m-payment application must be user friendly with little or no learning curve to the customer. The customer must also be able to personalize the application to suit his or her convenience.

- **Universality:** M-payments service must provide for transactions between one customer to another customer (C2C), or from a business to a customer (B2C) or between businesses (B2B). The coverage should include domestic, regional and global environments. Payments must be possible in terms of both low value micro-payments and high value macro-payments.

- **Interoperability:** Development should be based on standards and open technologies that allow one implemented system to interact with other systems.

- **Security, Privacy and Trust:** A customer must be able to trust a mobile payment application provider that his or her credit or debit card information may not be misused. Secondly, when these transactions become recorded customer privacy should not be lost in the sense that the credit histories and spending patterns of the customer should not be openly available for public scrutiny.

- **Cost:** The m-payments should not be costlier than existing payment mechanisms to the extent possible. A m-payment solution should compete with other modes of payment in terms of cost and convenience.

- **Speed:** The speed at which m-payments are executed must be acceptable to customers and merchants.

**Objectives**

1. To study the socio-economic conditions of mobile customers in Trichy District
2. To enable bank customers to use mobile instruments as a channel for accessing their banks accounts and remit funds
3. To examine the transfer of funds through beneficiary mobile number.
The growth of mobile payments has been rapid; it is far from becoming an important source of financial services. IMPS provides an inter-operable infrastructure to the banks for enabling inter-bank real-time funds transfer transactions. It has the potential for the wide reach across the country when all member banks adopt services and promote this service aggressively. It is another step towards achieving its stated vision of becoming a true umbrella organization for retail payment.

References

Table

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Conclusion

The growth of mobile payments has been rapid; it is far from becoming an important source of financial services. IMPS provides an inter-operable infrastructure to the banks for enabling inter-bank real-time funds transfer transactions. It has the potential for the wide reach across the country when all member banks adopt services and promote this service aggressively. It is another step towards achieving its stated vision of becoming a true umbrella organization for retail payment.
MARKET RESEARCH ON FACTORS AFFECTING CUSTOMER SATISFACTION IN RETAIL BANKING

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Abstract
Business success in today’s competitive markets requires a high understanding and respect of the customer. In recent years, the banking industry around the world has been undergoing a rapid transformation. Today, banking is regarded as a consumer-oriented services industry and banks have started realizing that their business increasingly depends on the quality of the consumer service provided and overall satisfaction of the customer. Relationship marketing has become the most critical aspect to corporate banking success. Total 100 respondents have been taken by applying convenience sampling method. The main objective of this paper is to identify all the main factors that influence the customer satisfaction in retail Banking. The research method will help in examining the various factors those results in satisfaction in Retail banking. In the current circumstances of retail banking in India, particularly with banks becoming larger, the closure of branches and the widespread use of Internet banking, the question becomes whether the customers are satisfied or not and what are the rudiments of retail banking which lead to the satisfaction or dissatisfaction of its customers.

What is Retailing?
Retailing encompasses the business activities involved in selling goods and services to consumers for their personal, family, or household use. It includes every sale to the final consumer. Retailing is also the last stage in the distribution process (Barry Berman, Joel R. Evans, Retail Management: a strategic approach).

Today the retail trade comprises a wide and varied collection of outlets for goods and services. In order that retail exchange can take place, the retailer must offer to sell products and services that are valued by customers. Retailers create value for customers by offering the right merchandise, creating a pleasant atmosphere, decreasing shopping risks, increasing shopping convenience and reducing price by controlling costs. (Tony Kent, Ogenyi Omar, retailing)

Retailers provide important functions that increase the value of the product and services they sell to consumers and facilitate the distribution of those products and services for the manufacturers to produce them. These value-creating functions include:
1. Providing an assortment of products and service
11. Breaking bulk
12. Holding inventory
13. Providing services

Retailers are the final business supply chain that links manufacturers to consumers. A supply chain is a set of firms that make and deliver a given set of goods and services to the ultimate consumer.
Review of Literature

Johnston (1997) promoted the notion that banks, in general, were to all intents and purposes, 'barking up the wrong tree' by enhancing service quality and these efforts in turn had little or no effect on improving customer satisfaction.

M Luth et al. (2006) have found five dimensions of customer satisfaction namely quality of goods, consulting and service, atmosphere, price-performance ratio, and trust. They have also found that discount-oriented customers, organic food shop customers and organic supermarkets are differing in terms of choice decision.

Bernadette D'silva et al. (2010) concludes that Indian shoppers are quite influenced by the visibility, advertising and attractive bumper offers on the product. They have found some important factors which can increase the customer's loyalty as well as the demand for the products in the supermarkets.

Objectives

The Specific Objectives Framed for the Present Study are:

- To identify the Socio-demographic variable (e.g. age, gender)
- To find out the influencing factors affected to customer satisfaction towards retail Banking.

Methodology

The validity of any research is based on the systematic method of data collection and analysis. The study employs primary data as well as secondary data. Secondary data was collected from different published sources. Primary data was collected by structured survey from 100 sample respondents. The sampling used by the Researcher is convenience sampling.

Limitations of the Study

1. The study was restricted to the respondents in particular area.
2. The sample of 100 makes it difficult to generalize the results.

Table 1: Descriptive Analysis – Personal Factors

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The factors studied are

- Services provided by the banks
- Risk and Privacy implemented by the banks
- The image or personality of the banks
- Banking convenience felt by the customers
- Pricing policies of the banks
- Charges levied by the banks
- Maintenance of relationship with the customers

Conclusion

To sum up, the main contribution of this study is the provision of an approach for the management of the banks to identify the factors of customer satisfaction and future intentions towards them. The approach has integrated constructs or items beyond the service quality to capture the sphere of influence of major factors that drive customer satisfaction.
References


MULTI-CLOUD USING ENHANCED ACO ALGORITHM

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Abstract
The need of efficient computing is increasing day by day. In order to satisfy this need, various technologies are invented and implemented in recent years. Multi-cloud computing is a hardware and software infrastructure which offers high performance computing, data storage and resource distribution. Additionally, it also provides various hardware and software services. The cloud infrastructure has two critical issues, firstly privacy and security, and secondly the resource planning and management. In this work resource management is taken as primary issue. That is a software level conflict, which takes place when more than two jobs are looking for the same resources and both are unsatisfied with the existing one. Thus in order to manage such condition, resource scheduling algorithm is utilized. Afterward for optimizing more the scheduling is prepared using traditional ACO algorithm. After implementing them, we observed that resource scheduling is an optimization problem thus ACO algorithm is slightly modified. Finally, the performances of all implemented algorithms are compared in terms of time and space complexity and their scheduling performance. Among them proposed algorithm found optimum and delivers high performance resource allocation.

Keywords: Cloud Computing, Resource Scheduling, Ant Colony Optimization Algorithm.

Multi-Cloud
Multi-cloud computing is the use of more than one cloud environment to satisfy business requirements. These clouds may be all of the same type or a mix of types: a business might have multiple private clouds, multiple public clouds and multiple managed clouds, including managed services or service providers. Multi-cloud computing can be used by enterprises, website providers, developers and other businesses to minimize the risks of data loss and downtime and to increase compute power or quality of service (QoS). The multi-cloud strategy can also help companies avoid getting locked into the rates of a single vendor and missing out on lower-cost options. Multi-cloud computing can also be used to support groups with different needs and purposes or to provide for a higher quality experience for premium users. Being able to rely on hardware in multiple locations and perhaps from multiple providers drastically decreases the chances of issues preventing service or impacting QoS. Additional redundant cloud facilities can further improve the odds. The shift to a multi-cloud model changes the question of how to choose between private and public clouds to how to choose the right cloud at the right costs with the right characteristics. The use of multiple clouds can help an organization adapt to changing IT environments and reduce the need to replace hardware and appliances.

Scheduling
Job scheduling is performed using job schedulers. Job schedulers are programs that enable scheduling and, at times, track computer "batch" jobs, or units of work like the operation of a payroll program. Job schedulers have the ability to start and control jobs automatically by running prepared job-control-language statements or by means of similar communication with a human operator. Generally, the present-day job schedulers include a graphical user interface (GUI) along with a single point of control. Organizations wishing to automate unrelated IT workload could also use more sophisticated attributes from a job scheduler, for example:
Real-time scheduling in accordance with external, unforeseen events
Automated restart and recovery in case of failures
Notifying the operations personnel
Generating reports of incidents
Audit trails meant for regulation compliance purposes

In-house developers can write these advanced capabilities; however, these are usually offered by providers who are experts in systems-management software.

In scheduling, many different schemes are used to determine which specific job to run. Some parameters that may be considered are as follows:

- Job priority
- Availability of computing resource
- License key if the job is utilizing a licensed software
- Execution time assigned to the user
- Number of parallel jobs permitted for a user
- Projected execution time
- Elapsed execution time
- Presence of peripheral devices
- Number of cases of prescribed events

Ant colony optimization

Ant colony optimization (ACO) is a population-based metaheuristic that can be used to find approximate solutions to difficult optimization problems. In ACO, a set of software agents called artificial ants search for good solutions to a given optimization problem. To apply ACO, the optimization problem is transformed into the problem of finding the best path on a weighted graph. The artificial ants (hereafter ants) incrementally build solutions by moving on the graph. The solution construction process is stochastic and is biased by a pheromone model, that is, a set of parameters associated with graph components (either nodes or edges) whose values are modified at runtime by the ants.

Aco in multi cloud computing

An essential requirement in cloud computing environment is scheduling the current jobs to be executed with the given constraints. Cloud Computing is also about how IT is provisioned and used and not only about technological improvements and also the scheduling of data centers. The main target of scheduling is to maximize the resource utilization and minimize processing time of the tasks. The scheduler should order the jobs in a way where balance between improving the quality of services and at the same time maintaining the efficiency and fairness among the jobs. An efficient job scheduling strategy must aim to yield less response time, so that the execution of submitted jobs takes place within a stipulated time and simultaneously there will be an occurrence of intime resource reallocation. As a result of this, jobs takes place and more number of jobs can be submitted to the cloud by the clients which ultimately results in accelerating the business performance of the cloud system. His study aims at analyze and investigate four job scheduling algorithms under cloud environment, namely, Round Robin (RR), Random Resource Selection, Opportunistic Load Balancing and Minimum Completion Time, in terms of their ability to provide quality service for the tasks and guarantee fairness amongst the jobs served. Furthermore, study the behavior of these scheduling algorithms and determine the most appropriate job scheduling algorithm for running jobs under cloud environment as a solution based on Ant Colony Optimization.
Abstract

Financial sector plays an important role in the economic development of a country. Banking is the lifeline of an economy. A strong and healthy banking system is important requirement for economic growth. Indian banking industry, today is observing an IT revolution. The implementation of internet in banking organizations has modernized the banks. Implementing the internet banking approach has benefited the both i.e. consumers as well as banks. Considering the benefits, the banks all over the globe have implemented the internet banking and banking organizations in India are no exception. The competition among the banks has led to the increasing total banking automation in the Indian banking industry. E-Banking is a generic term encompassing internet banking, telephone banking, mobile banking etc. The E-Banking services are executed only upon the customer, and these e-banking services would fully integrate with the core banking solution that is already in usage. The objective of the present paper is to examine and analyze the progress made by Internet Banking in India.

Keywords: E-Banking, Information Technology, Internet Banking.

Introduction

E-Banking refers to electronic banking, wherein the entire operations are done by the customer through his computer system by using a code. It maintains secrecy of transactions. The customer will be instructing the banker through the computer with regard to transfer, investment and repayment of loans or appropriation of different payments. Information Technology has become a necessary tool in today’s organizations. Banks today operate in a highly globalized, liberalized, privatized and a competitive environment. IT has introduced new business paradigm. It is increasingly playing a significant role in improving the services in the banking industry Indian banking industry has witnessed a tremendous developments due to sweeping changes that are taking place in the information technology. Internet or online banking through traditional banks enable customers to perform all routine transactions, such as account transfers, balance inquiries, bill payments and stop-payment requests, and some even offer online loan and credit card applications. Internet banking is a web-based service that enables the banks authorized customers to access their account information. The banking industry can kill two birds with one stone that is with help of technology. Tremendous progress took place in the field of technology which has reduced the world to a global village and it has brought remarkable changes in the banking industry.

Channels of E-Banking

- Automated Teller Machines (ATMs): An automated teller machine or automatic teller machine (ATM) is an electronic computerized telecommunications device that allows a financial institution’s customers to directly use a secure method of communication to access their bank accounts, order or make cash withdrawals (or cash advances using a credit card) and check their account balances without the need for a human bank teller.
Internet Banking: Internet Banking is a convenient way to do banking from the comfort of your home or office. Avoid the queue or delays and try our simple and secure Internet Banking facility for an unmatched online banking experience.

Mobile Banking: refers to the use of a smartphone or other cellular device to perform online banking tasks while away from your home computer, such as monitoring account balances, transferring funds between accounts, bill payment and locating an ATM.

Phone Banking: Phone banking is the provision of banking services using a classic telephone line. A bank client can obtain the necessary information on dialing a telephone number specified in advance. Before the requested banking service information is provided, the client’s identity is determined using contractually agreed terms.

Tele banking: By dialing the given Telebanking number through a landline or a mobile from anywhere, the customer can access his account and by following the user-friendly menu, entire banking can be done through Interactive Voice Response (IVR) system.

Electronic Clearing Services: is an electronic mode of funds transfer from one bank account to another. It can be used by institutions for making payments such as distribution of dividend interest, salary, pension, among others. It can also be used to pay bills and other charges such as telephone, electricity, water etc.,

Smart Cards: A smart card usually contains an embedded 8-bit microprocessor (a kind of computer chip). The microprocessor is under a contact pad on one side of the card. Think of the microprocessor as replacing the usual magnetic stripe present on a credit card or debit card. The microprocessor on the smart card is there for security. The host computer and card reader actually "talk" to the microprocessor. The microprocessor enforces access to the data on the card. The chips in these cards are capable of many kinds of transactions.

SMS Banking: SMS Banking SMS banking uses short text messages sent through the client’s mobile phone. SMS text messages can be used for both passive and active operations similarly as with classic telephone banking. A client can automatically receive information about his account balance

Electronic Fund Transfer: is the electronic transfer of money from one bank account to another, either within a single financial institution or across multiple institutions, via computer-based systems, without the direct intervention of bank staff

Advantages of E-Banking
- Round the clock banking
- Convenient banking
- Low cost banking
- Profitable banking
- Quality banking
- Speed banking
- Service banking

Constraints in E-banking
- Heavy start up cost
- Spend more cost for training & maintenance
- Lack of skilled personnel
Security problem
- Restricted Clientele & Technical problem
- Restricted business transactions

Challenges in E-banking

- **People’s trust**: Most consumers prefer conventional/branch banking for most of their transactions because of their lack of trust on online system. People perceive that online system of banking is risky/un safe because of security concerns. Sometimes, amount is deducted from their account while initiating transactions without actual processing of that transaction.

- **Knowledge about E-banking**: Most of the customers are unaware as to how to use e-banking system of carrying out transactions. In the Indian context, awareness among consumers is pretty low. They do not have proper knowledge about the use, benefits and facilities offered by e-banking system.

- **Safety and security of transactions**: E-banking transactions may not be safe and secure every time. There is a risk of loss of data or hacking due to technical defaults.

- **Lack of adequate infrastructure for installation of e-delivery channels**: Some of the banks lack the adequate infrastructure required for the set up of e-delivery channels. Developing the right technology, using it optimally and leveraging it to the best is essential to ensure cost effective delivery standards.

- **Customer awareness and satisfaction**: In today’s competitive world, satisfying Customers is a major challenge for services sector, especially banking, because banks offer undifferentiated products and services.

Conclusion

With the time, the concept of internet banking has got attention in the Indian context. Most of the banks have already implemented the e-banking facilities, as these facilities are beneficial to both i.e. banks as well as consumers. The banks are facing many challenges and many opportunities are available with the banks. Many financial innovations like ATMs, credit cards, RTGS, debit cards, mobile banking etc. have completely changed the face of Indian banking. Thus, there is a paradigm shift from the seller’s market to buyer’s market in the industry and finally it affected at the bankers level to change their approach from "conventional banking to convenience banking" and "mass banking to class banking". The shift has also increased the degree of accessibility of a common man to bank for his variety of needs and requirements. In years to come, e-banking will not only be acceptable mode of banking but will be preferred mode of banking.
A STUDY ON FACTORS INFLUENCING THE PASSENGERS TO SELECT TRAIN TRAVEL AT ERODE, SALEM DIVISION - SOUTHERN RAILWAY

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Abstract
An audit is a systematic and independent examination of books, accounts, statutory records, documents and vouchers of an organization to ascertain how far the financial statements. E-auditing is a generic term that covers a number of similar activities. Other popular terms include 'Interrogations', and CAATs or CAATTs. More recently 'continuous auditing' and 'data mining' have also emerged. To remain on-time, look for solutions with automated e-mail reminders for when a form is late, and a dashboard that shows new hire start dates. Imaging technology also allows all documents, whether paper or digital, to be included in electronic verification, reporting and e-mail alerts. A flexible system enables companies to transfer historical documents into a new database, so the documentation can be checked for accuracy and completion, and included in reports. An employee requests a copy the new rule requires the employer to provide one. Find a solution that's trusted by organizations who have successfully been through an audit. The E-Verify system has an abundance of federal rules and regulations, which employers must comply with. Vendors authorized by the government as designated E-Verify agents can help employers remain compliant in their access of the system. Data is available at your fingertips, meaning you save time and money whilst maintaining the highest standards. Easy to create, multiple scoring options and quick to complete means you can get the checks that you want delivering results quickly. Keep an eye on standards at every site for every activity.

Introduction
An audit is a systematic and independent examination of books, accounts, statutory records, documents and vouchers of an organization to ascertain how far the financial statements as well as non-financial disclosures present a true and fair view of the concern. It also attempts to ensure that the books of accounts are properly maintained by the concern as required by law. Auditing has become such a ubiquitous phenomenon in the corporate and the public sector that academics started identifying an "Audit Society". The auditor perceives and recognises the propositions before them for examination, obtains evidence, evaluates the same and formulates an opinion on the basis of his judgement which is communicated through their audit report.

E-Auditing
E-auditing is a generic term that covers a number of similar activities. Other popular terms include 'Interrogations', and CAATs (Computer Assisted Audit Techniques) or CAATTs (Computer Assisted Audit Tools and Techniques). More recently 'continuous auditing' and 'data mining' have also emerged. In essence it is the use of computers and computer software to extract useful information from an organisation's computer systems. Business information systems are getting ever more complex, and IT staffs are usually fully occupied keeping these running, and developing new systems. However, it is possible to develop CAATs capabilities within an organization through the use of specialist IT staff, in
the first instance, in conjunction with knowledgeable business staff and to subsequently utilize these on a cost effective and regular basis.

**Features of E - Auditing Time-Tracking Tools**

To remain on-time, look for solutions with automated e-mail reminders for when a form is late, and a dashboard that shows new hire start dates.

**Paper and Electronic form Support**

“Employers may use paper, electronic systems, or a combination of paper and electronic systems.” Imaging technology also allows all documents, whether paper or digital, to be included in electronic verification, reporting and e-mail alerts.

**Flexibility**

“Employers may change electronic storage systems as long as the systems meet the performance requirements of the regulations.” A flexible system enables companies to transfer historical documents into a new database, so the documentation can be checked for accuracy and completion, and included in reports. This attribute also allows companies to switch to other vendors or build in-house custom solutions in the future.

**Audit Trail Documentation**

“Employers need to retain audit trails is created, completed, updated, modified, altered, or corrected.” The final rule says that an employer needs to have an audit trail for each form.

**Built in Process for Employee Requests**

An employee requests a copy the new rule requires the employer to provide one. Choose an electronic solution that includes a built-in process for issuing employees copies of their forms as printable PDF documents.

**Proven Audit Experience**

Find a solution that's trusted by organizations that have successfully been through an audit. Ask the solution vendor if any of their clients have completed an audit with common auditors like the Immigration and Customs Enforcement (ICE) or Office of Federal Contract Compliance Programs (OFCCP). To obtain the best protection, choose a solution that has a proven track record of withstanding audits with maximum compliance and minimal penalties.

**Leader in Electronic Signature Security**

If there is any question as to whether the employee actually signed section one of the form, the entire form will likely be seen as invalid and out of compliance by the federal government. Look for a solution provider that has delivered electronic I-9 solutions since 2004, when the electronic signature was approved by the federal government. These industry leaders will have the most experience in providing effective solutions for ensuring the accuracy of the electronic signature.

**E-Verify Agent Designation**

The E-Verify system has an abundance of federal rules and regulations, which employers must comply with. Vendors authorized by the government as designated E-Verify agents can help employers remain compliant in their access of the system. Noncompliance can result in a fine and exclusion from
soliciting state and federal contracts. Additionally, if an employer uses the E-Verify system incorrectly and it prohibits an eligible employee from working, that worker may sue the employer.

**ON-Demand Reporting**

A solution with on-demand reporting will save companies time by allowing them to access data at any time in custom-configured reports. In the event of an audit, this feature is invaluable for building the specific reports auditors need. On-demand reporting will also allow companies to export all their data into a flat file so they can see the entire program in one view and check for compliance.

**Benefits of E-Audits**

With e-audits compliance management software you are using the latest technology, built by highly skilled programmers, who have been guided by experts working in businesses like yours. This means that we are able to offer you the perfect solution for your needs.

**Make savings**

Data is available at your fingertips, meaning you save time and money whilst maintaining the highest standards. Less time spent chasing actions as Action Manager manages it for you. Reduce external audits as your internal records are checked and managed centrally. Design for all levels of users means you can delegate more checks down through the business, reducing costs and increasing accountability. Higher standards mean happy customers and staff, fewer problems and less claims.

**Drive compliance and quality**

Easy to create, multiple scoring options and quick to complete means you can get the checks that you want delivering results quickly. Keep an eye on standards at every site for every activity any time, anywhere. The ability to identify and deal with issues quickly leads to greater accountability. Dashboards and real-time alerts are customisable so that you can see what is important to you. Built with communication in mind for maximum benefit to your business. Easily build your own checks or use an off-the-shelf template. We can advise and help you to get the most from your compliance systems.

**Manage Actions**

Tasks identified can be allocated easily, even automatically, to the right people and you can monitor right through to completion.

**Typical Uses of E-Audits**

- Daily weekly and monthly site manager checks
- Area Manager inspections
- Risk assessments
- Stock and wastage checks
- Safety and legal compliance audits
- Signage requirement checks
- Scores on the doors prediction
- Quality checks

**Audit Procedures in an E – Audit**

Organizations have the challenge of dealing with employees' honesty and trustworthiness. Auditing is used to circumvent any question of integrity. An electronic data processing audit is an evaluation of the accuracy and proper function of an organization's data processing. Organizations mainly audit the
accounting department. Other areas like project management, quality management and energy conservation are also audited. Auditing ensures compliance and checks on fraud of the company's resources.

Get Electronic Data
To commence the auditing process, auditors must first retrieve the data stored in the computer. Documents such as sales receipts and supplies invoices are used to verify the data entered into the computer. This ensures that correct information was input into the computer.

Data Conversion
Organizations use different types of software to store their data. This data should be converted from the stored software to the auditing software. This is done using special software programs known as package and utility programs. This ensures that there is no inconsistency when auditing data stored in different software.

Compliance Test
Auditors need to verify that procedures followed when entering data into the data processing system are being applied as prescribed. These procedures act as the underlying evidence of whether the accounting data is correctly fed into the processing system. Obtaining this evidence involves reviewing the accounting journals, ledgers and worksheets. Compliance tests, which are tests used to verify the correct functioning of internal controls, are then carried out to indicate whether such internal controls are working properly. This provides the auditor with the overall picture of the truthfulness of data entered in the processing system.

Substantive Test
Auditors obtain evidence to verify the completeness, validity and accuracy of a client's records. This evidence is an important factor in determining the auditor's opinion on the records. Substantive tests in a merchandising firm would include examining inventory at the end of the period to verify that the levels of such inventory are as indicated in the records. An auditor can also request that suppliers confirm in writing the details of the debts owed by a firm at the end of the trading period.

Reporting
The main aim of an audit is to report to the client. A report should be written and signed after completing the audit examination; it also should include the auditor's opinion and the basis for it. The date of the report should also be included, along with recommendations for improvements of the entity's reporting system. Finally, reports should be objective, clear, concise and timely.

Conclusion
In manual accounting, by the original vouchers and accounting documents, accounting vouchers to the registration books, and finally to the preparation of the statements, each step has written and signature of agent, thus the audit trail is very clear. But in computerized accounting system, the operating characteristics of computer's characteristics and accounting software, produced. In the manual audit conditions, carrier of accounting information is the paper medium; and audit conditions in the computer, accounting data stored on the hard disk, floppy disk, hard disk, soft magnetic media, which included the whole electronic data processing system. Compared with the paper medium, magnetic medium is easy to erase, unstable characteristics. Originally, accounting information is altered, is a legitimate and correct an important evidence, but in computerized system, correction can be done without a trace.
VEHICULAR AD HOC AND SENSOR NETWORKS:
PRINCIPLES AND CHALLENGES

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Abstract
The instant increase of vehicular traffic and congestion on the highways began disturbing the safe and efficient movement of traffic. Consequently, year by year, we see the ascending rate of car accidents and casualties in most of the countries. Therefore, exploiting the new technologies, e.g. wireless sensor networks, is required as a solution. This has motivated us to propose a novel and comprehensive system to utilize Wireless Sensor Networks for vehicular networks. We coin the vehicular network employing wireless Sensor networks as Vehicular Ad Hoc and Sensor Network, or VASNET in short. The proposed VASNET is particularly for highway traffic. VASNET is a self-organizing Ad Hoc and sensor network comprised of a large number of sensor nodes. In VASNET there are two kinds of sensor nodes, some are embedded on the vehicles-vehicular nodes- and others are deployed in predetermined distances besides the highway road, known as Road Side Sensor nodes (RSS). The vehicular nodes are used to sense the velocity of the vehicle for instance. We can have some Base Stations (BS) such as Police Traffic Station, Firefighting Group and Rescue Team. The base stations may be stationary or mobile. VASNET provides capability of wireless communication between vehicular nodes and stationary nodes, to increase safety and comfort for vehicles on the highway roads. In this paper we explain main fundamentals and challenges of VASNET.

Keywords: Wireless Sensor Networks (WSN), Mobile Ad Hoc Networks (MANET), Vehicular Ad Hoc Networks (VANET), Vehicular Ad Hoc and Sensor Network (VASNET), Data Fusion, Localization, Routing.

Introduction
As reported by the National Highway Traffic Safety Administration (NHTSA), the car accidents on highways have an ascending rate. In the US only, vehicles’ crashes on the highways resulted in the loss of as many as 40,000 lives and overall economic losses of more than $230 billion. These lugubrious statistics have motivated both academician and industrial researches to find out a solution. However, Vehicular networks have received intensive of research work in the recent years. Vehicular Ad Hoc Network (VANET) is the most important component of Intelligent Transportation System (ITS) in which vehicles are equipped with some short-range and medium-range wireless communication. In VANET two kinds of communication are supposed: Vehicle-to-Vehicle and Vehicle-to-road side units, where the road side units might be cellular base station for example. From the definition of VANET, a salient challenge is obvious. Suppose at the mid-night in some rural area, a vehicle has a very important data packet (i.e. detection of an accident) which should be forwarded to the following vehicles immediately. The probability of low density of vehicles in the rural areas at mid-night is very high. Consequently, in this situation the packet will be lost due to lack of presence of other vehicles to receive and broadcast it, and arrival of the following vehicles in the accident area is unavoidable. If the above discussed accident occurs in a tunnel and fire takes place, a tragedy may turned out by presence of the other vehicles; do remember tragedy of tunnel of the Mont-Blanc between France and Italy. To overcome this serious issue, we suppose to utilize wireless sensor nodes on both sides of the highway too. We call our proposed system as Vehicular Ad Hoc and Sensor Networks or in short VASNET. The motive behind VASNET is safety on highway roads, since many lives were lost and many more injuries have been occurred because of the car accidents. There are two types of sensor nodes in suggested
VASNET, some are embedded in the vehicles – known as vehicular Nodes (VN)- and others are deployed in predetermined distances besides the highway road, known as Road Side Sensor nodes (RSS).

Related Works
GPS-based Vehicular Networks
Vehicles gain benefit of Global Positioning System (GPS) in, an Offline and Online Mode too. A device - GPS receiver-embedded on vehicles was deemed in both modes, which can receive the satellites’ signals and estimate the position of the vehicle. An MMC Card is required for each vehicle to save data in an offline mode, whereas in the online mode, a GMS is exploited to send data to the station by the SMS format. The data stored in the MMC Card can be retrieved via sophisticated software

Vehicular Ad Hoc Network (VANET)
Vehicular Ad Hoc Networks (VANET) upon implementation should collect and distribute safety information to massively reduce the number of accidents by warning drivers about the danger before they actually face it. VANET consist of some sensors embedded on the vehicles. The onboard sensors’ readings can be displayed to the drivers via monitors to be aware of the vehicle condition or emergency alarms, and also can be broadcasted to the other adjacent vehicles. VANET can also be helped by some of Roadside Units like Cellular Base Stations, to distribute the data to the other vehicles. VANET makes extensive utilization of wireless communication to achieve its aims. VANET is a kind of Mobile Ad Hoc Networks (MANET) with some differences, like Limitation in Power: in MANET, power constraint is one of the most important challenges which has shadowed all other aspects namely routing, fusion, on the other hand in VANET, huge battery is carried by the vehicle, so, energy consumption is not a salient issue, Moving pattern: which is random in the MANET while vehicles tend to move in an organized fashion in VANET, and Mobility: there is high mobility in the VANET in comparison to MANET. However, self-organization and lack of infrastructure are similarities between MANET and VANET.

There are Some Salient Challenges in VANET such as:
● As mobile nodes (vehicles) moving with high mobility, therefore quick changes in the VANETs topology are difficult to control.
● The communication between the vehicles is prone to frequent fragmentation.
● Rapid change in link's connectivity cause many paths to be disconnected before they can be utilized.
● There is no constant density in VANET, as in highways high density and in the rural low there is density.
● A message can change the topology, for instance, when a driver receives an alarm message, s/he may changes his/her direction, which may cause the change the topology.

Vasnet Topology
VASNET inherits its characteristics from both Wireless Sensor Networks (WSN) and Vehicular Ad Hoc Networks (VANET). There is no infrastructure for VANET, therefore the vehicular nodes do perform data collection as well as data routing. Therefore, the necessity of designing a new
architecture to overcome the mentioned challenges is transpicuous. In this paper, we propose a novel topology, which can be a suitable solution to over come VANET issues.

VASNET is a fusion of WSNs and MANET, which can be divided in to three layers. The upper layer consisting of traffic monitor stations, e.g. traffic police located at the cities. These are connected by either fiber optic cables to form the backbone of traffic information network. The middle layer is region layer, consisting of traffic check post located through highways. These stations can be connected via the Internet or local networks, and finally the lower layer is the field layer, consisting of WSN nodes deployed on beside the highway and onboard sensors which are carried by the vehicles. These nodes are connected by short-range or medium-range wireless communication. The components are as follows:

1. Vehicular Sensor Nodes; which are carried by the vehicles. These nodes are supposed to sense the real phenomena e.g. the velocity of the vehicle. The sensor readings are to be sent to the base stations via RSS nodes. These nodes can communicate with each other or the roadside sensor via short-range communication.

2. Road Side Sensors (RSS); are deployed in a fixed distance beside the road. RSSs act as cluster heads for vehicular nodes. RSS nodes receive the data from mobile nodes and retransmit towards the BSs. These nodes are equipped with two kinds of antenna, unidirectional and bidirectional. Unidirectional antenna is for broadcasting and directional antenna are intended for geocasting.

**Communication Architecture**

The sensor nodes are deployed in vehicles as well as both sides of highway roads. Vehicular nodes have the ability to collect imperative data and route data to the base stations. Sensor readings are routed to the end users by multi-hop infrastructure architecture via intermediate nodes i.e. RSS nodes. The protocols stack which may be used by CR-VASNET nodes is given in figure 2. The protocol stack consists of five layers and three planes. The planes are to help sensor node o coordinate the sensing tasks and lower overall power consumption. More specifically, the power management plane, manages power consumption for example defining sleep and wake status for the nodes. The mobility management plane monitors the movement of sensor nodes, so a route back to the user is always maintained. And finally, the task manager plane balance and coordinates the sensing tasks given to a particular given region. In the following subsections we investigate and briefly explain the specific design consideration of each communication layer of nodes with respect to dynamic spectrum management.

**Physical Layer**

Federal Communications Commission (FCC) [17] assigned a new 75 MHz band Dedicated Short Range Communication (DSRC) at the 5.9 GHz frequency for Intelligent Transportation Systems (ITS) applications in North America. The band is divided into seven channels as abstracted in the following figure.
A physical layer standard is being developed by the American Society for Testing and Material (ASTM), known as the ASTM E2213 standard. It uses Orthogonal Frequency Division Multiplexing (OFDM) as its modulation scheme and covers distances up to 1 km. Since OFDM is multi carrier modulation, data is split into multiple lower rate streams and each stream is used to modulate one of the subcarriers. Due to reduction of data rate, lower bandwidth is necessary for each carrier. Although high data rates can be achieved using OFDM. The performance of OFDM can degrade rapidly if careful considerations for synchronization and channel variations are not taken. OFDM is sensitive to frequency and phase errors. In VASNET the high mobility of the vehicles on opposite sides or between the vehicles and RSS nodes cause an increase in the received frequency. This important subject must be considered during the design of the receiver as it destroys the orthogonality of the carriers and increases ICI. The 48 carriers out of 64 carriers assigned by IEEE 802.11 are utilized for data, four of them are pilot carriers and the other are not used to reduce interference to other bands. Training sequences are used at the beginning of the packet for training and the pilot carriers channel response is extrapolated to estimate the channel response for the other carriers.

**Data Link Layer**

Generally, this layer is responsible for reliable sending and receiving of data frames between communicating nodes. The most important functionality of data link layer is medium access control (MAC). In VASNET, event driven messages should have the higher priority compared to other messages, like periodic and comfort message. Therefore, some mechanisms for service differentiation and admission control are indispensable. In fact, we can define three levels of priority for messages in VASNET: (1) event driven safety messages, (2) beaconing safety messages, and (3) comfort messages respectively in descending order. The required mechanisms are dependent on MAC layer policy. Recently IEEE 802.11a was selected by American Society for Testing and Material (ASTM) to be the fundamental for its standards of Dedicated Short Range Communication and IEEE 1609 group proposed DSRC as IEEE 802.11p standard. It is a promising MAC mechanism for VASNET. Furthermore, MAC layer based on UTRA TDD [13] enhanced by CarTALK can be an acceptable and practical mechanism for VASNET.

**Network Layer**

VASNET as an application of WSN needs special multi-hop wireless routing algorithm between the sensor nodes – both mobile and stationary- and the base stations. VASNET inherits network layer issues from traditional wireless sensor networks, and mobile Ad Hoc networks (MAENT) such as infrastructure-less, unstable topology, multi-hop networking, energy efficiency data-centric routing, attribute-based routing, localization, etc.

**Figure 4. Remaining Energy VS Number of events**

**Figure 5. Packet Loss VS Number of events**
Transport Layer

End-to-End reliable delivery, congestion control to preserve scarce network resources, e.g. energy, and taking care of application based QoS requirements are the major functionalities of transport layer. When sensor nodes detect an event, they try to send their readings towards base station. This makes a bursty traffic into the network. Significant sensory data must be reliably delivered to the base station to obtain detection and tracking an event signal. Simultaneously, if the multi-hop network capacity exceeds, congestion is the result. However, congestion is one of the obstacles to achieve to energy efficiency. There is delicate balance between reliability and energy efficiency, which has been the main focus of transport layer solution proposed for wireless sensor networks. While the mentioned balance between reliability and energy efficiency is owned by VASNET, designing an operative transport layer is an open research issue.

Application Layer

In case of wireless sensor networks, application layer may be responsible for some functions like generation of information, interest and data dissemination, feature extraction of event signals, methods to query sensors, and data aggregation and fusion. However, in our proposed system, these services have to utilize the capabilities of VASNT while conforming to its constraints. Therefore, designing of new protocols for this layer with respect to its pros and cons is required.

Conceivable Applications for Vasnet

Vasnet will play an important role for future automotive development since it has capability of providing wide range of service from safety, comfort, telematics and infotainment to diagnosis being the primary design requirements. Although sensors installed on vehicles are limited to have others sensors in their communication range, existence of roadside sensors extend the coverage range to multiple kilometres. In VASNET, vehicles and roadside sensors complement the local sensor data with sensor data received from the other vehicles. Furthermore, the specific properties of the system allow the deployment of a wide range of new attractive application and services which are neither feasible nor cost-effective with the other systems such as VANET. It presents a wide range of applications in the subjects of safety, convenience.

Safety Application

- Velocity Monitoring; the velocity is under control of the vehicular sensor nodes. When the vehicle’s speed is more than the authorized velocity, a report will be sent to the station via RSS nodes.
- Accident Notification, a vehicle can estimate the accident, if the accident takes place. Then with respect to existence of RSS nodes, it can calculate its position, and finally it sends the packet to the BSs e.g. Traffic Police, Rescue Team, Fire Fighting Groups, highway patrol for tow away support and also to the trailing vehicles.
- Road Hazard Control Notification; deals with cars notifying other cars about land sliding or existence of any obstacles such as rocks or snow.
- Cooperative Collision Warning; warns the drivers potentially under crash route so that they can mend their ways.
- Cooperative collision avoidance.
Convenience Application

- Theft Report; for a stolen vehicle, after the owner's report to the police, a query will be sent from the traffic station to all RSS nodes to find out the vehicle. The receiver of the packet then, broadcast it to the vehicles along road, the wanted vehicle's sensor will prepare a reply to the RSS, and the RSS adds the location and send back to the station.
- Electronic Penalty Bills; when a vehicle's sensor node detect an offence, such as high velocity, it sends a report to the traffic station and after its confirmation, the sensor will save the record in its database, e.g. date, time, location, etc. this data can also be updated through online.
- Congested Road Notification; detects and notifies about road congestions which can be used for routing and trip planning.

Conclusion

This presented a state-of-the-art survey in Vehicular Ad hoc and Sensor Network (VASNET), a fusion of Wireless Sensor Networks (WSN) and Mobile Ad Hoc Networks (MANETs), as a promising approach for future intelligent transportation system (ITS). However, we introduced some aspect and involved challenges. We explained feasible topology and communication architecture applicable to VASNET. And also conceivable applications were introduced. VASNET as a novel scenario for vehicular networks need a lot of research works. Hence, we state some of its requirements e.g. data fusion, localization and spectrum access.

References

INFORMATION TECHNOLOGY IN E-INSURANCE

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Abstract
The rapid innovation in the field of information and communication technology has posed serious challenges for the insurance industry in India. The use and application of information technology in wide variety of insurer’s operations has now become strategic in the sense that it has direct impact on the productivity of resources and a sweepening impact on reducing the cost of various activities. With the arrival of private insurance players, the competition has become more intense and an important role is being played by the insurance sector.

Even though the use of information technology is not new to the insurance sector, yet we may find tight compartmentalization regarding the use of information technology in various departments of the insurance companies including the major players since last 50 years. Therefore the imperative for all the insurers, especially LIC and GIC is to build up an efficient interface between the various departments and segments. This would reduce the paper work, improve efficiency of service delivery and provide competitive advantage to the Insurance companies. LIC has been one of the pioneering organizations in India introduced leverage of information technology in servicing their business. Data pertaining to almost 10 crore policies is being held on computers in LIC. The computer was introduced in 1964 in LIC unit record machines introduced in late 1950’s where 1980’s replaced by Micro processors based computer in branch and divisional offices for bank office computerization. Standardization of hardware and software commenced in 1990’s. Standard computer packages were developed and implemented for ordinary and salary saving scheme policies.

- Front end operations
- Metro area network
- Wide area network
- Interactive Voice response system v. Website
- Information Kiosks
- Info centers

E-Insurance
One of the easiest and convenient ways of handling the documents will be in electronic format or in dematerialized format. Advantages are already known to all by having stocks, FDs, Mutual Funds or Bonds. Now the turn is for your Insurance Policies.

To secure the policy documents and serve the clients in a better way IRDA recently launched the Repository system which will keep all your Insurance Policy documents into electronic format. Let us see the procedure and how we can convert our policies to E-Insurance.

Opening E-Insurance Account
An e-insurance account can be opened directly; with any of the insurance repositories; or through an insurer. Account opening is free of any charge and there are four insurance repositories to choose from: NSDL Database Management Ltd, Central Insurance Repository Ltd, Karvy Insurance Repository Ltd and CAMS Repository Services Ltd.
Even when you open the account through an insurer, at the time of buying an insurance policy, you can choose to go with any one of the four insurance repositories. To open the account, you will need Aadhaar or PAN and according to a repository we spoke to, mobile number and email id are also required.

**Technologies for Insurance**

The effective use of information technology had been more crucial to the success of the insurance industry. The insurance markets are being revolutionized by technology at a high speed pace. In a country like India where the risk factor are quite variable depending upon demographic and geographical spread, it is the ability of the insurers in properly administering its business which can ensure their survival. The networking facilities which have become available today enable the insurance industry to have in place systems for providing on the spot service facilities for its customers while keeping its data base at a centralized location. The kind of arrangement provides interesting working model, reduce cost of servicing but at the same time enables different users to access the data base and provide service on anywhere any time basis with M.I.S generation at all levels.

Dependent upon the movement of data and its access over network/leased lines/v-set, it is necessary arrangement and bandwidth. The establishment of network system but an effective I.T. security policy which must be put in place and be operational following technological advancement can really enhance the performance of insurance companies.

- Database management systems
- Data warehouse
- Decision support systems
- Group linking software
- Imaging and work flow technologies
- Mapping

**Call Center Technology**

A database management system (DBMS) is system software for creating and managing databases. The DBMS provides users and programmers with a systematic way to create, retrieve, Update and manage data.

In computing, a data warehouse (DW or DWH), also known as an enterprise data warehouse (EDW), is a system used for reporting and data analysis, and is considered a core component of business intelligence. DWs are central repositories of integrated data from one or more disparate sources. They store current and historical data in one single place that are used for creating analytical reports for workers throughout the enterprise.

The data stored in the warehouse is uploaded from the operational systems (such as marketing or sales). The data may pass through an operational data store and may require data cleansing for additional operations to ensure data quality before it is used in the DW for reporting.

**Decision Support System**

A decision support system (DSS) is a computerized information system used to support decision-making in an organization or a business. A DSS lets users sift through and analyze massive reams of data and compile information that can be used to solve problems and make better decisions. The benefits of decision support systems include more informed decision-making, timely problem solving and improved efficiency for dealing with problems with rapidly changing variables.
Group Linking Software’s
  Group-linking software enables sharing of information and particularly suits document heavy
insurance business tracking of policy application shows how information that is input and accessed
from a number of locations can increase efficiency.

Imaging and Work-Flow Technologies
  The proposal forms may be scanned into an imaging system data may be extracted for update to
computer and for automated underwriting workflow may be implemented.

Mapping
  Insurers to meet different needs such as identifying loss geographic claim analysis can use
mapping technology.

Call Center Technology
  Good customer service is a crucial element in gaining maintaining and retaining profitable
customer. Call center concept based on interactive voice response services is gaining importance in
this aspect. Employees based the primitive concept of call center on an enquiry system providing
information services to customers through telephone line answers.

Factor Affecting E-Insurance Growth of Net
  It is estimated that India would have about 150 million net users by 2010. These figures represent
a huge buying potential

Competition Pressures
  Insurance companies because of competitive pressures would be driven into internet rather than
clear Return on investment justification

Customer
  The availability of net-based services will be a huge factor for customer retention

Cross Sells
  When linked with other financial product, a portfolio approach to investment, savings and risk
coverage will increase cross sell and customer loyalty

Costs
  In the beginning e- insurance will be a cost factor rather than a profit driver, but in the long run it
will be cost reduction factor.

Benefits of E-Insurance
  E-insurance provides multiple benefits to the insurer and existing and prospective insured:

Safety
  There is no risk of loss or damage of a policy as may happen with paper policies; the electronic
form ensures that the policies are in safe custody and can be easily accessed when needed.
Convenience

All insurance policies, be it life, pension, health or general, can be electronically held under a single e-Insurance Account. This means all details of all policies are available in a single account (place). The details of any of the policies can be accessed at any time by logging on to the online portal of repositories. Premium for all the policies can be paid online and many service requests or complaints can be logged at this website.

Single Point of Service

All service requests in respect of e-Insurance Account or any of the electronic policies held under the e-Insurance Account can be submitted at any of the repository's service points – there is no need to go to the offices of individual insurance companies for service.

Less paper work

When you want to buy a new electronic insurance policy under an existing e-Insurance Account, you don't need to go through KYC verification all over again, if there are no changes to your KYC details already recorded in your e-Insurance Account. Further, if you want to make any changes to your personal details like address or contact number, it is enough to change the details in your e-Insurance Account with a repository by submitting a single request. Some of the general benefits of e-insurance are as follows:

- Information collected is better and cheaper
- Speed of response-insurance of policy and settlement of claims is faster
- Provides new ways of doing business in competitive market
- Flexible pricing and customized services
- Global accessibility
- Increased sales without additional sales force
- Immediate premium collection and funds transfer
- Reduced cost per transaction
- 24*7 availability

Challenges of E-Insurance

One major debate regarding the possibilities of the e-insurance industry of India is whether the infrastructure is good enough. At present the number of internet users in India is rather restricted. In these insurance programs, there can be delays if the insurers have changed. The insurance provider can also find it hard to process an online application if information on areas like LPG or CNG fitting and vehicle model is not provided on the website.

There are several operational and legal issues that will have to be sorted out as well. Some of them may be mentioned as below:

- Customer privacy
- Requirement for digital signatures which are fail-safe
- Sharing databases of customers

Authentication of digital signatures is expected to be the most important issue among the above mentioned ones. Experts are of the opinion that the main reason behind this is the fact that the digital signatures will allow insurers to make sure the right customers are doing the online transactions like purchasing the policy or changing some facts or details in their policy papers.
Problems With E-Insurance Policies

The major issue with the web based insurance policies is that they are pre determined and cannot be customized to match the requirements of the consumers. Even, the premium is fixed. In addition, in case of most of the special e-insurance policies the policyholders will be unable to opt for benefits like the following:

- accidental disability benefit
- important illness covers
- Key premium waiver covers if policyholders want to incorporate these, they will need to make extra payments. In case of customers, who are financially aware, the absence of an agent is not a problem when it comes to filling up the application. In case the consumer has doubts about what he or she wishes to buy, it could prove to be a major hindrance. Experts have also stated that the buyers should make sure that the customer feedback is latest in case of sites that operate as insurance aggregators. It is advisable to visit the homepage of the company and verify the facts.

The consumers should also check the security certificate of a website to make sure it is authentic and can guarantee safe encoding of files. It is better to take screenshots of each e-transaction of completed payment. This will make sure that the policyholders have some evidence that they are making the payments.

Insurance programs providing Companies

ICICI Prudential is one of the companies that will offer e-insurance products and services in India. Several life insurance providers like Aegon Religare, Metlife, and Kotak Life will also be providing e-insurance policies.

There are several websites that offer total information on general and life insurance products:

- Bimadeals.com
- Insurancepandit.com
- Policy-bazaar.com

Interested consumers can get in touch with these websites to avail the products of the top insurers and also do a comparison of different products in individual segments.

Life Insurance on the Web

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E-GOVERNANCE MODEL AND ITS OTHER INITIATIVES

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Abstract

Electronix governance or e-governance is the for delivering government services, exchange of information, communication transactions, integration of various stand-alone systems and services between government-to-citizen (G2C), government-to-business (G2B), government-to-government (G2G), government-to-employees (G2E) as well as back office processes and interactions within the entire government framework. Through e-governance, government services will be made available to citizens in a convenient, efficient and transparent manner. The three main target groups that can be distinguished in governance concepts are government, citizens and businesses/interest groups. In e-governance there are no distinct boundaries. This research paper highlights the main initiatives regarding implementation of E-Governance.

Keywords: e-governance, interactions, services, initiatives.

Introduction

E-Governance is the application of information and communication technology which transforms the efficiency, effectiveness and accountability of informational and transactional exchanges, reducing the costs of government (national, municipal and local levels), citizens, agencies, business etc. and to empower them through access and use information.

E-governance is an ICT-enabled tool to achieve good governance. We may think of it as integrated governance – since it integrates people, processes, information, and technology in the service of achieving the aim of good governance.

Merits of E-Governance

The merits of e-governance are deals with speed, efficiency, convenient, transparency, accountability, reduced corruption and participation of more people.

Speed, Efficiency, and Convenience

E-government allows citizens to interact with computers to achieve objectives at any time and any location, and eliminates the necessity for physical travel to government agents sitting behind desks and windows. Improved accounting and record keeping can be noted through computerization, and information and forms can be easily accessed, equaling quicker processing time. On the administrative side, access to help find or retrieve files and linked information can now be stored in databases versus hardcopies stored in various locations. Individuals with disabilities or conditions no longer have to be mobile to be active in government and can be in the comfort of their own homes.
Transparency, Accountability and Reduced Corruption

Dissemination of information through ICT increases transparency ensures accountability and prevents corruption. An increased use of computers and web based services improves the awareness levels of citizens about their rights and powers. This helps to reduce the discretionary powers of government officials and curtail corruption.

Increased Participation by People

It helps to easy access to the government services, the faith of the citizens in the government increases and they come forward to share their views and feedback. Increased accessibility to information has empowered the citizens and has enhanced their participation by giving them the opportunity to share information and contribution implementation of initiatives.

Demerits of E-Governance

The main demerits concerning e-government is the lack of equality in public access to the internet, reliability of information on the web, and hidden agendas of government groups that could influence and bias public opinions.

Hyper-Surveillance

Increased contact between government and its citizens goes both ways. Once e-government begins to develop and become more sophisticated, citizens will be forced to interact electronically with the government on a larger scale. This could potentially lead to a lack of privacy for civilians as their government obtains more and more information on them. In a worst-case scenario, with so much information being passed electronically between government and civilians, a totalitarian-like system could develop. When the government has easy access to countless information on its citizens, personal privacy is lost.

Cost

Although "a prodigious amount of money has been spent on the development and implementation of e-government, some say it has yielded only a mediocre product. The outcomes and effects of trial Internet-based governments are often difficult to gauge or unsatisfactory.

Inaccessibility

An e-government site that provides web access and support often does not offer the "potential to reach many users including those who live in remote areas, are homebound, have low literacy levels, exist on poverty line incomes.

False Sense of Transparency and Accountability

Opponents of e-government argue that online governmental transparency is dubious because it is maintained by the governments themselves. Information can be added or removed from the public eye.

Impact of E-Governance

Quality services and information for citizens

E-Governance provides reliable and useful information in time. In the earlier stage, information was available in the aspects of forms, rules, procedures etc. but in e-governance, information is available on internet which saves time, effort and money.
Accountability of the Government: Accountability of government increases with the popularity of e-governance. Citizens are more aware about their rights, facilities and expenditures of government on schemes. Government becomes answerable to the citizens for their performances and future plans which increases productivity and efficiency of working of government.

Expanded Approach and Reach of Governance

E-Governance makes strong bonding and connection between government and citizens. It minimizes the gap, increases interaction and trust ability among citizens and government. With the advancement of telephone network and expansion of internet facilitates the delivery of large number of services to the citizens.

Different Services through E-Governance

E-Governance is designed to provide the services to different sectors or areas and its role is multi-dimensional. The e-governance may provide services in different dimensions which are analyzed and discussed below.

E-Governance Services from Government to Citizens (G2C)

This model relates to the services provided by the government to the citizens. This model makes the strong interaction between government and citizens. Citizens use the desired services provided by the government. Citizens can interact with the government any time (24 hours a day, 7 days a week), any place (service centre, home/workplace) and with suitable medium (internet, fax, telephone, email etc.).

The main objective is to enable the citizens to take benefits from efficient delivery of a large range of public services and to make government, citizens friendly. The following are the services provided by the G2C model:

E-Citizen: E-Citizen creates many service centres to offer the various customer services like issue of Ration Cards, Certificates, Passports, Online filling of FIR and Payment of online bills such as electricity, taxes, water, telephone bills etc. These centres are like government shops for providing governmental services. E-Medicine: It involves online availability of various hospitals and better medical services in different parts of country.

E-Education: With the help of E-Education, government takes many initiatives to educate the citizens and upgrade their knowledge with various information technologies.

E-Transport: E-Transport provides many facilities like online registration of vehicles, online issue of driving licenses, online payment of challans and taxes, control of pollution.

E-Registration: E-Registration reduces the paper work for registration and transfer of properties and stamp duty. It reduces the duplication of entries and increases the transparency in work.

The main aim of the G2C model is to deliver all the services of government to its citizens. The G2C model will successful if all the citizens have knowledge of all the government activities. Many groups like journalists, civil servants, oppositions will keep their eyes on the expenditure of government. Government should take feedback from public to improve the understanding between government and citizens.

E-Governance services from Government to Government (G2G)

It is also known as E-Administration. In this model, services are being shared between many governments. Information are shared among various government agencies, organizations and departments. The following are the services discussed in the G2G model:
E-Secretariat: E-Secretariat provides huge, valuable and functional information of the state. In E-Secretariat, multiple departments are linked together on internet and exchange the information of various components. It also links all the governmental departments with their headquarters and state capitals.

E-Police: E-Police helps everyone to feel safe and secure. For this purpose, E-Police maintains two databases. First database is of police personnel which provide records (current and previous posting etc.) of persons working in police. This database helps people to find the specialization of policemen according to geographical regions and skills. Second database is of criminal records. This database provides full detail of any criminal by just typing the name of criminal. This database also provide the past activities and area of operation of any criminal.

E-Court: E-Court will bring a revolution in the Indian pending court cases. In India, there are number of pending cases which produce frustration in people and will bring the system to a halt. Both consumers and the system need the change. If the system will work in the same manner in future, than one day it will collapse. In E-Court, IT transforms the system into databases of cases having zero level dependency. In such systems, Judges can consider the appeals from intranet, give their decisions online by considering recorded facts of case and reduce the backlog of cases.

The success of G2G model is based on some important aspects like expenditure, establishment of network, planning, monitoring and controlling the performance of process resources like human and financial.

E-Governance services from Government to Employees (G2E)

Government to employee model increases a transparent connection between government and its employee. Employee can monitor the functioning of the government and government can also check the working and efficiency of its employees. This model enhances the strengths and accessibility of the employees in the governmental organization. This model share the important information like attendance record, employee record, complaints, employee salary, working record and all kind of rule – regulations etc.

E-Governance services from Government to Business (G2B)

Government to business model makes connection between private sector and government sector. Government and business organizations exchange important information like collection of taxes, payment of bills and penalty, sharing of rules and data. The following is the service provided by the G2B model:

E-Taxation: In the G2B model, business organizations achieve many services from government like getting licenses, payment of bills and taxes, complaints/dissatisfaction, rejection and approval of patent etc. The standards for electronic transactions and secure payment mechanism to enable payments over the electronic medium are required in the success of G2B model.

Conclusion

There are various initiatives of e-government in India. These initiatives are like e-citizen, e-education, e-registration, e-court, e-police, e-secretariat and so on. A vision is required to implement the e-government in India. To meet the vision the challenges in the implementation of e-government should be overcome. Then the environment needs to be developed for the effective implementation of e-government in India. But in spite of all challenges India has number of e-governance projects. Therefore
we can say that e-Governance is the key to the “Good Governance” for the developing countries like India to minimize corruption, provides efficient and effective or quality services to their citizens.

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THE AWARENESS LEVEL OF RURAL INTERNET BANKING AND ITS IMPACT ON SOCIO ECONOMIC DEVELOPMENT (A STUDY CARRIED AWAY AMONG THE RURAL MASSES RESIDING IN KATPADI TALUK OF VELLORE DISTRICT, TAMIL NADU, INDIA)

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Abstract

Several advancements were being found in IT and various sectors in day today life. Yet this advancement and improvements benefits just 30% of the total Indian populace. So this doesn’t mean any advancement. Without such integrated rural development any industrial growth will only give rise to inequality, poverty and unemployment. In order to make overall improvement of nation, Knowledge with respect to IT and ICT tools were the essential key element for the country masses. Because of absence of essential and appropriate training, rural masses needs lacks employment in different divisions of progression. For accomplishing rural improvement creation of awareness with respect to Information Technology usage training and Information Technology uses assumes a key part. The different innovative improvements found in our country are just because of several trainings and knowledge updation. So there is a severe need for creating awareness the country masses about Information Technology training for its legitimate use with a specific end goal to raise the rural business, which prompts rural improvement, which thusly encourages financial improvement of our Indian country. Information Technology and its awareness enhance people’s perception of themselves and of the world. It improves the way of their lives and prompts far reaching social preferences to individuals and society. Besides it enhances the nature of their lives and prompts expansive social advantages to people and society. In this study we are concentrating on the effect made by the use of ICT programmes (Internet Banking or e-Banking) by the rural individuals dwells in Villages in Katpadi Taluk of Tamil Nadu and their awareness on Internet Banking or e-Banking and its usage. In this study we were accompanying an investigation of ICT programme (Internet Banking or e-Banking) use and effect towards country populace in view of demographic details, like, age, marital status, gender, education and employment. The objective of the present study is to study the reach and awareness of information Communication technology and its various programmes and to study the influence of Internet Banking in the villages under Katpadi Panchayat union in Vellore district of Tamil Nadu and to identify the factors affecting the usage of Information communication technology programmes among rural masses residing in rural regions and the other objectives is to identify the relation between demographic factors like Age, gender, marital status, occupation, education and their awareness on Information communication Technology programmes and its influence.

Keywords: Information Technology, Information Communication Technology, Technological Advancement, e-Banking, Internet Banking, e-Governance Programme.

Introduction

Dutta and Das (2011) states that rural development is considered to be national Importance So India’s development relay on improving rural India. Along these lines IT training and its awareness among the rural masses is the crucial variable to kill the predominant urban and rural division. In this way there is a genuine need to create Information Technology (IT) and Information Communication Technology (ICT) at awareness in rural India to develop the country with a specific end goal to make India a developed country in all forms. Joseph and Andrew (2009) states in their research studies that rural development is a national necessity and has significant significance in India on account of these reasons. Around three-fourth of India’s populace live in rural regions, subsequently rural advancement is expected to create country as entire and almost 50 per cent of the nation's income is obtained from
agricultural services, which is real power of rural India. According to Chandra and Malaya around 70 per cent of Indian populace gets livelihoods through agricultural services and main part of raw materials for various industries originate from agriculture and from rural area. Increase in industrial population can be defended just in rural populace’s inspiration and increasing power in to purchase modern merchandise at long last. Growing divergence between the urban and the rural can prompt to political imbalance.

Rural Development – A National Necessity

Rural development is a national necessity for the development of a nation. It is dynamic process for improving the conditions both qualitatively and quantitatively. Pandey et al. studies states that Government of India is assisting with various initiatives for economical, social and cultural development of rural masses by improving the production of crops and animals living conditions. Promotion, awareness and usage of new technology will play a vital role in rural development. Rural Development also concentrates on improving the living conditions of rural population by improving the basic needs like food, cloth, shelter, sanitation, drinking water, medical facilities, communication, transportation, education and employability.

Information Technology and Rural Development

ICT usage by means of various e-initiatives in rural masses improves socio economic status of the rural people and improves rural livelihood. Information is power and power is information. Without information there can be no growth. Now information is entering into rural India as well, because without Information development in rural India, we cannot think about improvement of the whole Indian nation. In Tamil Nadu, around 80 per cent of Tamil Nadu population resides in rural areas. The infrastructure development in urban areas and its lacking in rural areas leads to digital divide in Indian nation, Various research studies states that only 3.5 households per 1,000 families, had internet access in rural regions. The Internet And Mobile Association of India (IAMAI) and IMRB International have provided various research studies regarding web penetration in rural India. The various research studies shows that internet usage in rural areas is keep on arising. Increased internet awareness in rural regions was keep on increasing. Indian Government had taken various development initiatives to provide internet networks and rural internet kiosks. As urban India is concerned, internet access had a massive progress 2009-10. As 59.5 families out of every 1000 urban families had web access at their residence. ICT play a predominant role in Rural Development in state of Tamil Nadu. IT’s major contribution in rural development is to provide rural masses with various information that they need as information is the major criterion for development. ICT usage among rural farmers leads more crop produce results increase in income. ICT can help rural masses to consult doctors living in urban regions, which leads to reducing issues related to health. ICT helps leaning among rural masses by means of distant education method. During January, 2004, The Government of India had launched Department of Electronics and Information Technology (DeITY), to ensure the process of improving Information Technology in the nation. The Department motivates IT sector industries investments in the nation. Which results in launching IT industries and developing the education quality in the nation every individual resides in India needs clear, faster and seeped services from the various departments of the government. This can be attained by using ICT tools and services. Indian Government has to provide possible web access easily without any complexity. Many Government information of several as to be made available in web for the easy access of Indian masses.
Internet Banking and Its Importance

Banking Industry is the base of the financial arrangement of a nation. The need to get by in the changing environment has led the banking industry to embrace web as a medium of working in the business sector. Internet banking gives other options to quicker conveyance of managing an banking accounts to a more extensive scope of clients. Internet banking alludes to the utilization of web as a remote conveyance channel for managing personal bank account administrations. It implies any client with a PC and a web browser can get associated with his bank site to play out any of the managing an account capacities. India is overwhelmingly a farming nation and it's above 65 % of the populace lives in the villages. Spread of E-delivery services directs in those zones is less on account of trouble in achieving innovation and other system which backings and aides in delivering technology to these zone and also absence of learning of the technology and awareness on using internet services. Internet Banking permits clients to direct financial exchanges on a secure bank website worked by their retail or virtual bank, credit union or building society. Web keeping money arrangements have numerous components and abilities in like manner. In India, information Technology is assuming a critical role in banking sector. Modern Banking sector is changing over from conventional paper based exchanges to electronic means. Banks are utilizing information technology (IT) to enhance inward process and to encourage their clients. IT likewise encourages banks for their convenient and precise exchange. Tremendous accomplishment in banking industry in India is increased in Banks which is of using various electronic services. The E-Banking can be performed in different ways like Telephone Banking, Net Banking, Automated Teller Machine, Debit/Credit Cards, Electronic Fund Transfer, Maestro Cirrus and Visa Plus and Automated Fund Transfer. Another improvement identifies with the continuous undermining of the significance of branches of banks. The development of new innovation permits access to managing an account and saving money administrations without physical direct response to the bank premise by the client. The idea of Automated Teller Machines (ATMs) is the best case. At present, ATMs are city/town arranged in our nation. It is inescapable that ATMs will be generally utilized, in semi-urban and rural regions. The Technology drove procedure is driving us to what has been depicted as virtual banking. The advantages of such virtual banking are complex. Through the opposition, numerous banks immediately understood that there are a groundbreaking number of clients like to do keeping money electronically. In that capacity, numerous banks, in light of their current 24-hour phone managing an account systems, have developing and executed a few critical e-saving money applications so that their clients now can pay charges, exchange cash among various accounts, check account history, download statement information, and computerize their checkbooks online all at simple and all 24*7 days (Morral 1995).

Significance of the Study

The present study helps in understanding the rural masses perception on the awareness and impact of Internet banking towards rural development. The outcome of study will help in understanding the problem regarding the reach and the awareness of Internet banking towards rural masses of Katpadi Panchayat union.

Statement of the Problem

- There were very few research studies, which were focused on Internet Banking usage and awareness towards rural Tamil Nadu.
- There were very least research studies, which were focused on Internet Banking awareness and usage among the rural masses resides in Vellore District of Tamil Nadu.
Need for the Study

- There were few research studies on Internet Banking usage under rural domain focusing rural Tamil Nadu. Therefore it is clear from the previous research studies that, Internet Banking usage in rural Tamil Nadu were not much highlighted.
- There is a serious need for representing the reach, usage and awareness of Internet Banking in Tamil Nadu.

Conceptual Framework

![Fig 1 Internet Banking Usage and Socio Economic Development](image)

Research Questions

The research attempts to answer the following questions:

- What is the perception of rural population on ICT programmes usage?
- What is the perception of rural population on the ICT programmes usage impact on Socio-economic development?

Research Objectives

- To study the of perception of rural population on Internet Banking usage.
- To understand the rural population perception on Internet usage impact on socio-economic development.

Research Hypotheses

- $H_1$: e-Banking usage has positive influence on socio economic life of rural masses.

Literature Review

Potadar (2013) revealed that internet banking provides faster banking services to a wider range of customers. Internet banking refers to the use of internet as a remote delivery channel for banking services. Banks reduces transaction cost by use of online banking. Online banking can be done 24 * 7 irrespective of timings. Online banking makes users to pay your bills online. Online banking facilitates better record keeping they would be mailed to the user as statement every month and every week as updates. Parmar et al (2013) examined that awareness on Internet banking in rural areas is considered to be very less and there is a need to create awareness among the rural masses regarding the usage of internet banking. Rural masses perception on internet banking is that it should be user friendly, easy to use, it should not be time consuming and it should be highly secure. Rao (2013) identified that banking sector has been developing in India due to various improvements. The RBI is very important aspect for the development of banking in India. Sharma (2012) identified that e-Banking helps in socio economic development of an area. Awareness on e-Banking is found to be very less among rural masses residing in rural regions of India. There is a sincere need to create awareness on usage of e-Banking services to the rural masses. Yang (2005) identifies that e-Banking provides various facilities and services like speedy transaction, user friendliness, time saving, high security, easy to use and so on. Sharma et al (2011) Banks plays a vital role in the development of the rural economy in India. Commercial banks as credit holders have been asked to lend increasingly for agriculture & allied activities, and also to other sectors of rural economy. Rural Banks plays an important role for disbursement of funds under different
Government schemes. State Governments are also keen to provide funds in National Rural Employment Guarantee Act (NREGA) and other common development funds through bank accounts. IT is playing a significant role in banking sector. Banks are using information technology (IT) to improve internal process and to facilitate their customers. IT also facilitates banks for their timely and accurate transaction. Huge success in banking industry in India is increase in computerized branches. Proper training has to be provided to entrepreneurs for the use of credit facilities. E-Banking will help eliminate several layers of intermediary persons; therefore corruption can be completely eliminated. E-Banking can be performed in various ways like Telephone Banking, Net Banking, ATM (Automated Teller Machine), Debit/Credit Cards, EFT (Electronic Fund Transfer), Maestro Cirrus and Visa Plus AFT (Automated Fund Transfer).

**Universe of the Study**

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<td>6.</td>
<td>Gugaiyanallur</td>
<td>12</td>
<td>13</td>
<td>25</td>
</tr>
<tr>
<td>7.</td>
<td>Jabbarapet</td>
<td>17</td>
<td>17</td>
<td>34</td>
</tr>
<tr>
<td>8.</td>
<td>Kandipedu</td>
<td>15</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>9.</td>
<td>Karasamangalam</td>
<td>15</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>10.</td>
<td>Karigiri</td>
<td>18</td>
<td>19</td>
<td>37</td>
</tr>
<tr>
<td>11.</td>
<td>Karnampattu</td>
<td>12</td>
<td>13</td>
<td>25</td>
</tr>
<tr>
<td>12.</td>
<td>Kuppathamottur</td>
<td>11</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>13.</td>
<td>Mettukulam</td>
<td>13</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>14.</td>
<td>Puttoor</td>
<td>10</td>
<td>11</td>
<td>21</td>
</tr>
<tr>
<td>15.</td>
<td>Saynur</td>
<td>22</td>
<td>23</td>
<td>45</td>
</tr>
<tr>
<td>16.</td>
<td>Seerkaadu</td>
<td>13</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>17.</td>
<td>Seevur</td>
<td>14</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>18.</td>
<td>Sembarayanellore</td>
<td>11</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>19.</td>
<td>Thandalamkrishapuram</td>
<td>12</td>
<td>13</td>
<td>25</td>
</tr>
<tr>
<td>20.</td>
<td>Vandranthangal</td>
<td>19</td>
<td>20</td>
<td>39</td>
</tr>
<tr>
<td>21.</td>
<td>Vanjur</td>
<td>16</td>
<td>15</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Grand Total</td>
<td>295</td>
<td>305</td>
<td>600</td>
</tr>
</tbody>
</table>

*Source: Block Development Office, Katpadi Panchyat Union, Vellore District.*

**Research Methodology**

The framed structured questionnaire of 600 numbers was distributed to 600 rural masses resides in 21 villages of Katpadi Panchayat union and direct field interview was conducted from 600 rural masses and the responses were obtained from the rural masses and the same had been filled in the structured questionnaire manually. Convenience Sampling was carried out. This comprises the final
study. After the data collection, the collected raw data were feed into SPSS data file, then cleaned, labeled and thoroughly verified for finding the missing values. The processed and the refined data were taken for consideration of analysis.

Demographic Details of the Respondents

Table 2 - Socio Demographic Profile of the Respondents

<table>
<thead>
<tr>
<th>Demographic Details of the Respondents</th>
<th>Number of Participants (600)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
</tr>
<tr>
<td><strong>Age</strong> (In Years)</td>
<td></td>
</tr>
<tr>
<td>18-30</td>
<td>178</td>
</tr>
<tr>
<td>31-40</td>
<td>192</td>
</tr>
<tr>
<td>41-50</td>
<td>149</td>
</tr>
<tr>
<td>51 and Above</td>
<td>81</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>295</td>
</tr>
<tr>
<td>Female</td>
<td>305</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>463</td>
</tr>
<tr>
<td>Unmarried</td>
<td>137</td>
</tr>
<tr>
<td><strong>Employment Status</strong></td>
<td></td>
</tr>
<tr>
<td>Agriculturalist</td>
<td>443</td>
</tr>
<tr>
<td>Non Agriculturalist</td>
<td>157</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>No Education</td>
<td>170</td>
</tr>
<tr>
<td>School Education</td>
<td>225</td>
</tr>
<tr>
<td>Higher Secondary Education/Diploma/ITI</td>
<td>130</td>
</tr>
<tr>
<td>Graduate Education</td>
<td>75</td>
</tr>
</tbody>
</table>

Level of Agreement on E-Banking

The perceptions of rural respondents on the usage and impact of e-Banking were been provided in the table given below.

Table 3 - Level of Agreement on E-Banking

<table>
<thead>
<tr>
<th>Items under the Construct of E-Banking</th>
<th>Strongly Agree (1)</th>
<th>Agree (2)</th>
<th>Neutral (3)</th>
<th>Disagree (4)</th>
<th>Strongly Disagree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet banking and mobile banking services provide easy cash transaction in rural regions that in turn improves social well being of rural masses. (Median = 2, Mode = 2)</td>
<td>82 (13.7)</td>
<td>222 (37)</td>
<td>119 (19.8)</td>
<td>61 (10.2)</td>
<td>116 (19.3)</td>
</tr>
<tr>
<td>Transaction details and e-Statements can be gathered easily through e-Banking Services. (Median = 2, Mode = 2)</td>
<td>102 (17)</td>
<td>202 (33.7)</td>
<td>257 (26.2)</td>
<td>80 (13.3)</td>
<td>59 (9.8)</td>
</tr>
<tr>
<td>Options like educational loan, agricultural loan and Jewel loan information can be obtained easily through e-banking services. (Median = 3, Mode = 3)</td>
<td>121 (20.2)</td>
<td>163 (27.2)</td>
<td>178 (29.7)</td>
<td>99 (16.5)</td>
<td>39 (6.5)</td>
</tr>
<tr>
<td>Loan subsidies and updates can be gathered using ICT enabled e-banking services. (Median = 2, Mode = 2)</td>
<td>119 (19.8)</td>
<td>224 (37.3)</td>
<td>139 (23.2)</td>
<td>78 (13)</td>
<td>40 (6.7)</td>
</tr>
<tr>
<td>Debit card usage among the rural masses facilitates easy money deposit and withdrawal, which saves time. (Median = 2, Mode = 2)</td>
<td>142 (23.7)</td>
<td>241 (40.2)</td>
<td>120 (20)</td>
<td>39 (6.5)</td>
<td>58 (9.7)</td>
</tr>
</tbody>
</table>
Regular updates about the account details from banks can be obtained whenever the customer is in need and also after every transaction through ICT enabled services and updates about transactions on a weekly and monthly basis via SMS and Email. (Median = 2, Mode = 2)

Online reservations, online application filing and e-Shopping makes use of e-Banking and m-Banking facility, which facilitates speedy services to the individuals residing in rural areas. (Median = 2, Mode = 2)

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Dependent Variable</th>
<th>F value</th>
<th>Standardized Coefficient (R)</th>
<th>R² value</th>
<th>Significance</th>
<th>Hypothesis</th>
<th>Hypothetical Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-Banking</td>
<td>Socio Economic Development</td>
<td>2089.042</td>
<td>0.882</td>
<td>.777</td>
<td>.000b</td>
<td>H5</td>
<td>Positive</td>
</tr>
</tbody>
</table>

**Level of Significance - 5 Percent**

The regression table shows the influence of e-Banking usage on socio economic status of rural area. The result reveals that e-Banking usage (β=0.882, p<0.05) which is one of the components in ICT programmes positively impacts socio economic status of rural area and also it is significant at 0.05 level. Hence the hypothesis H1 is accepted. It has been inferred that probability value of ANOVA at 5 per cent level establishes good relationship between the variables tested. Therefore the hypothesis farmed stands accepted and it has been concluded that e-Banking has positive influence towards Socio economic development.

**Measurement Model for Determining e-Banking usage Positively effects Socio Economic Development**

**Fig 2- Standardized Estimates of the Measurement Model: e-Banking and Socio Economic Development**

**Note:** Figures in parenthesis represents percentage.

**V. Data Analysis**

**Table 4 - Regression Analysis**
considered to be the independent variable, whereas Socio economic development (SD) is considered to be dependent variable.

\[
E\text{-Banking (B)} = (0.83 \times B_1 + 0.79 \times B_2 + 0.88 \times B_3 + 0.77 \times B_4 + 0.88 \times B_5 + 0.78 \times B_6 + 0.85 \times B_7)
\]

\[
\text{Socio Economic Development} = (0.90 \times \text{e-Banking})
\]

It is also inferred that from the measurement model, the respondents perceive that the e-Banking usage in rural areas has significant direct positive effect on socio economic development of rural areas. which in other words states that when the practice of e-Banking is increasing in rural areas then the level of socio economic condition of rural areas are also increasing (With the effect size of 0.90).The measure of coefficient of variance.903 reveals that the usage of e-banking in the rural areas has positive impact in improving socio economic status of rural area are observed to be significant. Therefore the hypotheses (H1) framed stand accepted and it is concluded that e-Banking usage in rural areas positively impacts socio economic development.

**Results and Conclusion**

The generated F value is 2089.042. It has been inferred that probability value of ANOVA at 5 per cent level establishes good relationship between the variables tested. Therefore the hypothesis farmed stands accepted and it has been concluded that e-Banking has positive influence towards Socio economic development. The R² value is 0.777; it shows that 77.7% of contribution to socio economic development of rural area is achieved by usage of e-Banking among rural masses. Hence the hypothesis H1 is accepted.

The following major conclusions in the course of the research on people's perception:

- There exists a positive relation between Internet banking and socio economic development and rural development.
- There exists a positive relation among ICT tools usage and rural development.
- There exists a positive relationship among e-Banking and rural development.
- Information Communication Technology programmes adaptation in rural areas leads to sustainable development.
- Most of the uneducated rural masses resides in villages of Katpadi panchyat union were not aware about Information Technology and it various uses.
- Most of the rural masses lack awareness about Internet Banking.
- Internet Banking adaptation were less time consuming and reduces complexity.
- Internet banking adaptation leads to greater creativity, enhances the understanding and provides accuracy in day to day information delivery.
- Internet banking adaptation provides accuracy in day to day information delivery.
- The outcome of study clearly states that Internet banking usage were seen among the educated rural masses of Katpadi Panchayat union.
- The study outcome states that the uneducated rural masses and the rural masses with school level education of Katpadi Panchayat union lacks awareness on Internet banking usage and their various benefits.
- This study makes us to understand that there is a severe need of creating awareness and knowledge updation regarding usage of new technology and trends in the modern era by the masses of rural regions of Tamil Nadu.
It is clear from the results obtained from the research study that there is a severe need to formulate better policies and strategies on this specific area of rural development in form creating awareness of usage of Internet and its various uses by GoTN and Central government in upcoming days.

Suggestions

The following major suggestions were framed in the course of the research on the study perception

- In the rural context, mutual bonding among the rural masses and government schemes and programmes plays basic predominant role in maintaining sustainable relationship. The use of communication channel for distribution is considered to be important factor for the success of ICT intervention.
- Proper training programs and development programs enhance the chances of success for various ICT projects like Internet Banking. Therefore government has to take additional effort for delivering the same.

Future Research

Moreover the present research work is limited to only the villages under Katpadi taluk, Vellore district in state of Tamil Nadu. Therefore, a further study at the state level or national level, with similar or broader objectives and with the inputs and finding of this study, will definitely be a desirable step.

References

IMPACT OF BUSINESS INTELLIGENCE ON ORGANIZATIONAL EFFECTIVENESS

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M. Miniyammal & C. Suganya

Abstract

In the current global business environment where global economic interdependence is prevalent, it is imperative to look for instruments that would facilitate effective acquiring, processing and analyzing vast amounts of data that come from different and dispersal sources. It is with the help of Business Intelligence tools that companies can make informed business decision on the go. Organisations deal globally with many applications like ERP, CRM, and SCM etc. All these applications may be operating from different locations in multiple environments. Exchange of information and providing a consolidated report view covers up the communication gap among all such applications. They provide more accurate data integration, further resulting in better prospects. For a goal oriented organization are driven to achieve outstanding business results, the integrated view of all these applications is very crucial so that there is ample scope to share information and process smoothly with the help of Business Intelligence tools. This analytics tools can leverage data and convert it to actionable information that can benefit organizations. Enterprises are awash in data about their customers, prospects, internal business processors, suppliers, partners and competitors. Often, they can’t leverage this flood of data and convert it to actionable information for growing revenue, increasing profitability and efficiently operating the business. BI tools are the technology that enables business people to transform data into information will help their business. The purpose of the study was to identify the influence of organizational strategy, structure, process and culture of organizational effectiveness and the possible mediating role of business intelligence systems among them.

Keywords: Business Intelligence tools, ERP, CRM, and SCM, Internal business processors

Introduction

Today’s changing business situation, Business Intelligence (BI) systems play critical role in organizations to maintain decision-making and develop organizational performance. These systems help firms to store, retrieve, and analyze large amounts of information about their operations and allow them to improve strategic and tactical decisions, and gain competitive advantage of the industry. BI as "the process of collection, treatment and distribution of information that has an objective, and the reduction of insecurity in the making of all strategic decisions." It is a set of concepts, processes and methods to improve business decisions, which use information from multiple sources (i.e. internal as well as externally supplied by clients, partners, or third parties) to know business dynamics. Business intelligence to refer to a group of systems for data analysis and reporting, which helps top, middle and lower level managers to use relevant and timely information to make better decisions. Over the past decades, BI has become increasingly important in both the business communities and the university. It is the input to strategic and tactical decisions at senior management level and it helps individuals to do their day-to-day jobs at lower management level.

The objective of this study is to investigate the impact of business intelligence on organizational Effectiveness and list all top BI products available on the market. It should help interested users to compare and select the best solution for their needs. According to the list of best business intelligence tools prepared by experts from Finances Online the leading solutions in this category comprise of systems designed to capture, categorize, and analyze corporate data and extract best practices for
improved decision making. The more advanced the system is, the more data sources it will combine, including internal metrics coming from different company departments, and external data extracted from third-party systems, social media channels, emails, or even macroeconomic data. Ultimately, business intelligence software helps companies gain insight on their overall growth, sales trends, and customer behavior.

**Review of Literature**

L. Serbanescu pointed out that given the current global economic situation, BI was needed more than ever, as a condition for the creation of a new corporate culture in which organization is based on measurable targets. L. Serbanescu also described examples of four reports (pertaining to customer analysis, product structure, sales over time and warehouse inventory), drawn up using one of the most common BI tools—QlikView. He presented the ease of use of this class of tools, which do not require specialist IT knowledge. It was stressed that one of the key advantages of BI tools, as compared to traditional tools, consists in the fact that they allow users to dynamically analyse a given report in relation to several other parameters, based on up-to-date and reliable data sources.

**Business Intelligence (BI)**

Business Intelligence (BI) refers to the tools, technologies, applications and practices used to collect, incorporate, analyze, and present an organization's raw data in order to create aware and actionable business information. BI as a discipline and as a technology-driven process is made up of several related activities, including:
1. Data mining
2. Online analytical processing
3. Querying
4. Reporting

**Purpose of Business Intelligence in a Business**

The main purpose of Business Intelligence in a business is to help corporate executives, business managers and other operational workers make better and more informed business decisions. Companies also use BI to cut costs, identify new business opportunities, and spot inefficient business processes ripe for re-engineering.

**Benefits of Using Business Intelligence**

1. Accelerate and humanizing decision making
2. Optimizing inside business processes
3. Growing operational efficiency
4. Gaining spirited advantages over business rivals
5. Identifying market trends
6. Spotting industry problems that need to be addressed.

**Software Tools Optimize Business Intelligence**

Business Intelligence software systems provide historical, current, and analytical views of business operations, most often using data that has been gathered into a data warehouse or a data mart and occasionally working from operational data. Software elements support reporting, interactive “slice-and-dice” pivot-table analyses, idea, and statistical data mining. Applications attempt sales, production,
Categories of BI Analytics Tools
Guided analysis and reporting

Includes the traditional BI styles that trade citizens have been using for years to perform returning analyses of specific data. Examples include a vice president of sales examining the sales pipeline, a marketing manager comparing the performance of various marketing campaigns or a chief financial officer analyzing an enterprise’s financial key performance indicators. The BI tool styles in this category include:
1. Dashboards and scorecards
2. Corporate performance management
3. Spreadsheet integration
4. BI search
5. Reports

Self-Service BI and Analysis

BI tools business users use to execute ad hoc analysis of data. This analysis will either be a one-time-only analysis or the formulation of a recurring analysis that will be shared with others. Users of these tools classically have the word analyst in their title (e.g., business, financial or human capital analyst). Management staff members may also use these tools when they're doing the work of the business analyst for their manager or peers, even if their titles might not imply that. The BI tool styles in this grouping include:
- Ad-hoc exposure and analysis
- Online analytical processing -- also referred to as OLAP cubes
- Data discovery
- Data visualization.

Advanced Analytics

Encompasses the tools data scientists use to create predictive and narrow analytical models. This includes projecting analytics, statistical modeling, data mining and big data analytics software. Data scientists tend to spend a great deal of time doing data ingestion, integration and cleansing. This category is outside the scope but is mentioned here in order to provide the entire range of BI tool styles. Here’s a look at other BI tool categories and styles:

Business Intelligence Software Tools

1. Sisense is one of the leaders in the BI market and a champion of the Best Business Intelligence Software Award for 2016 from Finances Online, one of the most popular business software review platforms. This solution capable to efficiently simplify complex data analyses, and make big data insights accessible even for startups and small companies. The competitive edge of Sisense is
primarily its capacity to collate data from multiple sources without costly arrangements (sources can be Sales force, Google Analytics, AdWords, and many more).

2. **Actuate Business Intelligence and Reporting Tools (BIRT)** project is an elastic, open source, and 100% pure Java reporting tool for building and publishing reports against data sources ranging from typical industry relational databases, to XML data sources, to in-memory Java objects. BIRT is developed as a top-level project within the Eclipse Foundation and leverages the rich capabilities of the Eclipse platform and a very energetic open source community of users. Using BIRT, developers of all levels can incorporate dominant reporting into their Java, J2EE and Eclipse-based applications.

3. **M. Miniyammal, C. Suganya ICCUBE** is a SaaS end to end BI platform, specialized to be embedded in your application. arrange it on premises, in the cloud or make use of one of their managed services and enjoy a short time to market for custom feature requests. It integrates effortlessly with any application because of the on-the-fly-authentication and authorization (up to cell level), the ability to connect and combine any custom data source, direct access to Java and R, a web based dashboard builder and the ability to graphically design widgets from scratch. Basically, icCube is the dream for any software developer who needs to provide predefined dashboards or a solid web based self service BI solution, to their end-users.

4. **Domo** Business Optimization Software brings together the people, the data, and the insights business users need to deliver a thorough view of what's happening in your association. Connect all of your fundamental business data, collaborate with fellow employees, and get powerful visual data—all within one customizable platform.

5. **Board Management Intelligence Toolkit** combines various BI and CPM functionalities within a single graphical software atmosphere. BOARD’s BI capabilities include multi-dimensional analysis, ad hoc querying, dashboarding and reporting, while its CPM capabilities include budgeting, planning and forecasting as well as "other finance-related activities". Like Business Intelligence software in general, BOARD is used in an effort to develop efficiency and decision making while lowering costs. It does not require any programming skills to build BI and CPM applications.

6. **Clear Analytics** is extremely intuitive Excel-based solution with minimal training essential. Employees with a crucial knowledge of Excel can learn the system rapidly, so businesses can execute a fully-operational, self-service Business Intelligence system with little downtime and almost no learning curve. Clear Analytics offers a variety of BI-specific features to help generate, automate, analyze, and visualize a company's key data and information. Clear Analytics also enables consolidation of data from multiple data sources and all within excel.

7. **Ducen** Companies require to keep an eye on every revenue generating event and cost saving prospect while improving customer satisfaction and maintenance. By combining historical data with real-time operational data for analysis, business users can make more informed, proactive decisions.

8. **Gooddata** powers the All Data Enterprise by offering an Open Analytics stage that supports both IT’s need for Data Governance, security and oversight and business users desires for self-service Data Discovery. The platform consolidates data of any size, typically found both inside organizations and in the cloud, creating an analytic experience that is both fast and alert for users, so far protected, managed and secured for IT.

9. **IBM Cognos Intelligence** Information silos, multiple platforms and extreme reliance on spreadsheets can hinder the process of analyzing your business data to understand performance and recommend improvements With business analysis software from IBM, you can explore
information from different angles and perspectives and evaluate it with data in motion and trends for a more wide view of your business.

10. **Insight squared** Successful sales strategy is dependent on considerate the customer. But for small and medium businesses building up the kind of intelligence database needed can be time consuming and take staff away from the task of really selling. It can be many months before the execution of a traditional sales intelligence platform bears fruit.

11. **JasperSoft** offers a number of ways for end users to perform interactive analysis. For the most casual user, this might involve simply changing a filter setting on a report to view a different slice of data. For a data analyst this could mean writing powerful, multi-dimensional expressions.

12. **Looker** is a data-discovery platform that helps companies make better business decisions through real-time access to data. Data, no matter the size, can be analysed within Looker’s 100% in-database and 100% browser-based platform. Looker analytics integrate with any SQL database or data warehouse, such as Amazon Redshift and Greenplum.

**Conclusion**

It is indisputable that important developments have taken place in the field of business intelligence. One of the major and extremely useful solutions available to organizations is the implementation of Business Intelligence systems, which triggers a series of changes that involve the entire company – from strategic to tactical structures – and penetrate into operational work, improving and increasing the efficiency and effectiveness of the organization.

**References**


THE STUDY ON DIGITAL INDIA

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Abstract

Shri Narendra Modi gave its approval for digital India—a program to transform India into digital empowered society and knowledge economy. This is a follow up to the key decisions taken on the design of the program during the meeting of the Prime Minister on digital India program on August 7, 2014, and to sensitize all Ministers to this vast program touching every corner of the government. This program has been envisaged by department of electronics and information technology. Digital India is ambitious program of government of India projected at rupees 1,113,000 crores this will going to be preparing the India for the knowledge based transformation and delivering good governance to citizens by synchronized and co-ordinated engagement with both Central government and State government. The source of funding for most of the e-governance projects at present is through budgetary provisions of respective Ministries/Departments in the Central or State government.

Introduction

• The year 2014 is a watershed year in the history of the Indian Republic. This is significant as the said year has heralded the beginning of a new era. This the era of Digital India.
• The Narendra Modi led Government of India has come up with a detailed comprehensive vision of India which is digital in all aspects. The said vision is encompassed in the program entitled “Digital India”.
• The Government of India envisages digital India to be a program that will prepare India for a knowledge for future.
• Given the use of technology in various sectors of human life, the focus of Digital India program of Government of India is to make technology Central to enabling change. The perspective of the program is transformative in nature in as much as it seeks to relies IT (Indian Talent) +IT (Information Technology) = IT (India Tomorrow).

Benefits of Digital India

• The Government of India has initiated a giant leap forward to transform the country into a digitally empowered knowledge economy. Digital India will help in leveraging India’s globally acclaimed IT competence for the benefit of 120 Crores Indians.
• It will help in reducing corruption, getting things done quickly and will help in reducing paper work.
• Some of the facilities which would be available through this initiative are Digital Locker, e-education, e-health, Digital Signature and national scholarship portal.

Vision of Digital India

Shri Narendra Modi’s vision of Digital India
• High speed digital high ways unite the nation.
• 1.2 connected Indians drive innovation.
Access to information no barriers.
Technology ensures the citizen-government interface is incorruptible.
Government services are easily and insufficiently available to every citizen's mobile devices.
Government proactively engages with the people through social media.
Quality education reaches the most inaccessible corners driven by digital learning.
Quality healthcare percolates right up to the remotest regions powered by e-healthcare.
Formers are empowered by real-time information to be connected by the global markets.
Mobile enable emergency services ensure personal security.
Mobile and e-banking ensures financial inclusion.
E-commerce drives entrepreneurship.

Effects of Digital India Project by 2019
- Wi-fi in 2.5 lakh educational institution, all universities; community wi-fi locations for people.
- Job creation: Immediate 1.7 cr. and Oblique at least 8.5 cr.
- India to be innovator in IT use is solutions-health, knowledge, financial.
- High speed internet in 2.5 lakh villages, universal phone connection.
- 400,000 community Internet Access Point.
- Digital inclusion: 1.7 cr qualified for IT, Telecommunication and electronic devices jobs.
- E-governance and E-services: Across government.
- Digitally motivated people-public reasoning, internet access.

Pillars of Digital India

1. **Broadband Highways**
   This covers 3 sub components, broadband for all rural, broadband for all urban and national Information Infrastructure. Under for all rural, 250 thousand village Panchayats would be covered by December 2016 DOT will be their Nodal department and project cost is estimated to be approximately Rs.32000 crores. Under broadband for all urban, virtual network operators would be leveraged for service delivery and communication infrastructure in new urban development and buildings would be mandated. National information infrastructure would integrate the networks like SWAN, NKN and NOFN along with cloud enable national and state data centres. It will also have provision for horizontal connectivity to 100, 50, 20 and 5 government offices/service outlets at state, district, block and panchayat levels respectively.

2. **Universal Access to Mobile Connectivity**
   The initiative is to focus on network penetration and fill the gaps in connectivity in the country. All together 42,300 uncovered villages in India will be covered for providing universal mobile connectivity in the country. DOT will be the NODAL department and project cost will be around 16,000 cr during FY 2014-18.

3. **Public Internet Access Programme**
   The two sub components of the public internet access programme are common service centres and post offices as multi service centres. Common service centres would be strengthened and its number would be increased from approximately 135,000 operational at present to 250,000 i.e. one CSC in each Gram panchayat. CSCs would be made viable, multi-functional end-points for delivery of government and business services. Department of posts would be the Nodal department to implement this scheme.
4. Information for All

Open data platform and online hosting of information and documents would facilitate open and easy access to information for citizen. Government shall pro-actively engage through social media and web based platforms to inform citizens. Online messaging to citizens on special occasion/programs would be facilitated through e-mails and SMS.

5. Electronic Manufacturing

- Target NET ZERO imports is striking demonstration of intent.
- This ambitious goal requires coordinated action on many fronts.
- Taxation, incentives.
- Economies of scale, eliminate cost disadvantages.
- Skill development.
- Government procurement.

Data analysis

Table 1 Are you aware of digital India project?

<table>
<thead>
<tr>
<th>Options</th>
<th>No. of Respondents</th>
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<tr>
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<tr>
<td>No</td>
<td>12</td>
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<tr>
<td>Indifference</td>
<td>18</td>
</tr>
</tbody>
</table>

Source: Primary data

Table 2 Do you think Digital India project will uplift the standard of living?

<table>
<thead>
<tr>
<th>Options</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>No</td>
<td>07</td>
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</table>

Source: Primary data

Table 3 According to you, what is the most important thing to convert India digitally?

<table>
<thead>
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<td>Literacy to rural people</td>
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<td>Digital education</td>
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<td>Any other</td>
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</table>

Source: Primary data

Table 4 According to you, which sector will get developed most after digitalization in India?

<table>
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<th>Options</th>
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</thead>
<tbody>
<tr>
<td>IT Sector</td>
<td>35</td>
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<tr>
<td>Educational Sector</td>
<td>18</td>
</tr>
<tr>
<td>Service sector</td>
<td>27</td>
</tr>
<tr>
<td>Rural Sector</td>
<td>20</td>
</tr>
</tbody>
</table>

Source: Primary data

Findings

- 70% of the respondents are aware about the digital India project, 12% of the respondents have no idea about digital India project and 18% of respondents have just had the name digital India project.
93% of the respondents think that digital India project will uplift the standard of living and 7% of the respondents think that digital India project will not be able to uplift the standard of living.

20% of the respondents literacy to rural people is the most important thing to convert India digitally, 21% of the respondents, digital education is the most important thing to convert India digitally, 54% of the respondents think both the things are equally important to convert India digitally and 5% of the respondents think equal taxation, high investment, digital governance and IT talent are the most important thing to change India digitally.

35% of the respondents, IT sector will get developed most after digitalization in India, 18% of the respondents think education sector will get developed most after digitalization in India, 27% of the respondents think service sector will get developed most after digitalization in India and 20% of the respondents think rural sector will get developed most after digitalization in India.

**Suggestions**

- Most of the respondents are aware about the digital India project.
- Most of the respondents think that digital India project will uplift the standard of living.
- Most of the respondent literacy the rural people and digital education are equally important to convert India digitally.
- Most of the respondents think IT sector will get developed most after digitalization in India.

**Conclusion**

Most of the people are aware of digital India. Digital India project will definitely uplift the standard of living. People want to live in a digitalized city as it will provide better life style through digital services. Rural area people will also be able to adopt the digital changes only if government of India will provide the proper training and digital literacy.

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A STUDY ON USER BEHAVIOURS OF ONLINE BANKING

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Abstract
This paper documents online banking trends, behaviours and expectations of consumers and banks. While banks view online banking essentially as a technology solution, it is a relatively new area for consumers and not yet self-supporting. Being a savings based culture still, consumers are cautious about their financial assets. They are also relatively recent entrants to internet based services. Design of these systems must therefore be based on an understanding of these users’ outlook and priorities through task centric, security assured and service oriented solutions minus the technological challenges. Design lessons suggest viewing online banking not just as a convenience alone anymore but beyond it, to provide service, simplicity and security. This will create satisfied online banking customers and therefore profitability for the bank.

Introduction
Banking is a task-focused activity and also deals with people's money. Both need ease of use and psychological comfort of the user as fundamental requirements, for example, giving feedback like 'your money will be transferred in 24 hours'. It specifically needs a clear task flow, clarity of language and terminology and support available at all times. Further, if a task completion process is intuitive and logical, the user is more likely to gain confidence and increase usage of the internet for all their banking needs, thus increasing revenue potential for the bank. An online demo of the service is an easy way to address both the task centric nature of banking as well as address the comfort level of the wide variety and vast numbers of novice users.

The Internet has revolutionized the way we live, shop, entertain and interact and also the way we save and invest. Internet banking arrived in India in the late 1990s. ICICI was the first bank to champion its usage and introduced internet banking to its customers in 1996. With lower internet costs and increased awareness about electronic media, online banking established itself only in 1999. Other banks followed suit, including HDFC, Citibank, IndusInd and the now redundant Times Bank.

Internet banking changed both the banking industry as well as banks’ services to its customers. ‘Anywhere banking’ came to be recognized as an opportunity also for differentiated and competitive services. Ancillary online services like checking account status, fund transfer, ordering demand drafts, loan applications, credit card verifications, shopping portals etc. as well as not requiring a visit to the branch during office hours were viewed as high-value offerings and increasingly started to become a necessity rather than a service.

Once banking institutions recognized the low processing cost per transaction via the internet, they began viewing online banking as an extension of the bank rather than as an add-on service. The motivation to introduce online banking now also included new business potential, additional funds from new and existing customers, expansion in geographical reach, image as a tech-savvy bank especially if targeting the youth and the threat of customers shifting loyalty if they did not introduce it.

Nationalized banks initially viewed online banking as insecure and counterintuitive and were therefore hesitant. But eventually, SBI, Canara Bank, Allahabad Bank, Punjab National Bank, Bank of Baroda, Syndicate Bank and others introduced it. SBI launched internet banking in 2001 and experienced good response. In general, internet banking saw an exponential rise in users.
Today, banks encourage their customers to use online banking. Besides cost and revenue impacts, this paradigm shift is because they also recognize that self-control transactions have greater potential for customer satisfaction and retention. Online banking has thus come to be among essential banking services.

The approach to adopting online banking however is often to merely stay abreast of industry and technology and online banking is becoming a separate business unit driven by technological possibilities. The user often has minimal place in such an approach as evidenced by non-human centric experiences that flourish. However, the cultural and organizational shift needed by Indian banks to draw old customers into this new banking channel as well as to draw new customers requires a user centric focus.

But how much have banks paid attention to the user? How is the overall experience and how do customers perceive their bank as they struggle unaided in the comfort of their homes? How cognizant are banks that customers silently leave after getting frustrated? Do they measure how much revenue they are losing because of a technology focused approach to online banking? How do Indian consumers behave in this dichotomy between technology barrier and convenience?

Indian Banking Industry and Online Awareness of its User Base

A large chunk of the Indian banking industry still belongs to the public sector banks having the most extensive network of physical branches. These are followed by large private banks and lastly by multinational banks (MNC) who have the smallest physical network and therefore their online banking needs to be the most developed and able to address user needs without requiring human intervention. The fact that most government organisations have their payroll accounts with public sector banks contributes significantly to the large customer bases of these banks. Traditional public sector banks have existed for many years and have serviced diverse income groups. This has resulted in their customer base being huge as well as belonging to a wider demographic representation, given India’s heterogeneous population as well. However, most of the traditional customers prefer to bank with a ‘bank with a human touch’ and prefer public sector banks as they form an emotional relationship with their bank personnel, which is not really encouraged by private sector or multi-national banks.

Indian Banking Scenario

Indian Internet Banking Landscape

The new generation which has been banking for less than a decade prefers faster transactions and more professional relationships as compared to the traditional customer. For them, opening a bank
account is incidental and connected to their direct deposit salary accounts. The private sector bank has captured the corporate and IT sector as compared to the public sector bank. As a result, banks in the public sector tend to have a huge user base, but very few of their customers have the technology orientation or the inclination to use electronic media for banking. Therefore, the awareness of customers of public sector banks about online banking as an active banking tool is relatively lower. To tap this type of user base that has an inherent barrier to and not an obvious need for internet usage, just adding an internet banking channel to a bank's lists of services may not be enough of an incentive. A streamlined, simple and customer satisfaction oriented approach to service novice users only can help banks achieve better internet banking penetration.

The following are the three major attributes which the users considered important for their online banking experience: Simplicity, Security and Service.

Simplicity
Users and non-users expect online banking to be further simplified than what they see today. Some expectations:
- Better link label clarity suggestive of action required
- Better navigation that highlights and presents relevant information in context and at the right time needed
- Better content partitioning according to popularity and priority of action

Security
Non-transactors and non-users reported that they did not transact online because:
- concerns about the security of their banking information is not fully addressed
- technical glitches and unreliability create confusion and anxiety
- additional security gateways were absent

Service
Almost all transactors demanded better service. They wanted:
- More services to be available online
- Better and faster customer support channels like online chat to solve banking hurdles
- Innovative and intuitive interface

Banks view online banking as an important medium of servicing its customer base. While they recognize it as a direct cost savings, they do not necessarily recognize it as a point of service and hence do not give it the attention they give customer service at the branch where they take great pains to satisfy the customer, and to address the smallest of queries common in live banking.

A simple example is their changing banking terminology without realizing its impact on the customer that can leave an average customer baffled. A label like ‘Emonies National Funds Transfer’ is very confusing for the customer. Changing it to a simpler ‘Funds Transfer’ reduces confusion and allows the customer to complete their transaction. Another example is use of marketing gimmicks resulting in loss of usability. If other banking portals have a link called ‘SMS Alert’, then coining a similar link called ‘InstaAlert’ only serves to create confusion.

Many banks have now understood that online banking is here to stay and that they need to upgrade and enhance their offerings for simple solutions and desired security to retain and attract customers. They also need to recognize that they must offer the same convenience and service that people have
come to expect at the branch as well as in other areas of their life like shopping online. Payment for shopping too requires users to invariably go through the online banking portals. Banks need to also understand that transition of a new user to an advanced one is a gradual process that needs to be supported by encouraging users to explore with confidence by offering intuitive processes and user-friendly nomenclature. Only when users feel confident with the system, will it be easy for them to explore new services through cross-sell banners and other means that are popular and successful in banking. Banks are however yet to regard online banking as a ‘person-less’ service counter where the user is left to fend for himself/herself amidst stiff usability barriers and realize that it costs them. The attention they accord their other points of service are therefore deficient in online. Setting up the hardware for online banking, which is viewed as the end point for the bank is often the beginning from a user's perspective. That a methodical user-centric rather than a technology-centric design approach is a systemic investment that creates satisfied customers, reduces costs and increases revenue is yet to be accepted by the banking industry.

Services Offered VIA Various Banking Channels

Conclusion

It is clearly in the interest of banks to encourage their customer base to use online banking. Current designs of online banking systems do not address users' needs and expectations of online banking. User-centred design methods can achieve this. Internet, phone, paper, statements, ATM and visit to the branch all need to appear as one holistic experience for the customer who is ‘anybody’. In India, banking, like several other transactions, continues to be relation-based and in need of human assurance and intervention, technology notwithstanding. Hence this is particularly significant. True benefits will be seen when banks use this technology to offload customer service costs and increase sales by maximizing self-service. As 21st century banking users entrust the care of one of their most important assets to cyber space, a seamless, stress free and successful experience is essential. Design with users' success as focus, content understandable by ‘anybody’, supported with demos and help to reduce intimidation, will justify investment in online through increased usage by satisfied customers.

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E-BANKING IN INDIA: ISSUES AND CHALLENGES

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Abstract
The new information technology is becoming an important factor in the future development of banking industry. Growing international trading and problems in transferring money have motivated researchers to introduce a new structure. E-banking is such idea. E-banking in India is an important and crucial service provided by leading banks in India. E-Banking is delivery of banking services and products through electronic channels like Internet, mobile and telephone services. It directly affects the speed of delivery of banking services, efficiency and convenience to the customers of the bank. This paper identifies the various services of e-banking, benefits from the customers, economy, and explores the Opportunities and challenges such as risk management and factors responsible for e-banking development. The paper also shows that e-banking is something that will see a huge growth in both practice and demand.

Keywords: E-Banking, Challenges, Opportunities, ATM, E-Banking Services.

Introduction
Electronic means of banking include electronically operated devices such as computers, ATMs, etc. In addition, Internet, Telephone, Mobile handsets are also used as a part of e-banking. Electronic or online banking is the latest delivery channel to be presented by the retail banks and there is large customer acceptance rate which means delivery of banking services to customers using electronic technology either at their office or home. The E-Banking offers massive opportunities in every sphere of business as the competitive advantage, member client retention increased revenues and reduced costs.

Objectives of E-Banking
- To identify various e-banking services/products adopted by India.
- To Study the benefits of E-banking
- To study the challenges faced in E-banking.
- To study the opportunities available in E-banking.

Components of E-Banking
E-banking systems rely on a number of common components or processes. The following list includes many of the potential components and processes seen in a typical institution:
- Website design and hosting,
- Firewall configuration and management,
- Intrusion detection system or IDS (network and host-based),
- Network administration,
- Security management,
- Internet banking server,
- E-commerce applications (e.g., bill payment, lending, brokerage),
- Internal network servers, Core processing system,
- Programming support, and
- Automated decision support systems.
E-banking services in India

E-banking provides following services

Automated Teller Machine (ATM)

ATM is very convenient and feasible facility to withdraw the cash in emergency at any time of the day. It is operated by plastic card with its special features either through Credit card or debit card. The plastic card is replacing cheque, personal attendance of the customer, banking hours restrictions and paper based verification. There are debit cards. ATMs used as spring board for Electronic Fund Transfer. ATM itself can provide information about customers account and also receive instructions from customers - ATM cardholders. An ATM is an Electronic Fund Transfer terminal capable of handling cash deposits, transfer between accounts, balance enquiries, cash withdrawals and pay bills. It may be on-line or off-line. The on-line ATM enables the customer to avail banking facilities from anywhere. In off-line the facilities are confined to that particular ATM assigned. Any customer possessing ATM card issued by the Shared Payment Network System can go to any ATM linked to Shared Payment Networks and perform his transactions.

Credit Cards / Debit Cards

In the present banking system most popular cards provided by the leading banks are credit and debit cards with credit limit as per the customers financial capacity. The Credit Card holder is empowered to spend wherever and whenever he wants with his Credit Card within the limits fixed by his bank. Credit Card is a post paid card. Debit Card, on the other hand, is a prepaid card with some stored value. Every time a person uses this card, the Internet Banking house gets money transferred to its account from the bank of the buyer. The buyers account is debited with the exact amount of purchases. An individual has to open an account with the issuing bank which gives debit card with a Personal Identification Number (PIN). When he makes a purchase, he enters his PIN on shops PIN pad. When the card is slurped through the electronic terminal, it dials the acquiring bank system - either Master Card or VISA that validates the PIN and finds out from the issuing bank whether to accept or decline the transactions. The customer can never overspend because the system rejects any transaction which exceeds the balance in his account. The bank never faces a default because the amount spent is debited immediately from the customer's account.

Smart Card

The leading Banks are also adding chips to their current magnetic stripe cards to enhance security and offer new service, called Smart Cards. Smart Cards allow thousands of times of information storable on magnetic stripe cards. In addition, these cards are highly secure, more reliable and perform multiple functions. They hold a large amount of personal information, from medical and health history to personal banking and personal preferences.

Benefits of e-Banking

In recent time E-banking has spread rapidly all over the globe. All Banks are making greater use of E-banking facilities to provide better service and to excel in competition. The spread of E-banking has also greatly benefited the ordinary customer in general and corporate world in particular. The following points summarize benefits of e banking.

Benefits to Customers
Following benefits accrue to customers

- Customers account is extremely accessible with an online account.
Customer can withdraw cash at any time through ATMs that are now widely available throughout the country.

Besides withdrawing cash customers can also have mini banks statements, balance inquiry at these ATMs.

Through Internet banking customer can operate his account while sitting in his office or home. There is no need to go to the bank in person for such matter.

E banking has also greatly helped in payment of utility bill. Now there is no need to stand in long queues outside banks for his purpose.

All services that are usually available from the local bank can be found on a single website.

The Growth of credit card usage also owes greatly to E-banking. Now a customer can shop worldwide without any need of carrying paper money with him.

Banks are available 24 hours a day, seven days a week and they are only a mouse click away.

Benefits to Banking Industry

Banking industry has also received numerous benefits due to growth of E-Banking infrastructure. There are highlighted below:

- The growth of E-banking has greatly helped the banks in controlling their overheads and operating cost.
- Many repetitive and tedious tasks have now been fully automated resulting in greater efficiency, better time usage and enhanced control.
- The rise of E-banking has made banks more competitive. It has also led to expansion of the banking industry, opening of new avenues for banking operations.
- Electronic banking has greatly helped the banking industry to reduce paper work, thus helping them to move the paper less environment.
- Electronic banking has also helped bank in proper documentation of their records and transactions.
- The reach and delivery capabilities of computer networks, such as the Internet, are far better than any branch network.

Benefits to General Economy

- Electronic Banking helps to create of a better enabling environment that supports growth, productivity and prosperity.
- E-banking helps to reduce delivery time, increased efficiency, reduced wastage.
- E-banking is electronically controlled and thoroughly monitored the environment. It helps to discourage many illegal and illegitimate practices associated with banking industry like money laundering, frauds and embezzlements.
- E-banking has helped banks in better monitoring of their customer base. It is a useful tool in the hand of the bank to device suitable commercial packages that are in conformity with customer needs.
- E- banking provide better opportunity to banking sector to enlarge their customer base, a consequence to increase the of volume of credit creation which results in better economic condition.
- E-banking has also helped in documentation of the economic activity of the masses.
Challenges of e-Banking

The E-Banking in India has following challenges

- The most serious threat faced by e-banking is that it is not safe and secure all the time. There may be loss of data due to technical defaults.
- E-banks are facing business challenges. For the transactions made through internet, the service charges are very low. Unless a large number of transactions are routed over the Web the e-banks cannot think of profit.
- There is lack of preparedness both on part of banks and customers in the adoption of new technological changes.
- There is lack of proper infrastructure for the installation of e-delivery channels.
- There is lack of Reliable and uninterrupted power supply
- There is lack of Awareness of Banking Literacy among the common man.
- Faith in technology by depositors and loan holders due to complexity in use.
- Attitude of bank employees.
- There is always lack of skilled personal and fear of technology.
- Startup cost e-banking is huge at initial level for acquiring personal computer and other equipments;

Opportunities of e-Banking

Following are the opportunities of using E-Banking facility in the developing country like India. Though there are challenges as listed above but they can be overcome by systematic planning, banking operations at front and back office operations:

- The cost of performing the banking operations through E-Banking is considerably low and efficient transactions related to money transfer.
- E-banking will facilitate the employees to perform different banking task and free them from the withdrawals and deposit procedures in the bank.
- Global presence due to the e-banking facility of Indian businessman and bank customers.
- Strict control over financial transactions which will avoid frauds in the bank.
- Due to rapid growth in internet users and e-Business applications the e-Banking will play a major role by providing financial transactions in minimum time and with reliability.
- It is the requirement of the present generation to provide fast access to bank data.
- Opportunities to IT professionals in managing e-banking facility.

Conclusion

E-Banking and its services will be the trend of banking industry in India. Due to information explosion and IT industry in India the implementation of e-banking services will see a growth trend in the coming future. The customers of the bank will force the banking industry by demanding timely, accurate, reliable and fast access to banking transactions. Due to core bank facility installed by maximum leading banks in India and there is a good opportunity to upgrade and provide e-banking facility to the customers of the bank.
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THE PART OF CONSUMER DISPUTE REDRESSAL AGENCIES WITH THE BELIEF OF EFFECTIVE OBJECTION HANDLING

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Abstract
This Paper comprises four sections i.e. National Commission, State Commission, District Forum and Consumer Protection Councils. Dispute Redressal Agencies have been established under Consumer Protection Act-1986 and their composition, jurisdiction, procedure of redressal, power, sitting, and orders including penalties have been discussed separately. Apart from this, performances of Redressal Agencies. The main objective is to provide for the better protection of consumers, customer performance, and its handling of customer complaints is an important component of providing superior customer performance. Three important aspects of the complaint process involve acknowledging customer complaints, identifying customer complaints, and handling customer complaints. This paper ends with Consumer Protection Councils at the three levels and an impact survey.

Keywords: Consumer Protection, Customer Complaints, Providing, Councils, Authorities.

Introduction
The Consumer Protection Act, 1986 is a milestone in the history of socio-economic legislation in the country. An act to provide for better protection of the interests of consumers and for that purpose to make provision for the establishment of consumer councils and other authorities for the settlement of consumers disputes and for matters connected therewith. It was enacted after an in-depth study of consumer protection laws of a number of countries an in consultation with representatives of consumers, trade and industry and extensive discussions within the government.

The main objective of the act is to provide for the better protection of consumers. Unlike existing laws which are punitive in nature, the provisions of this act are compensatory in nature. The act is intended to provide simple, speedy and inexpensive redressal to the consumers grievances, and reliefs of a specific nature and award of compensation wherever appropriate to the consumer.

The act has been amended in 1993 and 2002 both to extend its coverage and scope and to enhance the powers of the redressal machinery. The organization set-up, provided under the Consumer Protection Act, 1986 (Amendment 2002) has two wings

Advisory Bodies
The Consumer Protection Councils are the advisory bodies under the Consumer Protection Act and they have been charged with promotional and protection of the rights of the consumers. They play an important role in giving publicity to the matters of consumer concern, furthering consumer education and protecting consumers from unscrupulous exploitation. Consumer Protection Councils comprising of official and non-official members have been established at the district, state and centre levels.
The councils meet periodically to deal with consumer problems and take corrective measure for protecting the rights of the consumers.

A) **Central Consumer Protection Council**: Central government has established a council known as Central Council by notification, headed by Minister, incharge of consumer affairs in the Central government as Chairman of the Central Council. The Central Council is to meet at least once in a year (Sec. 4).

B) **State Consumer Protection Councils**: The state governments have established councils known as state councils by notification, headed by Minister incharge of consumer affairs in the state government as chairman of the State Council. The state councils is to meet at least twice in a year.

C) **District Consumer Protection Councils**: The state government has established for every district a council known as District Consumer Protection Councils by notification, headed by the collector of the district as Chairman of the District Council. The District Council has to meet twice in a year.

The objects of the above said councils are to promote and protect the rights of consumers such as: the right to be protected against the marketing of goods and services which are hazardous to life and property; the right to be informed about the quality, quantity, potency, purity, standard and price of goods or service so as to protect the consumer against unfair trade practice; the right to be assessed, whichever is possible, access to a variety of goods and services at competitive prices; the right to be head and to be assured that consumer’s interests will receive due consideration at appropriate forums; the right to seek redressal against unfair trade practices or restrictive trade practices or unscrupulous exploitation of consumers; the right to consumer education.

The preamble of the Consumer Protection Act aims to provide better protection of the interests of the consumers and for that provisions are made for the establishment of Consumer Protection Councils in the second chapter of the act. The object of the Consumer Protection Councils are to protect the rights of the consumers.

(ii) **Adjudicatory Bodies (Redressal Agencies)**

For the protection of consumer a three-tier machinery consist of district forums, the state commission and the national commission.

- **“District Forum”** by State Government. At least one in each district or in certain cases one District Forum may cover 2 or more districts.
- **“State Commission”** by State Government.
- **“National Commission”** (National Consumer Disputes Redressal Commission)

**Working of Redressal Agencies**

With regard to the matter of making a complaint District Forum (section 12). The complaint Can be filed by

- The consumer to whom such goods are sold or delivered or agree to be sold or Delivered or such service provided or agreed to be provided.
- Any recognized consumer association whether the consumer to whom the goods Sold or delivered or agreed to be sold or delivered or services provided or agreed
- To be provided is a member of such association or not.
- One or more consumers where there are numerous consumers having the same Interest, with the permission of district forum, or on behalf of, or for the benefit of All consumers interested or.
The Central Government or the State Government as the case may be, either in its Individual capacity or as a representative of interests of consumers in General.

**Composition**

Members of the councils are selected from various areas of consumer interest, who are, when possible, leading members of state wide organisations representing segments of the consumer public so as to establish a broadly based and representative consumer council. The Consumer Protection Act has authorised the Central Government to make rules as to the composition of the Central Council. Accordingly, the Central Government has provided that the Central Council shall consist of the following members not exceeding 150, namely:

1. The Minister in-charge of Consumer Affairs in the Central Government who shall be the Chairman of the Central Council;
2. The Minister of State (where he is not holding independent charge) or Deputy Minister in-charge of Consumer Affairs in the Central Government who shall be the Vice-Chairman of the Central Council;
3. The Secretary in-charge of Consumer Affairs in the Central Government who shall be the member-secretary of the Central Council;
4. The Minister in-charge of Consumer Affairs in States;
5. Eight Members of Parliament—five from the Lok Sabha and three from the Rajya Sabha;
6. The Secretary of the National Commission for Scheduled Castes and Scheduled Tribes;
7. Representatives of the Central Government Departments and autonomous organisations concerned with consumer interests—not exceeding twenty;
8. Representatives of the Consumer Organisations or consumers—not less than thirty-five;
9. Representatives of women—not less than ten;
10. Representatives of farmers, trade and industries—not exceeding twenty;
11. Persons capable of representing consumer interest not specified above—not exceeding fifteen;

**District Forum**

This shall consist of:

1. A person who is, or has been, or is qualified to be a District Judge, its President
2. two other members shall be persons of ability, integrity and standing and have adequate knowledge or experience or have shown capacity, in dealing with problems relating to economics, law, commerce, accountancy, industry, public affairs or administration, one of whom shall be a woman.

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<td>157847</td>
<td>228463</td>
</tr>
<tr>
<td>2015</td>
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<td>177898</td>
<td>406361</td>
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<td>236872</td>
</tr>
<tr>
<td>2016</td>
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<td>150441</td>
<td>387313</td>
<td>132577</td>
<td>254736</td>
</tr>
<tr>
<td>Average in No</td>
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<td>155526</td>
<td>385044</td>
<td>149847</td>
<td>235197</td>
</tr>
<tr>
<td>Average in %</td>
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<td>40.39%</td>
<td>100%</td>
<td>38.91%</td>
<td>61.09%</td>
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</table>
Appeal against orders of the Dist. Forum

Any person aggrieved by an order made by the District Forum may appeal against such order to the State Commission within a period of 30 days from the date of the order. The State Commission may entertain an appeal after 30 days if it is satisfied that there was sufficient cause for not filing it within that period.

Sitting of the District Forum – For conducting any proceedings to resolve a consumer dispute, at least two members of the Forum must be there one of whom should be the president.

Where the member, for any reason, is unable to conduct the proceeding till it is completed, the President and the other member shall conduct such proceeding de novo i.e. from the beginning.

State Commission
It shall consist of –
1. A person who is or has been a Judge of a High Court, who shall be its President;
2. Two other members (as for District Forum).

<table>
<thead>
<tr>
<th>Years</th>
<th>Previous Pending</th>
<th>New Cases</th>
<th>Total Cases</th>
<th>Disposed Cases</th>
<th>Current Pending</th>
</tr>
</thead>
<tbody>
<tr>
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<td>138059</td>
<td>34654</td>
<td>103405</td>
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<td>2013</td>
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<td>61116</td>
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<td>55379</td>
<td>109142</td>
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<td>100%</td>
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</table>

Appeals against orders of State Commission

Any person aggrieved by an order made by the State Commission may appeal against such order to the National Commission within a period of 30 days. The National Commission may entertain an appeal after 30 days if it is satisfied that there was sufficient cause for not filing it within that period.

Sitting of the State Commission

Every proceeding is required to be conducted by the president of the State Commission and at least one member thereof sitting together. However, if for any reason the member is unable to conduct the proceeding till it is completed, the president and the other member shall conduct such proceeding afresh.

National Commission
This shall consist of –
1. A person who is or has been a Judge of the Supreme Court, who shall be its President. (No appointment under this clause shall be made except after consultation with the Chief Justice of India).
2. 4 other members (qualifications: As for District Forum /State Commission).

Sitting of the National Commission – The disputes must be disposed of by at least three members of the National Commission, one of whom must be the president (or the senior most member authorised to work as president).

Performance of National Commission

<table>
<thead>
<tr>
<th>Years</th>
<th>Previous Pending</th>
<th>New Cases</th>
<th>Total Cases</th>
<th>Disposed Cases</th>
<th>Current Pending</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>8791</td>
<td>5621</td>
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<td>6352</td>
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<tr>
<td>2013</td>
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<tr>
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<td>41.52%</td>
<td>100%</td>
<td>39.67%</td>
<td>60.33%</td>
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</tbody>
</table>

Jurisdiction

Where to file a complaint? A complaint can be filed as per following jurisdiction

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>District Forum (SEC. 11)</th>
<th>State Commission (SEC. 17)</th>
<th>National Commission (SEC. 21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pecuniary</td>
<td>Upto to Rs. 20 lacs</td>
<td>More than Rs. 20 lacs but least than Rs. 1 crore</td>
<td>More than Rs. 1 crore</td>
</tr>
</tbody>
</table>

Appeal against the orders of district forums
In case where the district forum exceeded the jurisdiction or failed to exercise jurisdiction

Appeal against the orders of the state commission
In case where the state commission exceed the jurisdiction or failed to exercised jurisdiction

Who can be a complainant – Section 2(1) (b)
The complainant under the Consumer Protection Act, 1986 may be,
1. Consumer; or
2. Any voluntary consumer organization registered under the Companies Act, 1956 or under any other law for the time being in force; or
3. The central government or any state government; or
4. One or more consumers, where there are numerous consumers having the same interest;
5. In case of death of a consumer, his legal heir or representative; 73 who or which makes a complaint.

Procedure to be Followed on Receipt of Complaint
The key features of an effective complaint handling system can be organized according to ten principles for good practice. These principles form the three steps of complaint handling:
- **Enabling complaints** - arrangements that enable people to make complaints to organizations; 
  
  **Step-I**

  **Enabling complaints**
  
  Accessibility
  
  Visibility
  
  Customer focus

- **Responding to complaints** - ensuring that complaints are dealt with in a prompt, objective and confidential manner; and

  **Step-II**

  **Responding to complaints**
  
  Responsiveness
  
  Objectivity & fairness
  
  Confidentiality
  
  Remedy
  
  Review

- **Accountability and Learning** - using complaints to demonstrate accountability and stimulate organisational improvement.

  **Step-III**

  **Accountability and Learning**
  
  Accountability
  
  Continuous improvement

**The principles of effective complaint handling**
1. Customer focus – the organisation is committed to effective complaint handling and values feedback through complaints.

2. Visibility – information about how and where to complain is well publicised to customers, staff and other interested parties.

3. Accessibility – the process for making a complaint and investigating it is easy for complainants to access and understand.

4. Responsiveness – complaints are acknowledged promptly, addressed according to urgency, and the complainant is kept informed throughout the process.

5. Objectivity and fairness – complaints are dealt with in an equitable, objective and unbiased manner. This will help ensure that the complaint handling process is fair and reasonable. Unreasonable complainants are not allowed to become a burden.

6. Confidentiality – personal information related to complaints is kept confidential.

7. Remedy – if a complaint is upheld, the organisation provides a remedy.

8. Review – there are opportunities for internal and external review and/or appeal about the organisation’s response to the complaint, and complainants are informed about these avenues.

9. Accountability – accountabilities for complaint handling are clearly established, and complaints and responses to them are monitored and reported to management and other stakeholders.

10. Continuous Improvement – complaints are a source of improvement for organisations. Ombudsman Western Australia Guidelines The principles of effective complaint handling Ombudsman

Conclusions

Although structure of Dispute Redressal Agencies is very well framed and theses Courts have been conferred sufficient power to provide redressal to aggrieved consumers, but orders of Consumer Courts are not implemented on time because somewhere Consumer Courts lack executing power. Comparatively, speed of disposal of District Forums was higher than State Commissions. But the difference between the average speed of National Commission and average speed of District Forums was not very high. Hence, speed of disposal all the Forums i.e. National Commission, State Commissions and District Forums was low, but it was very low in case of State Commissions. Although, Consumer Protection Councils have been established according to the provisions of CPA, but their ultimate objectives remained unachieved. The handling of customer complaints is an important component of providing superior customer performance. Three important aspects of the complaint process involve acknowledging customer complaints, identifying customer complaints, and handling customer complaints.

References


12. cause of action” was a continuing “cause of action” and the claim was not barred by time provided under the Act
Abstract

In recent years Electronic Human Resource Management (E-HRM) is being used in most of the big companies and institutions and is among the leading organizational systems in human resource management (HRM) which its applications are considered to be very effective and cost-effective. Doubtless in nowadays chaotic world, implementation and development of the E-HRM systems as one of the basic features and elements in capacitating globalization paradigm play a significant role in companies and countries. Globalization paradigm is a set of multidimensional and complex processes which comprises several fields including economics, ideology, politics, culture and natural environments and leads to more dependency among different countries. In this paper we try to propose an implicit model to identify the nature, objectives, policies and strategies, applications and E-HRM system outputs in order to clarify the role of this system as one of the most affective and affected basic elements in capacitating globalization paradigm by relying on its dimensions, and point out the importance and necessity of the phenomena of organizational globalization in modern societies via E-HRM system. In following sections we will try to fill in the existing gap regarding the lack of sufficient attention to the present resistance in implementing E-HRM in the era of globalization by identifying challenges, opportunities and proposing suggestions to fulfill the implementation and development of the E-HRM system.

Introduction

E-HRM is the planning, implementation and application of information technology for networking and supporting at least two individuals or collective actors in their shared performance of HR activities "Technological optimistic voices want us to believe that, from a technical perspective, the IT possibilities for HRM are endless: in principal all HR processes can be supported by IT. Computerized Human Resource Information System (CHRIS) consists of “a fully integrated, organization-wide network of HR related data, information, services, databases, tools and transactions.” Such a system can be described as e-HR, meaning the application of conventional, web and voice technologies to improve the HR administration, transactions and process performance. As stated by Ernst Biesalski “Electronic- Human Resource Management (E-HRM) is a web based tool to automate and support HR processes. The implementation of E-HRM is an opportunity to delegate the data entry to the employees. E-HRM facilitates the usage of HR market places (e-recruitment) and offers more self-service to the employees. E-HRM is a collection of many different technologies”. Mary Gowan has defined Electronic Human Resource Management System (E-HRMS) as a web-based solution that takes advantage of the latest web application technology to deliver an online real-time human resource management solution. It is comprehensive but easy to use, feature-rich yet flexible enough to be tailored to your specific needs.

Objectives

E-HRM is designed to achieve the following objectives:

Electronic Human Resource Management (E-HRM), is one of the newest topics in human resource management science that has been created aiming on optimizing procedures in order to run faster the human resources functions, reducing costs and freeing scientists from administrative constraints to implement the strategic role. Generally there are four necessary requirements to be considered in the E-
HRM; first the units of human resources are asked to focus on the strategic questions; second these units need to be flexible in policy making and practical actions. And third the units of human resources should work effectively and be aware of the costs. Four, the units of human resources should be at the service of managers and workers. In short, these units must focus on the strategy, flexibility and be efficient and customer-oriented simultaneously.

Levels of E-HRM System
The three levels of E-HRM are:

- **Operational E-HRM:** The first area, operational E-HRM, concerns the basic HR activities in the administrative area. One could think of salary administration and personnel data administration.

- **Relational E-HRM:** The second area, relational E-HRM, concerns more advanced HRM activities. The emphasis here is not on administering, but on HR tools that support basic business processes such as recruiting and the selection of new personnel, training, performance management and appraisal, and rewards. For relational E-HRM there is the choice between supporting recruitment and selection through a web-based application or using a paper-based approach (through advertisements, paper-based application forms and letters etc.).

- **Transformational E-HRM:** Transformational E-HRM, the third area, concerns HRM activities with strategic character. Here we are talking about activities regarding organizational change processes, strategic competence management. In terms of transformational E-HRM, it is possible to create a change-ready workforce through an integrated set of web-based tools that enables the workforce to develop in line with the company's strategic choices. E-HRM is concerned with strategic HR activities such as knowledge management, strategic reorientation etc.

**Functions**

**E-Employee Profile**

Today the internet has become a primary means for employers to search for candidates and for applicants who look for a job. As many web based job portals are there were the employers will post their vacancy position in the job search web portals to stimulate the applicants to apply for that particular job. And this websites help in review resumes of various types. E-HRM is online recruitment. It refers to posting vacancies on the corporate web site or on an online recruitment vendor's website, and allowing applicants to send their resumes electronically via e-mail. It also includes the active search of the internet and the location of resumes.

**E-Recruitment**

Most employers will recruit their employees from the online job search engines (website like Naukari, Monster) etc. and new selection process are keeping tests online by testing their level of knowledge, behaviour, attitude all those the employer will recruit it properly by conducting all the test online by using strong IT which helps to reduce the cost.
E-Selection

E-Learning refers to any programmed of learning, training or education where electronic devices, applications and processes are used for knowledge creation, management and transfer. E-Learning is a term covering a wide set of applications and processes, such as web-based learning, computer-based learning, virtual class room, and digital collaboration.

E-Learning

Most companies start to think of online learning primarily as a more efficient way to distribute training inside the organization, making it available anytime, anywhere reducing direct costs (instructors, printed materials, training facilities), and indirect costs (travel time, lodging and travel expenses, workforce downtimes).

E-Training

A web-based appraisal system can be defined as the system which uses the web (intranet and internet) to effectively evaluate the skills, knowledge and the performance of the employees which reduces the money. E-HRM can also provide managers with information on how to conduct a Performance Appraisal, the specific criteria and measurements of given positions and roles as well as examples and models of effective appraisals. The email and electronic forms on the intranet of the company or a restricted web site are used to gather information on training need assessment, inducing benefits in terms of less paperwork, lower administration cost, shorter distribution and response time, and higher response rate.

E-Performance Management system and E-Compensation

All companies whether small or large must engage in compensation planning. Compensation planning is the process of ensuring that managers allocate salary increases equitably across the organization while staying within budget guidelines. As organizations have started expanding their boundaries, usage of intranet and internet has become vital. The usage of intranet and internet for compensation planning is called E-Compensation Management which reduces the money. As a web-based HR service system, HRIS offers you the flexibility of accessing the program 24/7, from anywhere with internet connection and IT.

Anywhere, Anytime Access

With the growing awareness for environmental sustainability, many companies are looking for ways to go green. Implementing a HRIS will help reduce almost all of the paperwork associated with HR tasks we can save money and time.

Eliminate Majority of HR Paperwork

It helps to reduce the cost by defining the work force in advance and to review the past data records of the employee leave etc.

Implementation of E-HRM

There are five main phases in the implementation of the E-HRM business solution.

1. Analysis (Infrastructure)

Analyzing the existing infrastructure with regard to quantity of data and classification of business activities.
2. Business processes in the company

After the existing processes have been analyzed, the options for automating these processes in the client's environment are proposed. Finally a project plan is developed based on the model of the processes identified.

3. Implementation

After the fundamental analysis of the processes in the work team, individual modules are deployed in the client’s environment. With modular design a gradual implementation is possible. Company-specific functionalities are discussed with the client and built upon request.

4. Implementation and Training

A complete knowledge of the components of the solution is a key factor for successful implementation. The entire team of project managers, information technology professionals and human resources specialist are thus involved in user training and implementation.

5. Maintenance

Fast technological development and development of new modules make cooperation after the implementation indispensable. A maintenance contract typically includes:

- Technical support experts available by phone, through e-mail or on-site.
- Adaptation of existing modules or development of new ones
- Application software adjustment to changes in the system environment or
- Operating system
- Functionality improvement and software upgrades in the form of new versions
- Consultation about further development of the system.

Advantages

- E-HRM has the potential to influence both efficiency and effectiveness.
- Efficiency can be obtained by reducing the cycle times for meting out paper work, increasing data precision, and reducing excess HR.
- Effectiveness can be affected by improving the competence of both managers and employees to make better, quicker decisions.
- Amplified and easy access to HR data and ease in classifying and reclassifying data.
- A higher internal profile for HR leading to better work culture.
- It leads to a more transparent system.
- Considerable reduction of administrative burden
- Provides Integral support for the management of human resources and all other basic and support processes within the company
- A more forceful workflow in the business process, productivity and employee satisfaction
- E-HRM can save costs while maintaining the quality of data
- Decentralization of HR tasks

Disadvantages

Illicit Access: One of the basic disadvantages of using E-HRM is that the data gets free accessible to all and anybody can access the strategic information and use it any way without any authorization. It is prone to corruption/hacking/data losses.
Specialized Knowledge: one of the advantages of E-HRM is that it may help the organization to reduce the cost HR personnel, though it could increase the requirements for technical staff with knowledge specific technology and functional area as well.

Data Entry Errors: E-HRM can only perform as good as its human programmers and end users.

Low interpersonal contact: The use of EHRM can estrange staff members that need personal support as it reduces the need for managers to interact with staff.

Threat to HR Itself: The propensity of being dependent on technology will reduce the reliance on manpower, thus it poses a great risk on the basic foundation of HR, where the Human resources are considered as an asset and capital to achieve organizational objectives and fulfill the mission and vision of the company.

Recommendations and Suggestions

The above mentioned factors are imperative and therefore should be carefully considered before undertaking the e-HRM venture. The important dimensions that should be taken into consideration are highlighted here:

1. Cross cultural training of HR personnel- Strategies should be developed to ensure the cross cultural training of the personnel in the HR Department so that so that they understand other cultural background and people and avoid conflict of interests.

2. Motivation- Motivation of the employees is required so that they continue to be a part of the organization and contribute more towards the development and growth of the current organization with their ideas. It should be kept in mind that apart from the financial motivation, training and development opportunities, job satisfaction and other motivational factors should be taken into account.

3. Adaptibility- HR should adapt itself to the changing environment and technology and should opt for sufficient and sustainable technological supportability of equipments and resources.

4. Flexibility- HR technologies adopted should be agile and flexible so as to accommodate the changes in the adjust to the new paradigm shift. Then demands of the changing economy should be taken care while developing new policies or changing existing policies.

5. Technical training- The changes in the workplace often require the implementation of additional training for workers. As training and development is generally the realm of the HR department, this creates yet another challenge for human resource managers. HR must first determine what training is necessary and then implement training measures to ensure all workers can keep up with technical changes. Human resource managers must also determine when it may train existing employees, and when it must search for new workers to fill technical positions within the organization.

6. Communication- To ensure the smooth implementation of the system, organizations must ensure the need to address the potential issues like calculating organizational impact and proper communication of the various training plans to the employees.

7. Monitoring and feedback- Successful implementation has also to be followed with regular and periodic follow up. This will ensure to understand and solve the problems faced after the implementation, and accordingly steps can be taken for the further improvement or modification of the system.

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Conclusion

E-HRM is a web based tool to automate and support HR processes. The implementation of E-HRM is an opportunity to delegate the data entry to the employee. E-HRM facilitates the usages of HR marketplace and offers more self-service to the employees. E-HRM is advance business solution which provides a complete online support in the management of all processes, activities, data and information required to manage human resources in a modern company. It is an efficient, reliable, and easy – to use tool, accessible to a broad group of different users. E-HRM is a way of implementing HR strategies, policies, and practices in organizations through a conscious and directed support of and/or with the full use of web-technology-based channels. Thus, to globalize the experts, or better to say to develop the E-HRM system, we need strategic knowledge both in workplace and education centers. Accepting and understanding cultural dependency in most of the E-HRM system's functions should be developed more than the educational facilities and the preliminary resistance towards it should be put aside. Also there is a need for educating a new group of experts in the field of human resources who possess a global view and are skillful in web based tools. So training and educating a new generation of experts in the field of human resources internationally is one of the most important challenges facing the E-HRM.
E-FILING AND E-PAYMENT OF TAX: BENEFITS AND CHALLENGES

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Abstract

Tax e-filing is one of the e-government services that have been adopted by many developed countries today, where the public has to discharge their responsibility to the government via online tax filing. In developing countries like India, due to high perceived risk by the public, a well establish integrated reliable system is required. It is very difficult to implant responsible behavior within a community, if an individual perception of risk of the e-government services is the concern. The paper highlights the benefits and challenges of E-filing. E-filing allows tax payers to file taxes online so that they can receive a quicker refund or pay owed taxes online. The aim of the article is to know the issues and challenges of e-filing. Benefits to e-filing are increased accuracy, fast confirmations, and quicker returns. However, e-filing is not error-free and some problems can arise from using this method of filing taxes.

Keywords: E-Tax Filing, Benefits, Challenges, Problems

Introduction

In this technology driven world, the use of internet has been widespread and diversified. The diversified use of internet will relatively be increased which also benefits the users. In this digital era, governments of many countries are using the internet to provide public services to its citizens, known as e-Governance. E-governance refers to the use of information and communication technologies by public administration to create a networked structure for; interconnectivity, service delivery, efficiency, effectiveness, transparency, and accountability. Online tax filing commonly known as e-taxation is gaining more importance due to its wide applicability and usefulness. In India, income tax e-filing was introduced in September, 2004, initially on a voluntary usage basis for all categories of income tax assesses. But from July, 2006, it was made mandatory for all corporate firms to e-file their income tax returns. Taking this process further, from assessment year 2007 to 2008, e-filing of income tax return was made mandatory for all companies and for all other categories of income tax assesses, which also includes salaried individuals. About 81% of total revenue of the country is generated by direct taxes. Therefore the main aim of the department is to enable taxpayers to meet their normal tax obligations in a convenient manner without visiting Income Tax Office. To accomplish this objective, the department’s high priorities are: e-delivery of taxpayer services, increase of departmental computer infrastructure and the setting up of Tax Information Network (TIN). The e-taxation system provides the key services like online registration, form download, returns filing, online payment, online tax accounting system, effective tax rates, key notifications and provisions and enactments. These services could be accessed through an internet connection without any geographical hindrance. The overall aim of e-taxation is to replace cumbersome manual, bureaucratic service systems with collaborative, efficient, process-driven and secure online delivery. The present paper attempt to investigate the major benefits, and challenges of e-filling and e-payment of tax by the tax payers.

E-Filing

E-filing of income tax is a method of submitting the details of your income and other details through electronic media. This method is very popular due to its convenience.
Benefits of Income Tax E-Filing

**Error free submission:** Real time error check is possible through income tax authorities. Validations are helpful to ensure the return perfect

**Quick refund:** Online filing enables the department to process the return with minimum time and therefore refund become very easy.

**Acknowledgement receipt:** Online filing followed by an acknowledgement receipt with summary of income and tax bearing a serial number become an authenticated document before any authority. It can download from the account at any time.

**Effortless and efficient:** Controlled and guided entry set by the utility or software pave the way to proper and fast completion of IT return. Filling in paper return always brings confusion and error, but a neat and clean return can be given through online filing.

**Avoid delays:** Paper filing of return always depends the time of office, queues, spot self-correction, holidays, presence of officer, etc. Regardless of these matters any person can file their income at anytime from anywhere.

**Possible ways to reduce tax:** Real time instructions of online utilities of income tax filing will help us to source all possible ways and means to avail possible deductions and exemptions. Common man is unaware of the provisions section 80C or so.

Types of E-Filing

There are three ways to file returns electronically

Option 1: Use digital signature in which case no paper return is required to be submitted.

Option 2: File without digital signature in which case ITR-V form is to submit to CPC Bangalore within 120 days of e-filing. This is a single page receipt cum verification form.

Option 3: File through an e-return intermediary who would do e-Filing and also assist the Assessed file the ITR V Form.

Challenges in Implementing E-Filling and E-Payment Systems

**Entering the correct details manually**

The ITR forms carry a number of rows and columns that need to be filled out at the time of filing one’s income tax returns. The details have to be entered in a particular format, which if not done properly can lead to errors in the returns. For example, dates have to be entered in the DD/MM/YYYY format only. If the date is entered in any other format, the returns would be incorrect.

**Correct computation of income**

Taxpayers need to compute their income accurately, including income other than salary. These additional incomes can be from sources like savings account interest, fixed deposit interest, rental income from house property, income from short-term capital gains, etc. These incomes have to be included and entered in the relevant fields in the ITR forms.

**Mismatch in details of TDS**

Often, details of tax deducted at source end up being incorrect because TDS is deducted not only from salary but from other incomes as well. If the details entered in the ITR forms do not match with the government’s data, the filed returns would be incorrect. Taxpayers can look at their tax credit statement (Form 26AS) to verify the TDS deducted from different sources.

**Forgetting login password**

Since income tax filing is something that a taxpayer has to do only once a year, people tend to forget the password for their accounts. In such cases, they have to reset their passwords to be able to e-file
their tax returns. Even then, to reset their password they have to answer a secret question and answer, which is also something that people tend to forget.

**Different Form 16s because of changed jobs**

Whenever a taxpayer changes jobs, they end up with different Form 16s from each employer at the time of filing their tax returns. Filing returns with multiple Form 16s can be tricky and taxpayers are often not sure about how to do it.

**HRA not being given by employer**

If an individual doesn’t submit the rent receipts with the company HR, he or she won’t be able to get house rent allowance. Often, taxpayers are not aware that they need to have their landlord’s PAN to avail the HRA benefit. Furthermore, calculating the applicable amount of HRA is also tricky.

**Calculating how much deduction can be claimed**

Taxpayers are allowed to claim deductions of up to Rs 1.5 lakh in a financial year by way of certain investments and expenses. But how much can be claimed from what source is a tricky thing to figure out. Often, taxpayers are also not aware of some expenses that are eligible deductions.

**Conclusion**

The use of electronic services to improve tax administrations’ efficiency and provide enhanced taxpayer services has become one of the main objectives of many tax administrations. Online shopping allows customers to sit in their homes and buy goods from all over the world. Similarly allows merchant to sell their products to all over the world from home. Most of the population will use online payment in near future. Most of the third world countries lagged behind in making good internet architecture. There is need of a secure online payment gateway in developing countries. Various researchers have different opinion regarding the benefits of e-filing; however according to some researchers many challenges are there regarding adoption of e-filing by mass population. Main challenge is risk of security. This study shows that the e-filing is the new effective method of filing income tax return through online and make e-payment tax. It saves our golden time, energy and cost and also reduces our tension and continuous advancement in technology makes it more simple and effective.

**References**

1. https://incometaxindiaefiling.gov.in
A STUDY ON CONSUMER BEHAVIOR TOWARDS ECO FRIENDLY JUTE PRODUCTS

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Abstract

The purpose of this study is to understand the variables affecting the consumer behavior while purchasing eco-friendly jute products. Jute is a bio degradable crop grown mainly in the Ganges delta. It is one of the most important natural fibers after cotton in terms of cultivation and usage. Major parts of West Bengal and Bangladesh are involved in jute cultivation. Countries like China, Thailand, Myanmar, Nepal and Bhutan also cultivate jute. Jute, the golden fibre, meets all the standards for safe ‘packaging in view of being a natural, renewable, biodegradable and eco-friendly product. Ten in-depth interviews were conducted to find out more details information about participants perception and behaviors. Eco-friendly jute diversified products are shopping bags, laundry bags, shoulder bag, purses, school bags, floor mats, seminar bags and decorative items etc. This industry will have its demand in spite of substitutes artificial fiber based products such as plastic or polythene. Customer satisfactions are of perceived performance and the buyer’s expectation. Recognizing that highest satisfaction leads to increased customer loyalty, many companies today are aiming for Total Consumer Satisfaction (TCS). The study is to know about the buying behavior of the customers and to find out the opinion of various jute products among the people. This study will help entrepreneurs to design marketing strategies for sustaining in the competitive business world.

Keywords: green marketing, environment-friendly products, sustainability, consumer behavior, purchase intention.

Introduction

The textile industry is considered as the most ecologically harmful industry in the world. The eco-problems in textile industry occur during some production processes and are carried forward right to the finished product. In the production process like bleaching and then dyeing, the subsequent fabric makes a toxin that swells into our ecosystem. There fore the need of eco textiles is felt. Green textiles refer to clothing and other accessories that are designed to use organic and recycled material. The word is out in the market ‘go green to save the world’. Efforts are being made to counter environmental problems like waste-management, global warming, green house effect in the last few decades and there are several ‘green’ products available in the shops now. Textile sector has also been a witness to several changes in the demands of consumers concerning green products. In order to make the product design optimum, to improve product manufacturability, to resolve the problems occurring in product’s remanufacturing, the concept of green production evaluation system is necessary. Reducing the environmental impact throughout the life-cycle of a fabric item or using lower impact products can contribute actively to improve the situation. In general, there are four major environmental key factors associated with the making of textiles: water, energy, pollution, and use of non-renewable resources. The present study is to understand the consumer behavior and adoption intention of consumers towards the eco-friendly jute products.

The use of natural fiber is more sustainable than synthetic fiber or artificial fiber because natural fibers use natural resources compare to synthetic and fiber extracted from plants which are annually cultivatable. Annual replacements make these renewable resources. For this reason, natural fiber is biodegradable, disposable and use these creates non toxic environment. So, natural fiber ensures sustainability and eco-compatibility. Moreover, 2009 has been declared the “International Year for Natural Fibers” by FAO to bring a spotlight on this issue.
Objectives of the Study
- To study the consumer's opinion towards various jute products.
- To study the consumer's awareness towards various jute products.
- To study the consumer's satisfaction level towards various jute products.

Raw Jute Fibre Scenario
Raw jute crop is an important cash crop to the farmers. Cultivation of raw jute crop provides not only fibre which has industrial use, but jute stick which is used as fuel and building material by the farming community. Jute is used chiefly to make cloth for wrapping bales of raw cotton, and to make sacks and coarse cloth. The fibers are also woven into curtains, chair coverings, carpets, area rugs, hessian cloth, and backing for linoleum.

Jute Furniture
Jute made furniture has a number of striking features. This makes it an perfect choice for making long-lasting and hard-wearing furniture. Jute furniture is natural, captivating and highly stylish and is acquirable all over, in a number of various designs as well as styles.

Jute cloth
Jute cloth made by 100% jute fiber, laminated jute cloth, jute hessian fabric, rough jute products, hessian cloth, sack cloth, for pack. Anji Qingyun jute cloth made by 100% jute fiber, 100% jute natural products, laminated jute cloth, laminated jute fabric.

Production of Jute Goods
India is the leading jute goods producing country in the world, accounting for about 70% of estimated world production. Bulk of the manufactured jute goods is predominantly being used in packaging purposes in domestic market. Jute begins as a plant that is taken from the bark of a jute plant. It is long, golden, shiny, and part textile and part wood. The jute plant is found in tropical areas, with Bangladesh and India producing 95% of the crop. Jute can be found in other places, such as Nepal, China, and Thailand. Jute has many uses. The only fabric to be used more then jute is cotton. We see jute used for many creative projects. But, jute is used for so much more. Let's take a look now at some of its many uses. Household fabrics--Take a look around your house or a furniture store the next time you visit. Chances are, you may see some item that has jute in it. Jute is used in chair coverings, rugs, carpets, curtains, floor coverings and other textiles. Farm use--Many farms use twine and rope containing jute. Twine might be used to keep bales of hay together and rope might be used for a variety of farm and ranch uses. Jute is also used as a fabric to help with soil erosion, and seed protection. Fabrics--things such as canvas and sacking uses jute. Sacking is the use of jute to make bags and wrappers. Garden--Many people use jute products to control weeds. It is also beneficial with landscaping projects. Food--While jute might not be heavily consumed here in the U.S., the leaves of jute are consumed in other areas such as West Africa.
Jute Diversification Promotion Centre (JDPC) are working on jute diversification. (World Bank) "Jute and jute goods constitute 56% of textile exports and in 2016 it was 3.8 percent of all export. Within the overall jute sector, low value added and traditional products account for more than 99% exports; thus diversified jute products currently represent less than 1% percent of jute sector export."
In order to overcome the declining market of conventional products, new technologies and products has been evolved by using jute in the production of value added products and diversified products. By this way new industry has emerged and it is called jute diversified industry. This industry focuses innovative jute products. Eco-jute diversified products means products are made from natural jute fiber, yarn or fabrics. It is recycled materials, reusable, designed for longtime use, causing little or no environmental impact and produced by eco-consciousness enterprises. Jute can be used for different purposes. Broadly, eco-friendly jute diversified products means these products are manufactured by using jute fiber, yarn, or fabrics partly or wholly.

According to Jute Diversification Promotion Centre (JDPC) “All fiber, yearn and fabrics-based jute products of high value addition excepting traditional hessian, sacking, carpet backing cloth and yarn of six count and above yearn will be termed as jute diversified products.” Diversified jute products uses multipurpose. For sustainable and revive the jute sector, everyday several products have been developing and adding in jute products family. The range of JDPs including ladies bag, summer/beach bag, fancy bag, executive bag, school bags, purse, pouch, wallet, file, decorative products, sataranji, wall/flower mats, table mats, runner, place mat, sikka, wall hanging, toys, grocery bags /souvenir, seminar bags, notebook, pen stand, paper & pulp (jute paper, jute –silk blended paper, jute board, garments tag, visiting card, greetings card & note book), jewellery and jewellery box and office items etc. Almost jute diversified products are manufactured by Micro, small and medium enterprises in India. Moreover, India produces best quality raw jute in the world and she has core competency in raw jute production due to agro-ecological comparative advantages. World Bank study observed, Bangladesh has the huge potential and broadens scope in producing diversified jute products in world jute sector. On the side of coin, India the first mover advantage in producing diversified jute fashion products compared to Bangladesh. Entrepreneurs need to understand the buying behavior of diversified jute products and formulating effective green marketing strategies and practices according to their purchase behavioral factors. Finally, it is true that green business and green marketing can play significant role for curbing climate change impacts around the world. Consumer preferences are going green, presenting new opportunities for entrepreneur.

Methodology
Sampling Design
For the purpose of the study random sampling method has been adopted. Descriptive analysis has been adopted for analysis. This study was followed by depth interviews conducted to the people to explore factors of buying decisions for eco-jute products. The study was considered as population to all consumers at India. The interview was conducted among two hundred respondents. Ten in-depth interviews and respondents were selected purposively from several groups. Respondents were asked different questions regarding marking mix issues (Products: raw materials of products, quality of product, design etc, Price: price condition, comments on price, promotional and availability of the products etc.), besides problems and suggestions also were asked regarding eco-jute diversified products.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Female</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
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</table>
Table 1 reveals that 70% of the respondents are Female and only 30% of the respondents are Male. Majority of the respondents are Female.

Table 2 Age Group Distribution of the Respondents Age Frequency Percentage

<table>
<thead>
<tr>
<th>Age</th>
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<tr>
<td>Below 20</td>
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<td>20 – 30</td>
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<tr>
<td>30 – 40</td>
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<td>20</td>
</tr>
<tr>
<td>Above 40</td>
<td>10</td>
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</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>School level</td>
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<td>10</td>
</tr>
<tr>
<td>College level</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Professional Qualification</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Others</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 3 Respondents Satisfaction Level with Jute Products

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Very High Satisfaction</th>
<th>Moderate Satisfaction</th>
<th>Less Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jute bags</td>
<td>70</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>Jute rugs</td>
<td>20</td>
<td>60</td>
<td>20</td>
</tr>
<tr>
<td>Jute apparel</td>
<td>70</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>Jute furniture</td>
<td>40</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>Jute crafts</td>
<td>40</td>
<td>40</td>
<td>20</td>
</tr>
</tbody>
</table>

Results and Discussion

Majority of the respondents are Female. Majority of the respondents are students and homemakers. Majority of the respondents prefer Jute Apparel. Majority of the respondents are satisfied towards Jute bags, Jute Carpet and Rugs, Jute Furnishings, Jute Bags and Jute Crafts. Majority of the respondents have not faced any difficulty in using the jute products. Majority of the respondents have a good opinion about the jute products. Majority of the respondents are of the opinion that Jute Carpet and Rugs are mostly used. Majority of the respondents reveal that Jute Carpet and Rugs and Jute Bags and jute apparels are Highly Available. Majority of the respondents make their purchase through retailers.
Conclusion

In this modern world, technology has reached its peak in all fields. When customers are exposed to innovation, they see new possibilities. They begin to visualize something better than what they have today. High moisture absorption capacity, flexibility and drainage properties are the features characterizing jute as an eco-friendly fiber and so jute products are considered as ecologically acceptable by the environmentalists. Advantages enjoyed by jute products

Over other fibers are abundant availability and bio-degradable properties. For centuries jute has been associated with flexible packaging, specially sacks, shopping bags and coarse door mats. Jute jewellery, jute apparels, jute wall hangings were out of human range of imagination then. But in today’s date multiple and versatile jute products are creating a global market. But the range of jute has increased manifold and it spread from the packaging industry to the fashion industry. So the government and others could make it a point to make manufacture long lasting jute products that too with the advent of so many benefits from it.

References
4. Booklet, Jute Diversification Promotion Centre (JDPC), Ministry of Textile and Jute, Bangladesh
Introduction

An online marketer now needs to find where people are congregating online and needs to engage them in a meaningful way. Be it in matching with what they are looking for, watching how they interact and understand what they like or listening to their natural opinions on a company or market and reaching to that.

Definition

“Marketing has changed. A traditional advertising does not work, brochure like websites do not work, the web has given people ultimate freedom of choice and of goods. When there are no monopolies and constrictions, interrupting people’s lives is not effective marketing anymore”

What is E-Marketing

E-Marketing stands for electronic marketing. In contrast to traditional marketing E-marketing takes marketing techniques and concepts and applies them through the electronic medium of the internet. Essentially, e-marketing threads the technical and graphical aspects of online tools together, allowing for design, advertising, brand development promotion and sales. Internet marketing offer the possibility to tracking almost every action a visitor or potential customer takes in response to marketing messages and how they navigate through their buying cycle. One the most desirable aspects of marketing is low barrier to entry.

Features and Functions of E-Marketing

E-MARKETING modules allow organizations to deliver highly personalized web offers and dynamic web survey that are fully synchronized with marketing efforts in traditional channels.

- Efficiently set up and manage campaigns and support tasks.
- Budget, organize and schedule detailed marketing campaigns down to the task level.
- Measure and qualify the effectiveness of a marketing campaign
- Segment the customer base accurately
- Proactively manage and merge direct mail, e-mail and fax lists
- Eliminate costly duplication with advanced phonetic matching
- Capture and analyze return on investment of marketing activities
- Automatically transfer qualified leads to your sales organization
- OLAP capability
Four Ps of e-Marketing

Components of marketing mix is known as 4Ps. According station, marketing is a combination of four elements products. Pricing structure, distribution system and promotional activities used to satisfy the needs of an organization’s target markets and at the same time, achieve his market objectives.

- Product
- Price
- Place
- Promotion

Product

A product is a benefit of service which a business provides to its customer. A business cannot progress until it’s provide a quality products or services which satisfies the needs of consumers and such there are ready to pay for that it involves planning, developing, and producing. It essentially deals with the production of right type of products and services to be marketed by the firm. The P deals with the product durability, product range, product branding, and product packing and other essential features.

Price

The second important p is price. It is one of the important elements of market. When product is launched the next important task is to decide its price. The price of the product should be as such which is reasonable for the both the producers and the customers.

Place

The P marketing mix is related with physical distribution of goods should be displayed and made available to the potential buyers. The P is also related with the decision regards warehousing, transportation, etc.

Promotion

Promotion is the activities which are taken up in e-marketing to sell product and services. In the promotion of any product, the information related to the product should reach the customer well in time. The promotion is the prime importance when a company is to be launching a new product.

Advantages of e-Marketing

- Global reach
- Lower cost
- Interaction
- Interactive
- Highly personalized
- Faster response
- Simplest
- Targeted marketing
- Measurable results.
E-Marketing Channels

- **Display Advertising**
  The process of placing ads on the third-party websites with the goal of creating branding awareness and or generating traffic. (Examples) banners ads, video ads, interactive ads.

- **E-Mail Marketing**
  The process of collecting email addresses from potential leads and marketing to them via e-mail messages. (Examples) email newsletter, brand building emails.

- **Pay-Per-Click Advertising**
  The process of bidding for placement at search engines (major or niche) to earn visibility and traffic when relevant queries are performed. (Examples) Google ad words, Yahoo! Search marketing, business.com advertising etc.

- **Online Public Relations**
  The process of generating media from primarily online outlets in order to earn branding and traffic. (Examples) PRNewswire PR Web.

- **Search Engine Optimization**
  The process of earning rankings in the organic results of the major search engines (Google, yahoo, Bing).

- **Affiliated Marketing**
  The process of incentivizing other sites to push your product in exchange for a share of the revenue they drive.

- **Social Media Marketing**
  The Process of leveraging social media platforms (small and large) to earn visibility and traffic. (Facebook group pages, twitter)

- **Viral Content Campaigns**
  The process of generating creative content that will help spread your branding, marketing message and earn traffic. (link bait production, viral videos)

- **Conversion Rate Optimization**
  The process of improving the path from landing to conversion to get more leads / signups / customer. (split multivariate testing).

**Conclusion**

The gains related the productiveness and efficiency generated by the e-commerce on the economy ensemble are so promising so that practically any attempt to ignore this new channel of business life development would be against productiveness. The potential that e-commerce has in productivity and competitiveness terms is so significant that any deal in ensuring the technological and infrastructure premises necessary to its spreading on a larger scale attracts the risk of the deepening of the digital difference between countries.

**Reference**

The economic development of any country depends on the Industrial, Commercial, Agricultural and overall development of all sectors. Finance is the life blood of a business. Banking sector facilitates the financial needs of all sectors and contributes towards economic development. Electronic Banking offers effective banking services to its customers. A bank is a financial intermediary and money creator that create money by lending money to a borrower.

Electronic Banking – Indian Scenario

In Indian Banking industry the traditional way of banking has been changing into electronic way of banking in recent years due to technological development. As compared to other countries e-banking growth and development is at a nascent stage in India. The credit of launching first E-banking practice goes to ICICI Bank. Citibank and HDFC Bank followed, it in 1999. Government of India and RBI took initiatives to develop e-banking in India. The government enacted the IT Act, 2000 with effect from October 17, 2000, which provided legal recognition to e-tractions and other means of e-commerce.

Types of E-Banking Practices

- Automated Teller Machine, DebitCard, Credit Card, Internet Banking, Telebanking, Mobile Banking, Electronic Cheque, Electronic fund transfer, Electronic clearing services, Real time cross settlement etc.,

Benefits

Convenience, Cost savings, Services, Mobility, All time service in all places.

Electronic Security in Indian Banking

- Security and privacy issues in e-banking – security authentication, Access Control, Data confidentiality, Data integrity, Security Audittrail, Digital signature and certification, Public Key infrastructure, Firewall.

Risks in E-Banking

Transaction, Credit, liquidity, Strategic and Reputation Risk.
The Research Study was conducted in Coimbatore city during 2015.

Coimbatore City – Banks - A View

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Banks</th>
<th>S.No.</th>
<th>Name of the Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Allahabad Bank</td>
<td>24.</td>
<td>Karurvysya Bank Limited</td>
</tr>
<tr>
<td>2.</td>
<td>AXIS Bank</td>
<td>25.</td>
<td>Kotak Mahindra Bank Limited</td>
</tr>
<tr>
<td>7.</td>
<td>Central Bank of India</td>
<td>30.</td>
<td>Repco Bank</td>
</tr>
<tr>
<td>8.</td>
<td>Citi Bank</td>
<td>31.</td>
<td>Scotia Bank Limited</td>
</tr>
<tr>
<td>9.</td>
<td>City Union Bank Limited</td>
<td>32.</td>
<td>Small Industrial Development Bank of India</td>
</tr>
<tr>
<td>10.</td>
<td>Corporation Bank</td>
<td>33.</td>
<td>State Bank of Bikanir and Jaipur</td>
</tr>
<tr>
<td>11.</td>
<td>Dena Bank</td>
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<td>State Bank of Hyderabad</td>
</tr>
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<td>12.</td>
<td>Dhanalaxmi Bank</td>
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<td>State Bank of India</td>
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<tr>
<td>14.</td>
<td>HDFC Bank</td>
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<td>State Bank of Patiala</td>
</tr>
<tr>
<td>15.</td>
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<td>IDBI Bank Limited</td>
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<td>Syndicate Bank</td>
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<td>Indian Bank</td>
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<td>Tamilnad Mercantile Bank Limited</td>
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<td>UCO Bank</td>
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<td>Indian Overseas Bank</td>
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<td>ING vysya Bank</td>
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<td>23.</td>
<td>Karnataka Bank Limited</td>
<td>46.</td>
<td>Yes Bank</td>
</tr>
</tbody>
</table>

**Research Gap**

Many research studies were reviewed. Only a few research studies have been carried out in the area of customers satisfaction towards electronic banking practices among Public and Private banks at National level. This research gap was found out. A research study is needed to fulfill this research gap and to find out a solution to the research problem. There is need to clearly understand the E-banking practices among public and private banks, to find out the level of satisfaction of E-banking customers. Electronic banking practices helps the customers to bank at anytime and anywhere conveniently without involving more time and more transaction cost. If the reasons for satisfaction or dissatisfaction of the customers are found out, then the E-banks can modify their practices to satisfy the E-customers. To find out the solutions a research study is essential. Hence, in this regard a research study on electronic banking practices among customers of select public and private banks is required to find out their satisfaction. The findings of research study on E-banking customers will offer a competitive edge to the modifying bankers, to succeed among the competitive bankers. A research study has to be carried out in Coimbatore electronic banking customers are increasing day by day because of changes in the social value, education, occupation, income, cultural change, and technological adoption. Hence the present research study was carried out to find out the customers satisfaction of electronic banking practices among select public and private sector banks in Coimbatore. (SBI bank, Canara bank, ICICI bank and HDFC bank)

**The Main Research Objective is**

- To study the electronic banking practices among select public and private sector banks (SBI, Canara Banks and ICICI, HDFC banks) and to assess the level of satisfaction of select bank customers about electronic banking practices.
**Sampling** – A sample of 125 customers from public sector banks (SBI Bank and Canara Bank) and 125 respondents from private sector Bank (ICICI Bank and HDFC Bank) was considered for this study.

Level of satisfaction of customer was assessed by questionnaire & Presented in Table I & Table II.

**Table 1** Level of Satisfaction of Customers regarding E-Banking Infrastructure Facilities and Practices – Public sector Banks Customers

<table>
<thead>
<tr>
<th>Particulars</th>
<th>HS</th>
<th>S</th>
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<th>DS</th>
<th>HDS</th>
<th>Total Score</th>
<th>Mean Score</th>
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<td>26</td>
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<td>25</td>
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<td>0</td>
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<td>0</td>
<td>497</td>
<td>3.98</td>
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</table>

**Chart I**

The table shows the level of satisfaction of e-banking customers on various e-banking infrastructure facilities and practices based on the likert scale application. E-Customers are highly satisfied about IT security (Mean Score 4.33, Rank I) E-alerts for accounting transactions (4.27-11). Software and Hardware—III and IV rank, Payment of bills-V1, Trading and Investment-VII and Making account enquiry and queries-VIII.

They are satisfied with Balance enquires-XI, Downloading applications-X, Firewall certificates-XI, certificates-XI, Seeking product information and account information XII and XIII, Renewal FDR-XV, Easy to Maintain-XV1, Mini statement of accounts—XVII, ATM centers-XVIII E-Commerce dealings XIX, ...
and Access to loan statement-XX. A good number of customers (49 percent) are neutral about Request for cheque books and cards-XXI. Few customers (26 percent) are dissatisfied about High service charges-XXIII. Some are highly dissatisfied about making stop payments (7 percent)-MCII and high service charges (20 percent)-XXIII. It shows that most of the e-banking customers from public sector banks are highly satisfied and satisfied about their e-banking infrastructure, facilities offered and practices followed by their e-banks.

Table II Level of Satisfaction of Customers regarding E-Banking Infrastructure, Facilities and Practices – Private Sector Banks Customers

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<th>S</th>
<th>N</th>
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<th>Total Score</th>
<th>Mean Score</th>
<th>Rank</th>
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<td>4</td>
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<td>ATM centers</td>
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<td>470</td>
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<td>0</td>
<td>445</td>
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<td>20</td>
<td>2</td>
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<tr>
<td>Easy to maintain</td>
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<td>32</td>
<td>41</td>
<td>0</td>
<td>0</td>
<td>511</td>
<td>4.09</td>
<td>VIII</td>
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<tr>
<td>Requesting cheque book and cards</td>
<td>22</td>
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<td>3.64</td>
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<tr>
<td>Seeking product information</td>
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<td>0</td>
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<td>3.67</td>
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</table>

Source: Field Survey 2015

It clearly shown from the table that in private sector banks, E-Customers are highly satisfied about Payment of bills and Software (Mean Score 4.34, Rank I) 3D secure payment gateway —II Rank, Fund transfer and Hardware —III and IV rank, IT security -V, Balance enquires-VI, ATM centers-VII and Easy to maintain-VIII Rank. They are satisfied about Making account...
enquires and quires-IX Rank, Firewall certificates X, Cash withdrawals -XI, Trading and Investment-XII, Access to loan statements- XIII, Dealing with E-Commerce-XIV, Seeking product information-XVI, Requesting cheque books and cards-XVII, Monitoring and renewal of FDRs-XVIII, Mini statement of accounts -XIX, Checking account Information-XX.

A good number of customers (17 percent) are neutral about checking account information-XX. Few customers (16 percent) are dissatisfied about high service charges-XXI. Some are highly dissatisfied about making stop payments (8 percent)- XXII and high service charges (2 percent)-XXI. It shows that most of the e-banking customers from public sector banks are highly satisfied and satisfied about their e-banking infrastructure, facilities offered and practices followed by their e-banks. This will motivate the customers to do their financial transactions electronically and not traditionally.

Level of Satisfaction of select Public and Private Sector Bank Customers about Electronic Banking Facilities, Infrastructures and practices.

• In public sector banks, customers are highly satisfied about IT security in transactions, e-alerts for accounting transactions, e-banking software and payment of bills. It shows that customers are more secure in their financial transactions.

• In private sector banks, customers are highly satisfied about e-banking software, payment of bills, 3D secure payment gateway, fund transfer and ATM centers. This will motivate the customers to do their financial transactions electronically than traditionally.

Suggestions

The following are the suggestions offered to the public sector banks and the private sector banks.

Suggestions to both Public and Private Sector Banks

• Banks can improve network facilities and convenience in services

• The banks can increase their ATM centers in the cities without any technical fault and the service charges can be reduced.

• Banks can give better customer services in time.

• Banks can spread awareness and educate the computer illiterate customers and elder customers about e-banking to enable them to bank easily.

• The banks can create separate customers grievance cell in all the branches for handling customer’s queries and problems individually.

• The banks can organize seminars, workshops, and conferences regarding the digitalization of banking and electronic banking services and products to their customers and make them computer literates to use e-banking products.

• The bankers are expected to serve their customers without any delay in queries and grievances by following time management principle and techniques.

Specific Suggestions to Public and Private Sector Banks

• Banks should maintain secrecy and confidence of customers account details and take adequate measures in controlling risk from hacking and technical failures.

• Banks should ensure safety measures such as firewall and other related security devices properly developed to avoid any losses.

• Banks should employ well trained and expert technicians in the field of computers and ensures proper system of backup of data, so that loss of data can be avoided.
Banks should use latest version of the software packages such as core banking packages or upgrading the existing software which gives more security transactions.

Banks can concentrate on providing more technical supports and designing websites more user friendly and make the customers comfortable with the technology.

Conclusion

Indian banking sector has made rapid strides in reforming itself due to a new competitive business environment. Banks and institutions are in the process of web-enabling their services in order to provide e-banking services to its customers. E-banking is changing the banking industry and is having the major effect on banking relationship. Banking is now no longer confined to the branches were one has to approach the branch in person, to withdraw cash or deposit a cheque or request a statement of account. In fact through e-banking, any inquiry or transaction is processed without any reference to the branch at anytime. The present study concluded that the public sector bank customers are using e-banking products such as cards and net banking frequently for doing their banking transactions through online. They are highly satisfied about e-banking facilities and infrastructures such as IT security, e-alerts of accounting transactions and e-banking software. In private sector banking customers are often using net banking and mobile banking facilities for doing their banking transaction and they are highly satisfied about e-banking software, payment of bills, 3D secure payment gateway and fund transfers through e-banking facilities and infrastructures.

E-banking is the wave of the future. Thus it provides enormous benefits to customers in terms of speed, reliability and convenience either through internet, mobile, telephone or through other electronic delivery channels. E-banking enables the banks to render efficient banking services supporting Commerce Industry, Business and Customers. It helps in the faster growth of our economy. E-banking contributes to the economic development of our Nation.

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"CUSTOMER’S PERCEPTION TOWARDS ONLINE INSURANCES"

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M.Phil Scholar, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore

Dr. K. Kanniammal
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Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore

Abstract

Insurance companies management is facing challenges of modern information and communication technologies and in that direction appropriate internet business models are required for implementation of their activities into new electronic market environment. E-commerce is the part of internet marketing. The advent of the internet made the world so simple and dynamic in all the areas. Internet is a growing business because the people in the worlds are using day to day in their life. The conventional model of purchasing goods in our society is replaced by the contemporary sellers as it reduces search costs, time, energy and psychic for buyers and inventory costs for sellers. In this paper, the researchers investigates the Customer’s perception towards online insurances. The sample size for the study is 78 respondents. The study was based on both primary and secondary data. Primary data are collected using a structured interview schedule and secondary data are collected from various books, journals and websites. The simple percentages analysis, chi-square, factor analysis and scaling techniques were used for analysis. The study reveals that the customers are more interested in online insurance transactions and this will increase exponentially in coming years.

Keywords: Online insurance-Technology-Services-Customer Satisfaction

Introduction

“The Science of Today is the Technology of Tomorrow”.

Edward Teller

In this consumer driven word economics is very vital to comprehend needs and wants of the potential consumers at large and also to probe into how satisfied or happy they are from an organization product and service.

Internet and the World Wide Web have amended the business competitions and tailored the business to consumer’s relationship by introducing innovative retailing platform that provides for electronic one-on-one communication to the customers.

“The buying and selling of products and services, businesses by consumers through an electronic medium, without using any paper documents. E-commerce is widely considered as buying and selling of products over the internet, but any transaction that is completed solely through electronic measures can be considered e-commerce”.

Business to consumers is (B2C) E-commerce which a business sells already manufactured products to the consumers directly on the internet. Some e-commerce scenarios are retailing, servicing, and publishing and supply chain management. The main drivers of e-commerce are data networks, intense competition, globalization, information age, technologies, automation, and low cost high quality products/services.

The availability of uncountable products and their respective pricing information on the internet lets customers to efficiently and easily become knowledgeable and proactive while shopping. It is of utmost importance according to previous literatures to understand consumers and their utilization of
the internet for organizations. In cyber space business for sustainable success and growth, it is found out that success in superior economic return is attributed as a result of satisfied customers.

The use of electronic technology way can boost to improve the overall customer to business relationship and can yield customer satisfaction which could severe as the basic of compilation with in cyber space industry and results innovative business methods of firm.

Technology is said to have revolutionized the service sector and widened the reach across different customer segments. Customers have the flexibility to take advantage of the service according to their convenience and without interacting with service staff. In India, financial sector has invested in developing technological infrastructure for providing efficient services to customers and competing with the multinational insurance companies.

Technological innovations and advancements would continue to be a critical component of customer-firm interface. Internet as a service delivery channel that has revolutionized the traditional marketplace interaction by providing greater accessibility to customers. The virtual marketplaces have changed the nature of customer–company interaction and their relationships. The online business models can be improved by comprehending customers’ needs. Assessment of customers’ attitude can be of immense help in planning self-service technologies (SSTs) and improving service. The SST is an independent service delivery system, which permits customers to avail the service at their convenience without the interference of the service staff.

Scope of the Study

This part of the study covers the general trends in business to customer model and also will scrutiny other e-commerce model. This study attempts to gain knowledge about customer’s perception towards online insurances. Online insurance will be helpful to identify the customer satisfaction towards online insurance provided by insurances companies.

Statement of the Problem

Online insurance is popular because of its vast advantages. It is very convenient for the people to buy anytime, anywhere and from any device instead of directly. At this stage, the key challenge is with the format. The current format needs to enable customers to make policy-level changes like nominee addition or change, request options such as fund switch, etc. Currently, the customers can only view policy details and update contact details. The industries need to come together and build awareness among the masses about online insurance. The preferences and likings of the customers is known through this study, it will be every useful for the businesses to efficiently improve their sales,(online insurance usage). In this context a study has been undertaken in Coimbatore city to know the customers online insurance activities.

Objectives of the Study

The objectives of the study are as follows:
1. To access the socio economic characteristics of the respondents.
2. To study the awareness of the respondents about online insurance.
3. To examine the factors influencing online insurance
4. To identified the problems in on-line activity
5. To analyse the online services, payment, customer friendly and their satisfaction
Limitations of the Study
1. The study is conducted in Coimbatore City and it provides information of the customer satisfaction and usage in online insurance of this particular region only.
2. The sample size is constrained to 78 only.

Review of Literature
Arpita Khare (2012) conducted a study on Customer behavior towards online insurance services in India; the research provides an idea about the customers’ online purchase behavior for financial services, which may be used to modify and customize the Web site features. In small cities of India, people are adopting latest technologies for services and online insurance service has a potential for growth.

Supriya.M (2014) examined the future prospects of Indian insurance sector through the study of Online Insurance in India: A Long Way to Go. This paper tries to study the emergence and growth of online insurance in India as well as tries to figure out the challenges in nearing future.

Karthi.R (2015) conducted a study on Influences of Online Marketing in the Prospective Indian Insurance Industry and revels that the advent of the internet made the world so simple and dynamic in all the areas. Internet is a growing business because the people in the worlds are using day to day in their life. The conventional model of purchasing goods in our society is replaced by digital model.

Rajesh.R (2016) examined “Digital Transformation in Insurance Sector” attempted to study how insurers can use digitization opportunity to deliver greater value to their customers and gain a competitive advantage. The study revealed that insurers can engage more intensely with existing customers and attract newer customers with innovative products, improve both profitability and growth through digital transformation.

Methodology
The study was conducted in Coimbatore city and based on purposive random sampling method, 78 respondents were selected for the study. The sample size for the study is 78 respondents. The study was based on both primary and secondary data. Primary data are collected using a structured interview schedule and secondary data are collected from various books, journals and websites. The study was conducted during a period of one month (December 2017). The simple percentages analysis, chi-square, factor analysis and scaling techniques were used for analysis.

Results and Discussion
The analysis was done under the following headings
1. Socio economic characteristics of the respondents.
2. Awareness of the respondents about online insurance.
3. Factors influencing online insurance
4. Problems in on-line activity
5. Online services, payment, customer friendly and their satisfaction

Socio Economic Characteristics
The socio economic characteristics of the respondents will strongly influence the customer online insurance activities and the details are given in Table 1.
Table 1 Socio Economic Characteristics of the Respondents

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<td></td>
<td>Doctorate</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Occupation</td>
<td>Agriculture</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Business</td>
<td>36</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self-Employed</td>
<td>22</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Others</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>Annual income</td>
<td>Below Rs.50,000</td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rs.50,000-Rs.1,00,000</td>
<td>48</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Above Rs.1,00,000</td>
<td>14</td>
<td>18</td>
</tr>
</tbody>
</table>

Source: Field survey 2017

The table 1 reveals about demographic characteristics of the 78 respondents, out of them 55% of the respondents are male and 45% are female. Regarding the marital status 69% of respondents are married and 31% are unmarried and there are people from different age group, majority 31% of the respondents are in the age group of 41-50 years. The majority of the respondents are under graduates (41%). As per their occupation, 26% of respondents are engaged in business. Annual incomes of the majority people ranges from Rs.50,000-Rs.1,00,000 representing 62%.

Table No.2 Awareness about On-Line Insurance

Awareness is the ability to perceive, to feel or to be conscious of events, objects, thought, emotions, or sensory patterns. The following table clearly reveals the awareness about the online insurance options by the respondents.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Particulars</th>
<th>Options</th>
<th>No (N=78)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Preferences for online Insurances</td>
<td>Easy to use</td>
<td>24</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Choice</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Payment facility</td>
<td>20</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>services</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>others</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Future of e-commerce in India</td>
<td>very good</td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>good</td>
<td>41</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no so good</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Do not have a future in India</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Field survey 2017
From the above table it is revealed that 31% of respondents prefer online insurance due to its easy to access or use and 53% of respondents revealed that online insurance have a good future.

- To determine the inter-dependency between age and preference for online insurance the following hypothesis was framed:

**Ho:** There is no significant difference between age and preference for online insurance.

<table>
<thead>
<tr>
<th>Chi-square value</th>
<th>Degree of freedom</th>
<th>Table value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.709</td>
<td>1</td>
<td>3.841</td>
</tr>
</tbody>
</table>

From the above table it reveals that the chi-square value (1.709) was lesser than the table value (3.841). Hence the hypothesis was accepted. So it indicates that the age and preference for online insurance of consumers has no association.

- To determine the inter-dependency between educational qualification and preference for online insurance the following hypothesis was framed:

**Ho:** There is no significant difference between educational qualification and preference for online insurance.

<table>
<thead>
<tr>
<th>Chi-square value</th>
<th>Degree of freedom</th>
<th>Table value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.486</td>
<td>1</td>
<td>3.841</td>
</tr>
</tbody>
</table>

From the above table it reveals that the chi-square value (7.486) was higher than the table value (3.841). Hence the hypothesis was rejected. So it indicates that the educational qualification and preference for online insurance of consumers has association.

### Table No.3 Factor Influencing Online Insurances

In order to find out the factors influencing the usage of online insurance among the respondents, their intention were gathered through five point likert scale. The data so collected were subjected to factor analysis, in order to bring out the underlying factors, varimax Rotation with Kaiser Normalization were used. The principle component analysis were used for extraction purpose. The criteria for selecting number of factors were based on Eigen value, and all these factors which have Eigen value more than one were included. Three factors have Eigen value more than one. The KMO and Bartlett's bring out sample adequacy and are highly significant as shown in the Table 3.

#### Table 3

<table>
<thead>
<tr>
<th>Kaiser –Meyer-OLKIN Measure of Sampling Adequacy</th>
<th>.269</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett’s Test of Sphericity</td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>380.420</td>
</tr>
<tr>
<td>Df</td>
<td>45</td>
</tr>
<tr>
<td>Sig.</td>
<td>.000</td>
</tr>
</tbody>
</table>

#### Table 3 Factors Influencing Respondents towards Online Insurance

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Communaliities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick and Quality Service</td>
<td>.728</td>
<td>.390</td>
<td>.478</td>
<td>.911</td>
</tr>
<tr>
<td>Easy updating</td>
<td>-7.25</td>
<td>-.061</td>
<td>.520</td>
<td>.800</td>
</tr>
<tr>
<td>Customer Relationship</td>
<td>.393</td>
<td>-.484</td>
<td>.703</td>
<td>.883</td>
</tr>
<tr>
<td>Anywhere Access</td>
<td>-.642</td>
<td>.483</td>
<td>-.030</td>
<td>.646</td>
</tr>
<tr>
<td>Convenient</td>
<td>-.579</td>
<td>.451</td>
<td>.407</td>
<td>.704</td>
</tr>
</tbody>
</table>
On factoring 10 variables totally three key factors influenced the respondents towards the usage of online insurance facilities to the extent of 70 percent. The factor one “**Service Quality**” consists of Quick and Quality Service (.728), Privacy (.668) and avoiding the risk of handling cash (.634) influenced 29.575 percent of the variance. The second factor “**Time Conscious**” consists of Elimination of waiting time (.845) and tailored products and services (.783) influenced 27.70 percent of the variance and finally the third factor named as “**CRM**” includes Customer relationship (.703) influenced 12.90 percent of the variance. The highest communality value of **0.911** indicates that “**Quick and Quality Service**” factor influenced the respondents towards the usage of online insurance implemented by insurance companies.

**Table No.4 Problems in On-line Activity**

The respondents are facing certain problems in different stages of their operation. The major problems affecting the sector have been identified and given in table 4:

<table>
<thead>
<tr>
<th>S.No</th>
<th>Particulars</th>
<th>Options</th>
<th>No (N=78)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Problems in online insurance activity</td>
<td>Technical problem</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of information</td>
<td>32</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Payment problem</td>
<td>17</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I have not encountered</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>others</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Payment problems in online insurance</td>
<td>Refusal of credit card</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fraud of the credit card</td>
<td>28</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reimbursement problem</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Insufficient variety of payment problems</td>
<td>22</td>
<td>28</td>
</tr>
<tr>
<td>3</td>
<td>Obstacles in buying online insurance</td>
<td>Lack of choice of services or product online</td>
<td>19</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of knowledge/difficulty of access to the</td>
<td>33</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>service</td>
<td>20</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>others</td>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>

**Source:** Field survey 2017

The table 4 reveals about the problems in on-line insurance activity; 41% of the respondents expressed the problem of lack of information while using, 36% of the respondents felt payment problems in online insurance like credit card fraud; 42% of the respondents found the difficulty of access to the service.
Table No.5 Satisfaction towards Online Insurance Services

In the globalized scenario innovative and specialized investment products are available with attractive features at the same time uncertainty in the online insurance. The overall satisfaction of the online insurance was analyzed by following the five point scaling technique. The score was assigned as follows: highly satisfied (5), satisfied (4), neutral (3), dissatisfied (2), highly dissatisfied (1). These details are given in Table 5.

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Options</th>
<th>Total Score</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>online services</td>
<td>a) Easy to use</td>
<td>238</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>b) Search effectiveness</td>
<td>200</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>c) Attractive display</td>
<td>217</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>d) Expectation</td>
<td>205</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>e) Offers</td>
<td>201</td>
<td>4</td>
</tr>
<tr>
<td>payment</td>
<td>a) Transaction facility</td>
<td>201</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>b) Network problem</td>
<td>207</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>c) Trust &amp; honesty</td>
<td>206</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>d) Cash on delivery</td>
<td>205</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>e) Credit &amp; debit cards</td>
<td>205</td>
<td>3</td>
</tr>
<tr>
<td>Customer Friendly</td>
<td>a) Easy to Approach</td>
<td>200</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>b) Response &amp; Queries Attended Quickly</td>
<td>208</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>c) Updates of trends</td>
<td>179</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>d) Time Saving</td>
<td>231</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>e) Customer care centre</td>
<td>205</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Field survey 2017

The Table no 5 indicates the main reason voiced by the respondents regarding online services in various options: Easy to use online transactions ranks first, followed by attractive display, expectation, offers, and search effectiveness. Regarding satisfaction towards online payment services in various options: Network problem ranks first, followed by trust & honesty, cash on delivery, credit & debit cards and transaction facility. Regarding satisfaction towards online customer services in various options: Time saving ranks first, followed by response & queries attended quickly, customer care centre and easy to approach.

Suggestions
- More awareness should be created for online insurance activity regarding rights, rules and regulations.
- The key challenges for insurance companies is to provide insurance plans to low income people by minimizing transactions cost.

Conclusions
Digital transformation is a now critical business issue for the insurance sector and it is clear that insurers are embracing this. They are addressing the core challenges of innovation, seeking optimum operation and processes while focusing on driving and implementing their digital strategies. At the same time, life insurances digitalization technology will increasingly become a necessity for all persons who wish to achieve and maintain a competitive advantage in their sector. Companies have to educate the customers about the usage of online insurance by effective means of communication. The people are adopting latest technologies for services and online insurance service has a potential for growth. The study reveals that the customers are more interested in online insurance transactions and this will increase exponentially in coming years.
References
5. www.businesstoday.com
6. www.insightonbusiness.com