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CONTENT

BLOCKCHAIN: A ROAD AHEAD FOR INDIA

Alwyn K. G. [1]
Robin Joseph Sera [2]

Abstract:

Block chain technology is the new age, disruptive digital technology that is bringing unimaginable shifts in business models across the world. This game changer technology has already started gaining its footholds in Indian business world. In the" industry 4.0" era, block chain as well as similar distributing ledger technologies have been an inescapable trend for both academy and industry . Since its origin, the block chain technology has shown a bright and promising future for Indian as well as the rest of world business. It has already printed its footmarks in industries like telecom, insurance, cyber security, supply chain management, business analytics and forecasting, crowd funding, energy management and in many other public sector organizations. Many established industries are in its way to establish the potential block chain use cases instead of their traditional business practices. Today block chain has emerged to become a potentially transformative force in multiple aspects of government and private sector operations. Block chain technology has the potential to revolutionize the interaction between Governments, Business organizations and common citizens. Block chain system creates a trusted and transparent platform for different entities and organizations to do their business with ease and excellence. The growing ledger system under block chain brings transparency and trust among the people and business organizations. In developing countries like India, the block chain system can be a panacea for long haunting problems like corruption, non-transparency and mis-governance. In this paper, we are mainly focusing on the opportunities and challenges for block chain system in India.

Key Words: Block chain, Indian Economy, Digital India

Introduction

Block chain is known as a new disruptive force of digital era which is dominantly changing business the business models and increasingly becoming a major game changer around the world. The government of India is very popular for its promotion and adaption of digital technology in different sectors of Indian economy. The Indian government successfully using digital technology for implementation of its public policies and schemes that focuses at economic reforms with uniformity to all sections of the society by making the service available at ease through digitalization. In India, the revolutionary changes are taking place in terms of corporate sector, banking, insurance and other financial and non-financial service sectors through enormous digital transformation. In this stage of transformation, the blockchain management technology is considered as the most significant innovation which can change the nature of world business practices. Block chain technology is gaining a huge popularity among the different classes of entrepreneurs. The charm of blockchain lies in its power of creating trust and transparency in the business by connecting all entities related to that business. It transfers power and control from large entities to the many, by enabling decentralization of power, safe and secured transactions in a transparent manner to the grass root level.

The smart city concept can be looked upon as a framework for implementing a vision of advanced and modern urbanization. Smart cities leverage technology and utilize existing and planned infrastructure investments to provide a higher quality of living to residents and a conducive

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investment climate for businesses, and to maximize resource utilization and transparency for governments. Smart cities can be considered an organic integration of systems, IT infrastructure, physical infrastructure, and social and business infrastructure. These systems work collectively so as to generate intelligent and actionable information for decision makers.

Block chain mostly known as the backbone technology behind bit coins, is currently emerging as a most attractive innovation which is attracting a lot of attentions from entrepreneurs, startups and media after Demonetization in India. Blockchain has the capacity to transform large number of industries and make operations more democratic, secure, transparent and efficient. Many industries and non-financial organizations like telecom, healthcare and life sciences, travel and hospitality, and many other public sector organizations are also curiously watching the development of block chain technology to use positively to replace their traditional practices.

Objectives:

➢ To understand and explore the concept of block chain and its benefits in the real world.

➢ To study and explore the opportunities andchallenges to adopt blockchain system in different sectors of Indian economy.

➢ To know the role of blockchain in building trust and transparency among different sectors of economy.

Methodology:

This study is purely a descriptive study, it is carried out with the help of available secondary data, published reports and research articles in journals and edited books.

Literature Review:

Glaser (2017) Block chain can be described as a decentralized, transactional database technology that facilitates validated, tamper-resistant transactions consistent across a large number of network participants called nodes.

Beck & Muller-Bloch, (2017); Walsh et al., (2016) Block chain is a class of technologies (sometimes called distributed ledger technologies) that give users confidence that archived 4 information (e.g., a certificate) has not been tampered with. In principle, this guarantees a "single truth" across different agents who may or may not trust each other. Not surprisingly, financial services has been one of the first industries to express an interest in block chain.

Kim, Barua, & Whinston, 2002 Blockchain and the smart contracts it enables could give rise to a new type of economic system, which we refer to here as the blockchain economy. While the digital economy, where "goods and services traded are in digital format"

Smart contracts can execute transactions autonomously, without interference from agents or the need for approval from third parties. They can be embedded into digital assets or into the digital representation of physical assets in the form of tokens that enforce autonomous contract fulfillment (Szabo, 1994)

What is a blockchain?

Blockchain is a digital, decentralized (distributed) ledger that keeps a record of all transactions that take place across a peer-to-peer network. It is an interlinked and continuously expanding list of records stored securely across a number of interconnected systems. This makes blockchain technology resilient since the network has no single point of vulnerability. Additionally, each 'block' is uniquely connected to the previous blocks via a digital signature which means that making a change to a record without disturbing the previous records in the chain is not possible, thus rendering the information tamper-proof. The key innovation in blockchain technology is that it allows its participant to transfer assets across the Internet without the need for a centralized third party.

Blockchain Advantage:

▪ It is an append-only distributed system shared across the business network, which makes the system resilient by eliminating a 'single point of failure'.

▪ A transaction is only committed when all parties agree to a network verified transaction.

▪ The entire history of an asset is available over a blockchain

▪ Records are indelible and cannot be tampered with once committed to the shared ledger, thereby making all information trustworthy.

▪ Once a transaction is completed over a blockchain, it can never be reverted.

▪ Code is built within a blockchain that computers/nodes execute based on a triggering event. Essentially, an 'if this then that' statement which can be auto-executed.

Blockchain : Impact on Major Sectors:

Healthcare

The digitization of health records has brought about significant change in the public health sector, but it has

been criticized for being complex on account of centralization and associated ethical issues. Blockchain technology can disrupt public health by creating a secure and flexible ecosystem for exchanging electronic health records (EHRs). This technology could also make the space more transparent by creating provenances for critical drugs, blood, organs, etc. In addition, by putting all medical licenses on a blockchain, fraudulent doctors can be prevented from practicing.

Education
Student records, faculty records, educational certificates, etc., are key assets in the education domain. Such records needs to be shared with multiple stakeholders and it is imperative to ensure that they are trustworthy. The provenance of these records also needs to be determined accurately. Student records, faculty records and educational certificates can be maintained with the application of blockchain technology. Blockchain can also simplify certificate attestation and verification. It could even transform the manner in which the policy for educational inclusion is framed by bringing in base uniformity in the tracking of national metrics.

Public safety and justice
Blockchain could make the delivery of public safety more efficient by resolving the problem of interagency coordination by providing a unified source of truth that each agency independently interfaces with based on predefined conditions. Establishing a chain of custody for crucial evidence is often an important prerequisite for the evidence to be admissible; blockchain technology could help establish the provenance of the chain of custody for such evidence.

Agriculture
Blockchain technology can be used to increase transparency, reduce complexity and cost in food-based value chains by enabling trustworthy provenance and traceability from farmer to consumer. Other possible applications include the use of blockchain technology to record and manage agricultural land records as well as agriculture insurance.

Civil registration
The civil registration process can be simplified through the application of blockchain technology to create distributed citizen registration platforms and even register vital events such as births and deaths on a blockchain. This can help make citizen records tamper-proof, resilient, secure and private, thus providing wide-ranging benefits for a variety of stakeholders.

Defense
Information regarding defense infrastructure and computer systems is critical to national security. For this reason, it is distributed across different locations to prevent unauthorized access and modification. Blockchain technology can be leveraged to provide consensus-based access for modifying data and distributing access over multiple system resources such as networks, data centres and hardware equipment.

Governance
Government departments have functional interdependence but operate in silos, which impacts the availability of services and deteriorates citizen experience. Blockchain technology can be used to break the silos, check government corruption (if any), increase efficiency and transparency. Linking file and data movement between departments through a blockchain would increase visibility into the process and ensure that the data/file moves forward in real time.

Challenges for Blockchain adoption in India:
Awareness about blockchain is very limited and shrouded by the disrepute of the unregulated crypto currency market. Businesses interested in blockchain could probably set aside an internal team focused to understand the technology, its impact, and areas of usage. Blockchain is considered as a complete technology that will replace existing technologies. This misunderstanding has also been a hindrance in its adoption. Complexity is in the integration of the current technology with the blockchain and data security during the early stage development. Blockchain-based financial services are being worked upon. Many Indian banks have started to implement the blockchain ecosystem within their banking system. But the lack of regulation and a specific regulatory body to bring in standardization and approval for mainstream implementation is another complication.

Way forward
For the adoption of blockchain technology in the government and public sector, and specifically in the, the technology will need to be validated, regulated and adopted. To harness the potential of blockchain technology and reach the stage of large-scale implementation, a structured approach is needed, spanning policy, governance, ecosystem development, talent incubation, academia focus, as well as budget allocation with aligned roles and responsibilities. For governments and smart cities, the following sixphased structured approach can be adopted.

Conclusion:

New technologies have always attracted enterprises and governments. This is largely due to their promise to improve the current way of working and service delivery, thereby leading to happier consumers and stakeholders and providing an edge over competitors, resulting in an improved brand image. However, the large-scale implementation of a 'new technology' takes time and involves an adoption curve. Blockchain technology is also undergoing a similar adoption curve. The technology is still being tested out and new use cases are being implemented on a small scale. While most experts agree about its potential for disruption, there are a few obstacles to the successful implementation of this technology.

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A STUDY ON THE EMPLOYEES' PERCEPTION TOWARDS DIGITAL DISRUPTION: OPPORTUNITIES AND CHALLENGES

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Abstract:

The advent of technology has created a new competitive arena for the organisations in this rapidly changing global economy. Organisations must bring in new technology and manage the challenges that go along with implementing the change. Digitalisation is transforming business models, processes and strategies. Disruptive technology is an innovation that significantly alters the way that businesses, industries or consumers operate. Changes of this nature can provide significant benefits to an organisation but can also present many challenges that need to be managed to yield a positive outcome. Identifying various challenges of the workforce due to technical disruptions is an essential area of concern. The study attempts to understand the perception of employees towards digital disruption. It also attempts to identify the issues and challenges faced by the employees and to suggest the measures to mitigate the challenges. The study is based on empirical evidence and also on secondary data like e-journals. The samples have been collected through convenience sampling method. Digitalisation transforms the way people work every day, and it is imperative that employees help advance this change. Organisations can increase their ability to successfully implement these changes by transforming its existing resources, processes and values to take full advantage and reduce the challenges.

Key words: Technological disruption, employees' perception, challenges

Introduction

Organisations need to adapt to an ever changing environment to remain competitive in this global economy. The business world is moving towards a phase in which they are required to change their systems in order to embrace the era of digitalization. Technology explosion has brought about a paradigm change in the organisation and human resource must keep up with the speed. It requires businesses to focus on the effective use of, and investment in, technology and finding new and more ways of working and organizing.

Concept

Disruptive technology is defined as a technology that considerably changes the way businesses operate. Digital disruption consists of breaking down long established business models. It is therefore important that employees understand the opportunities and challenges posed by digital disruption and allow the organisation to come up with processes and systems that suit their organisational and customer needs and achieve organizational goals.

In the past, disruption at work was driven by the supplier or the service provider, for example when banks began to provide ATMs, phone banking service and enabled cashless transactions through the introduction of credit cards and debit cards.

Today, it would seem that the real threat and opportunity in technology's disruption lies in the evolution of customer and employee behaviour, values and expectations. The continuous advances of information and communication technology have enabled the scope of human activity to expand continuously in the electronic space and to create a variety of changes in the ways that economic activity is conducted. The four distinctive stages of information and communication technology within this era:

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Enterprise computing: This first stage was based on mainframe computers where the focus was on improving the efficiency of the physical world by analyzing its characteristics in the electronic space and then modifying the physical space.

End-user computing: The second stage was based on personal computers where the focus was on supporting productivity improvements of individuals, particularly business professionals.

Strategic computing: The third stage was basedon communication technology. Companies combined the internet and enterprise applications system such as enterprise resource planning, customer relationship management, supply chain management, material requirement planning, human resource management and enterprise-form automation systems to support business processes and inter-organizational activities.

Ubiquitous computing: This concept refers to an environment in which computational technology permeates almost everything, thereby enabling people to access and control their environment at any time and from anywhere. In Latin, ubiquitous means being everywhere. This new stage focuses on linking the physical world directly with the electronic space, thereby creating a ubiquitous space that allows a level of complexity, speed and quality not possible before.

Opportunities of digitalization:

Companies throughout the world make use of digital technology in order to enhance the service level delivered to their customers and the efficiency and effectiveness of their business. By applying digital systems and technologies, organizations can tend to attain high maturity and distinguish themselves from ordinary entities and their competitors. The arrival of the digital erain organizations has brought a multiple benefits that includes cost minimization, enhanced customer experience and service, multiple customer behavioural data bases and competitors trends. These opportunities will benefit the organizations based on the preparedness or the extent to which digitalization has been adopted by them.

Effects of disruptive technology:

Although companies today have trouble capitalizing on the potential efficiencies, cost savings, and new opportunities created by ubiquitous computing, its various uses and its portfolio of underlying technologies are expanding. Here computing devices refer not only to the abundant supply of personal computers, but also to embedded (enabled by microminiaturization) and networked (empowered by increased speed and bandwidth of communication networks) devices. These include industrial sensors and processors, speech recognition and eye-tracking devices, mobile devices, radio-frequency-identification and near-frequency-communication tags and labels, global positioning systems (GPS)- enabled devices, smart televisions, car navigation systems, drones, wearable sensors, robots and 3D virtual reality and others. The development of easy-to-use interfaces and their connection to communication networks have, in turn, brought about new ways of linking people, computers and objects.

Merging the physical and electronic spaces also has implications for privacy and security.Employees can integrate their use of Facebook, Twitter, Google and other social media into their daily routines and companies can integrate social media into their intranets, so that they can share internal information and knowledge with employees, and even with suppliers and customers if desired.

Review of Literature:

Karimi and Walter (2015) found that the establishment of autonomous business units, along with the staged allocation of resources to innovative projects, is essential to create new processes in responding to digital disruption.

Fisher and Lynch (2015) recommend that companies look at cross functional teams to spearhead digital initiatives and tackle the complexity of change. These teams should ideally comprise of a diverse mix of technical and business stakeholders, who could be described as enthusiastic and possess characteristics such as "start-up" ingenuity.

Bradley et al (2015) stated that the dawn of the digital era is best described as a digital vortex where digital disruptions occur at the highest velocity rate coupled with immense shocks that businesses will be subjected to. It was also argued that the digital chaos and shocks brought about because of digital change makes it very complex and unpredictable for businesses to correctly and timeously predict the possible impact of digital change to their business functions.

Strydom et al. (2016) identified the digital change in the business environment as a technological factor which occur in the macro-environment. The macro-environment

is much broader in scope and exist outside the business itself making it difficult for businesses to take charge of such changes. In fact, businesses have no control of changes in the macro-environment and the best they can do is to interpret the changes and realign the business processes in order to adapt. The technological environment (digitalization) is considered one of the most volatile variables in the business environment.

Bolden &O'Regan, (2016) in their article suggested that process changes and organizational shifts are, in most, cases what enable companies to harvest the opportunities of disruption.

Wayne F Casclo and Ramiro Montealegre (March 2016) in their article summarized and interpreted the progress, direction and purpose of the current research on the effects of technology on work and organisations.

Plummer et al., (2017) in their findings summarized that companies should establish digital disruption as a critical part of the innovation initiative and develop a culture where creating disruptive innovation plans is achieved in addition to the reactive management of disruption.

Mark Provost, Kevin Allan Johnston and Maureen Tanner (October 2018) in their study indicate that IT managers perceive digital disruption as both technological disruption and sense making mechanism for changes in work practices. The participants broadly shared a common perception of the opportunities and challenges, being new ways of working through the effective use of technology, the potential for new forms of competition and a growing challenge in attracting and retaining skilled IT professionals.

BertineMulomboMujinga and Nita Sukdeo (2018) in their research study established that there were several barriers such as an improper digital strategic plan, stakeholder engagement and lack of communication, which tend to inhibit the digitalization process. Additional concerns that inhibited the digitalization process was the flow of information among all stakeholders concerned, regarding digital strategy such as employees, suppliers, customers and the management.

Purpose of the study:

Technology development always comes with both positive and negative impact on business. Employees are the real assets of an organisation without whom technology cannot be applied.It is imperative to identify various challenges faced by the employees and this study

attempts to understand the perception of employees towards digital disruption.

Objectives of the study:
- To understand the perception of employees towards digital disruption.
- To identify the issues and challenges related to technology, faced by the employees.
- To suggest the measures to mitigate the challenges.

Research Design:

For this research study the Primary Data is collected through an online survey using a structured questionnaire. The data is collected from a sample of 51respondents of Mangaluru city for understanding the perception of employees towards digital disruption. Convenience sampling method is being adopted by the researchers. The data collected from the respondents are coded, tabulated and analyzed into logical statements. Descriptive statistical tool - Percentage is being used to arrive at findings and conclusion. Secondary data is collected from the available literature, journals and web search wherever fits.

Limitations of the study:

There might be a number of technology related issues and challenges faced by the employees, but this study is confined only to a limited number of issues. The sample size is confined to only 51which have been selected based onconvenience method. The findings of the study cannot be generalised as the respondents may not be large enough to represent the entire city.

Data analysis and Interpretation:

Table 1 showing the work experience and perception of respondents to learn new technologies:

Experience\Perception	Excited	Hopeful	Worried	Frustrated	Total
below 5 years	26	2	-	2	30
5 to below 10 years	5	-	-	-	5
10 to 15 years	2	2	-	-	4
15 years and above	8	4	-	-	12
Total	41	8	-	2	51

From the above table it can be seen that 30 respondents are having less than 5 years of work experience. 26 respondents are quite excited when it comes to learning new technologies.

Table 2 showing the number of hours the respondents use the technology at work

No. of hours technology is used in a day	No. of respondents
Less than 2 hours	2
2 – 5 hours	8
5 – 8 hours	20
8 – 11 hours	16
more than 11	5
Total	**51**

From the above table, we can observe that out of the total respondents 20 of them use technology at work for a minimum of 5 to 8 hours in a day and 16 respondents use the technology for 8 to 11 hours.

Table 3 showing the technology tool used by the respondents in doing their job

Technology Tool used	No. of respondents	Percentage
Email	23	26
Internet	44	51
Cell or Smart phone	11	13
Social networking sites	7	8
Others like MS-Excel, Access Word & VBA	2	2
Total	51	100

From the above table we can analysethat 51% of the respondents use internet as a technology tool in doing their job

Table 4 showing the opportunities and challenges due to technology

Factors	Increased	Decreased	No change
Speed	46	-	5
Workload	14	27	10
Responsibilities	31	7	13
Due to technology creative	25	9	17
Level of stress due to technology	8	19	24
Technology impact on job opportunities	30	15	6

The above table shows that the speed with which we can accomplish the work has increased. And as the technology expands respondents workload decreases, but the responsibilities due to technological advances in the job has increased. Due to technological advancement creativity level among the respondents has increased. The above table seems to show

no change in the level of stress due to technology. Technological impact creates increased level of job opportunities.

Table 5 showing the reason for increase in stress level due to technology

Reasons for increased stress level	No. of respondents	Percentage
Too little training	26	51
Too complicated	6	12
Rate of change is too fast	16	31
Others	3	6
Total	51	100

The above table indicates that one of the reason for increase in stress level while using technology is too little training is given. Few respondents feel moderate level of stress.

Table 6 showing impact of technology on health

Impact	No. of respondents	Percentage
Negative	25	49
Positive	7	14
Not significant	13	25
No opinion	6	12
Total	51	100

From the above table we can observe that 49% of the respondents have negative impact of technology on their health.

Table 7 showing the interference of technology with personal time

Interference	No. of respondents	Percentage
Always	10	20
Often	15	29
Sometimes	23	45
Never	3	6
Total	51	100

From the above table we can analyse that only at times technology does interfere in personal time.

Table 8 showing the perception of respondents regarding the current relationship between employees and technology

Perception	No. of respondents	Percentage
People are the masters and technology is a tool we are using wisely	26	51
Technology is becoming master and people are becoming its subjects	19	37
No opinion	6	12
Total	51	100

From the above table 26 respondents are of the opinion that people are the masters and technology is a tool which should be used wisely.

Findings:

- 50.98% of the respondents with less than 5 years of experience are excited to learn new technologies.

- Out of 51 respondents, 20 of them use the technology for 5 to 8 hours in a day to perform their work.

- Most of the respondents use internet in performing their task at work.

- Majority of the respondents are of the opinion that with the use of advanced technology the speed with which work can be accomplished and the responsibilities have increased, the workload has decreased and the level of stress remain unchanged. As per the study, creativity level and job opportunities have increased due to advancement in technology which may be considered as the opportunities of digitalization.

- Majority of the respondents consider increase in stress level may arise due to inadequate training. Respondents are also with the opinion that advancement in technology is yet to be accepted by all and it has multiple challenges.

- 49% of the respondents are of the opinion that technology has negative impact on health and technology at times does interfere in personal time.

- 51% of the respondents are of the perception that people are the masters and technology is a tool we are using wisely.

Suggestions

- Organisations need to develop the employee capacity towards the use of advanced technology by providing them adequate job training, professional development programmes, enhancing appraisal system, providing skill specific compensation and so on.

- Change in the work pattern and advice from work-environment experts who can suggest preventive measures by analyzing the condition, can help in reducing the negative impact of technology on health.

- To successfully integrate the technology change into the daily routine, organisations can have a well-defined implementation plan, an effective training plan and have open communication between employees and management.

- If technology is to enable people at work, it should foster self-motivation and well-being, enhance productivity and promote job satisfaction, organizational commitment among workers.

- Organisations should intensify investment in re-skilling their employees in order to strengthen their capabilities. Also, it is important for the employees to understand and implement various solutions themselves which can help them remain employable.

Conclusion

It is not going to be the survival of the fittest anymore, but rather the survival of the one that adapts well to change – both external that is from customers and internal that is from employees.It is apparent that almost all the respondents of this study have a positive attitude towards promoting the adoption of technology at workplace. Businesses need to foster a culture within the organisation to embrace change rather than react to change or be threatened by technology.

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TAX PLANNING: A STUDY ON THE AWARENESS OF TAX PLANNING AMONG THE WORKING WOMEN WITH REFERENCE TO MANGALURU TALUK

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Abstract:

Tax planning is an important component of one's overall financial plan. There are proven strategies for reducing taxes for individuals. Tax planning is an arrangement of one's financial affairs in such a manner that without breaking up any law, full advantage is taken of all exemptions, deductions, rebate and reliefs allowed by law so that tax liability will be reduced. Tax planning is neither tax evasion nor tax avoidance. For an earning member efficient tax planning through knowledge of tax laws and investment opportunity is essential. As women are stepping out from the olden concept of just being a homemaker and projecting herself in all the respect, the role has been transformed from a mere homemaker to home maker cum bread earner. And the increasing number of working women makes Tax Planning merely indispensable part in their life.

The current study is an effort to evaluate the extent of awareness of the working women on various tax planning measures available under the Income Tax Act and to analyse the impact of tax planning on savings habits and investment of working women tax payers. The study also evaluates the tax planning measures being adopted by the working women. This is analyzed by using secondary data as well as primary data by taking working women tax payers of Mangaluru city as respondents.

Key words: *Tax planning, Working Women, Tax Planning Measures and Awareness.*

Introduction:

Tax planning is an essential part of our financial planning. As a tax payer and more importantly as a citizen it is crucial for one to have informed well researched understanding of the tax structure and its impact without breaking up any law and full advantages taken of all exemption, deductions, rebate and relief allowed by the law, so that tax liability will be reduced. Tax saving schemes in India the quantum of ITs can be somewhat reduced by investing smartly in tax saving schemes. There are multiple opportunities to reduce an individual tax burden by using the available scheme appropriately. There are various section of the IT act 1961 which deals with the tax deductions and exemptions such as 80C 80CCC 80CCD 80D 80CCF 80G 80E 80DDB 80U. Many public and private sector organizations provide a wide range of tax saving options for Indian residents. Tax payers normally turn away of their tax liability only towards the end of the financial year. This leaves them with little option to invest or save with the available income.

Women in India are actively participating in all activities such as education, politics, media, science and technology and becoming financially independent. With the changing scenario women has started actively participated in investment of their surplus money for the tax planning purpose. Women today, have more earning potential and more influence over the financial decision than ever before. It becomes important for women to focus on tax planning, as a part of financial decision now more than ever. The real issue would relate to having awareness on the numerous provisions that would help in reducing the tax liability. The key issue is awareness about the income tax provisions as well as awareness about investment opportunities.

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Literature Review:

Manjunath (2015) has observed that lack of tax awareness, age group; income level and occupation are the important influencing component of the attitude of individual assessees towards tax savings instruments.

ChittaRanjan Sarkar (2004)12 identified that the basic purpose of tax incentives in India was to motivate the tax payers to save and invest more, particularly in rural and backward areas of the country.

Srivasta (2017) researched and found that there are variety of investment options available in the market but a best investment option can be something which is beneficial to the individual assessee from the point of view of tax saving and wealth creation in future.

Sanjay Kanti Das (2011), +An Empirical Analysis on Preferred Investment Avenues among Rural and Semi) the objectives of the study was household preferred investment avenues; the level of income also influences the investment decisions. Higher income group shows relatively high preference towards investment in share market, conversely lower and average income group shows keen preference towards insurance and banks investment avenues.

Jain (2004)14 studied and compared the income tax provisions and various other aspects of income tax system in six countries, three developed (U.K., U.S., and Australia) and three developing countries (Malaysia, Pakistan and India).

Objectives:

- To evaluate the extent of awareness of the working women on various tax planning measures available under the Income Tax Act.
- To analyse the impact of tax planning on savings habits and investment of working women tax payers.
- To understand and evaluates the tax planning measures being adopted by the working women.

Research Methodology:

The study is analytical in nature. For the purpose of study both primary data and secondary data has been collected. The convenience sampling method is used to collect primary data out from individuals. The data collected from the sample respondents on various aspects has been organized in the graphical form. Such organized data has been analyzed with the help of different averages, percentages and hypothesis for easy understanding of the data and for drawing meaningful conclusion.

Limitations:

1. The sample size limited only to 80 respondents from Mangaluru D.K

2. Time was limited to conduct a detail study.

3. The sample size was confined to only 80 respondents therefore it is very difficult to give accurate judgment on the basis of this limited sample.

Data Analysis And Interpretation

Part - 1

Part - 1 of demographic profile consist of the working women chosen for the study of the respondents.

Criteria	Age		Marital Status		
	No.	%	Criteria	No.	%
20-30	8	10	Married	45	56
30-40	25	31	Unmarried	35	44
40-50	32	40			
50 and above	15	19			
Total	80	100		80	100

The part 1 reveals the demographic profile of working women tax payer. 40% of the respondents are of the age group 40-50 and 10% of employees are of the age group 20-30. Among the respondents 56% are of married and 44 % are of unmarried.

PART-2

Table 1: Status of the employee

Private	No.	%	Public	No.	%
Teacher/ Lecturers	9	30	Teacher/ Lecturers	28	56
Officers	6	20	Officers	12	24
Doctors/ Engineers	4	13	Doctors/ Engineers	-	-
Clerks/ Others	11	37	Clerks / Others	10	20
Total	30	100	Total	50	100

For the purpose of study 63% of public employees and 37 % of public employees are considered. Among the public employees 56% are of teachers and among the private employees 13% are of doctors/engineers.

Table 2: Annual income of respondent for the previous year 2017-18

Criteria	No.	%
2,50,000-5,00,000	20	25
5,00,000-10,00,000	38	48
10,00,000 and above	22	27
TOTAL	80	100

The study shows that 48% of the respondents are belong to the Tax slab of 5 lakh to 10 lakh and 27% of the respondents belong to Tax slab of more than 10 lakh.

Table 3: Extent of awareness about tax planning measures.

Awareness / Income level	Aware		Not aware		Neutral		Total
	No.	%	No.	%	No.	%	
250000-500000	4	5	6	8	10	13	20
500000-1000000	30	38	2	3	6	8	38
1000000 &above	22	27	0	0	0	0	22
Total	56		8		16		80

From the study it is observed that 10% of respondents of the income level of 250000-500000 are neutral about the awareness of tax planning measures and 3% of respondents of the income level of 500000-1000000 are not aware of tax planning measures, while 27% of respondents of the income level of 1000000 &above are having awareness about the tax planning measures.

Test of hypothesis:

Ho: There is no significant relationship between tax planning awareness and income level of respondents.

H1: There is significant relationship between tax planning awareness and income level of respondents.

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

The calculated Chi square value is 35.15 is greater than the critical chi square value at 5% level of significance and 4 degrees of freedom. Therefore reject H0 and accept H_1. So we conclude that there is significant relationship between tax planning awareness and income level of respondents.

Table 4: Assistance in tax planning.

Criteria	No.	%
Self	10	13
Spouse / Family	40	50
Consultants	26	32
Others	4	5
TOTAL	80	100

*Chart 1:* Assistance in tax planning

Assistance in tax planning
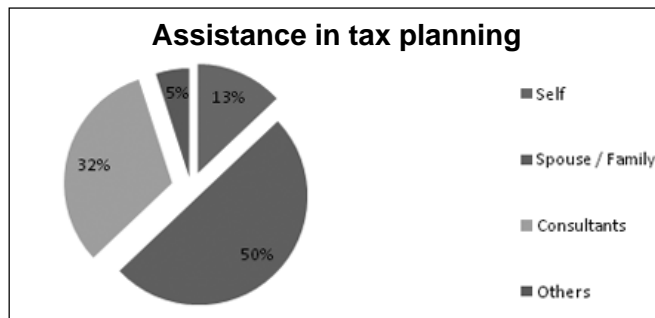
The study shows that most of the respondent that is 50% age of the respondents are taking the help of their spouse/family and 32% of the respondents avail the help of consultants.

Table 5: Motives for Savings and Investment

Criteria	No.	%
Tax Purpose	10	13
Retirement Purpose	8	10
Children's Education	4	5
Future Purpose	8	10
Above All	50	62
TOTAL	80	100

Chart 2: Motives for Savings and Investment.

Motives for Savings and Investment.
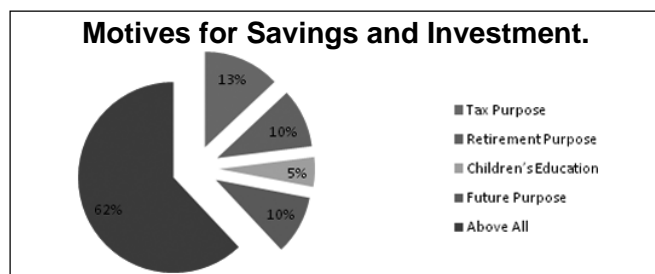
When the respondents were asked about the motives for Savings and investment 62% of the working women said that they have gone for Savings and investment for tax purpose, retirement purpose, future purpose as well as children's education and 13% of the respondents said that their motive is only tax purpose.

Table 6: Tax Planning measures adopted and awareness about that.

Criteria	Awareness				Tax Planning measures			
	YES No.	NO %	YES No.	NO %	No.	%	No.	%
PF	80	100	-	-	75	94	5	6
Life Insurance	74	93	6	7	70	88	10	12
House Loan Repayment	64	80	26	20	40	50	40	50

| Criteria	Awareness				Tax Planning measures			
	YES No.	NO %	YES No.	NO %	No.	%	No.	
%Tuition Fees	50	63	30	37	30	38	50	62
NSC	20	25	60	75	10	13	70	87
Deposited in 5 years Bank FD	30	38	50	62	28	35	52	65
KGID	25	31	55	69	25	31	55	69
Approved Mutual Fund	70	88	10	12	50	63	30	37
Infrastructure Bond	25	31	55	69	12	15	68	85
Medical Insurance Premium	70	88	10	12	65	81	15	19
Treatment disabled dependent	56	70	24	30	8	10	72	90
Specified diseases	40	50	40	40	2	3	78	97
Interest on Higher Education loan	60	75	20	25	30	38	50	62
Interest on SB/FD	80	100	-	-	80	100	-	-
TOTAL	80	100	80	100	80	100	80	100

With regard to the question about the awareness of tax planning measures 100% of the respondents said that they are aware about PF, 93% of respondents aware about LIC. 31% of respondents are having awareness of KGID and it is also found that 88 percentage of the respondents are having awareness about the mutual fund.

On questioning the respondents about the tax planning measures, 50% of the respondents said that they adopted home loan repayment as a measure of tax planning and 94% and 88% of the respondents adopted PF and life insurance as a measure of tax planning respectively.

Table 7: Satisfaction with the new tax reform for the year 2019-20.

Criteria	No.	%
Highly satisfied	15	19
Satisfied	55	68
Neutral	2	3
Not satisfied	8	10
TOTAL	80	100

Chart 3: Satisfaction with the new tax reform for the year 2019-20.

Satisfaction with the new tax reform for the year 2019-20.
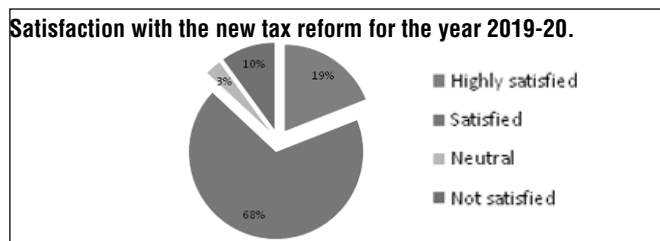
On questioning the respondents regarding the satisfaction with the new Tax Reform for the year 2019-20, 68% of the respondents said that they are satisfied and 10% of the respondents said that they are not satisfied with a new tax reforms.

Major Findings:

1. 27% of the respondents of income level of 1000000 &above are having awareness about the tax planning measures.

2. 10% of respondents of the income level of 250000-500000 are neutral about the awareness of tax planning measures.

3. 62% of the working women said that they have gone for Savings and investment for tax purpose, retirement purpose, future purpose as well as children's education.

4. 100%of the respondents said that they are aware about PF, 93% of respondents aware about LIC.

5. 50% of the respondents said that they adopted home loan repayment as a measure of tax planning and 94% and 88% of the respondents adopted PF and life insurance as a measure of tax planning respectively.

6. 68% of the respondents said that they are satisfied with a new tax reform and 10% of the respondents said that they are not satisfied with a new tax reforms.

Suggestions:

Taxation is considered as a complex matter affecting the financial planning of tax payers. Employer should conduct various programmes in the organisation to make employees especially women employees to update their tax awareness. Income Tax Department should conduct various awareness programmes to enhance the knowledge of people towards tax planning, various investment schemes etc.And the tax is the main source of income for the government and the salaried class people paying tax regularly so the government can come forward to implement some of the welfare schemes.

Future Research:

The current study has its limitation in terms of geographical area i.eMagaluru city and working women. There exists future scope for such studies by incorporating other geographical regions and other sample category.

Conclusion:

Tax planning is possible through appropriate savings and wise investment decision. The financial independence and the increased earnings of working women made them to have efficient tax planning. Even though working women taxpayers found to be cautious about the tax matter, but most of them are partly aware about the tax planning measures, deductions, rebate and relief. The income level of working women has a significant importance on the tax planning awareness.

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Agriculture Based on Automation &IoT Technology

Deepa D. Hegde [1]

Abstract

Computer vision, machine learning, mobile and cloud computing are the most immerging techniques which are used in almost all fields of research as well as in our day-to-day activities. India being an agriculture based developing country has more than 70% of its population depending on agriculture and cultivation. The development in the agriculture production directly increases the Indian Economy and vice-versa is also true. An expert system in the field of agriculture can be the best option to spread out countries agriculture production. But the life style of Indian farmers and agriculture is varying rapidly due to boost in non-agricultural opportunities. The scientific innovations in agriculture are not reaching to the farmer's, either because most of them are illiterates or due to lack of knowledge. Hence, most of the farmers are failing to gain the possible production rate. The failurein agriculture is growing more than 40% in worldwide which includes more than 19.1% of loss due to diseases caused, bacteria, virus and fungi, 10.2% due to insects attack and 12.2% due to weeds .

Agriculture is considered as the resource of life for the human species as it is the main source of food grains and other raw materials. It plays fundamental role in the growth of country's economy. It also provides large abundant employment opportunities to the people. Growth in agricultural sector is essential for the development of economic condition of the country. Unfortunately, many farmers still use the conventional methods of farming which results in low yielding of crops and fruits. The implementation of automation and human beings replaced by automatic machineries, has resulted in a yield of improvement. Hence there is need to employ modern science and technology in the agriculture area for increasing the yield. The task aims at making agriculture smart using automation and IoT technologies. The prominence features of this project include weeding, switching ON/OFF of water pump, moisture sensing, bird and animal scaring, etc. Controlling of all these operations will be through any remote smart device or computer and the operations will be performed by interfacing sensors, Wi-Fi or Bluetooth.

Introduction

Indian economy is mostly based on agriculture. The most important factor for the agriculture is appropriate and sufficient supply of water. Most of the farmers are dependent on electric water pumps for irrigation which needs electricity. The frequent, irregular, low voltage supply of power to the agriculture division has caused problems to the farmers who are spending their time to monitor the supply of power without which their work cannot start. The highly unreliable power supply with frequent power cuts have not only lowered the effectiveness of farmers but also have led to the disappointment of the farmer to quit agriculture and move to urban areas for their better future.

Objectives

- The propose a system shows, how software application benefits millions of farmers in rural area by giving solution to the agriculture problems caused by irregular electrical power supply.
- The goal of this system is to design an implanted device, which can send a specific SMS message/ Automated call from a cell-phone and to manage temperature & humidity, Soil Moisture, Animal & Bird scaring, grass cutter, water leakage detection.
- The controller is handy at places where we have to control the ON and OFF switching of the devices but no wired connection to that place is available.

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Literature Survey:

Agriculture is a traditional art which was performed by our ancestors and main source for this is water.Traditional methods used were like pots,paddles,hand pumps etc to lift and carry water from its source which was tiring,time taking,requirement of more labours. As the technology has widely spreaded more reliable methods came into existence and electric pumps were

Were introduced, a machine or device raising,compressing and transferring fluids.But even these methods carry few drawbacks such as once the electric water pump is started the person need to wait there till time to off the machine or there will be loss of water,electricity.This is waste of time,effort.There are also possibility that the person is miles away from machine and need to go there each and everytime to on/off the machine.Now we have reliable proposed system where the person can on/off pump,electricity just through a miss call even though he is away from the machine.

Researchers have proposed different models for agriculture sector with one or multiple technologies mentioned above. Use of IoT has been proposed in agriculture domain . The farmers will get Easy access to information and advice through this architecture. In IoT has been used for product supply chain business process.

Problem Definition

Agriculture plays important role in the development of agricultural country. In India about 70% of population depends upon farming and one third of the nation s capital comes from farming. The issues related to agriculture have been always hindering the development of the country. The solution to this problem is by making smart agriculture by modernizing the current conventional methods of agriculture. Hence this system aims at making agriculture smart using automation and IoT technologies.
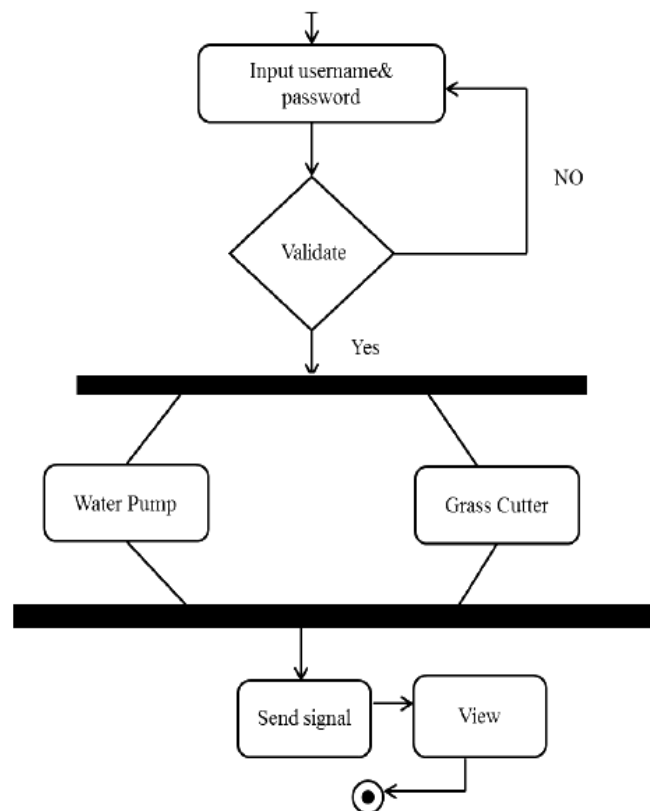
Scope and Importance

The scope of this system is to make agriculture smart by using automation and IoT technologies. These features can be used by farmers worldwide and improve their yield.

Evaluation
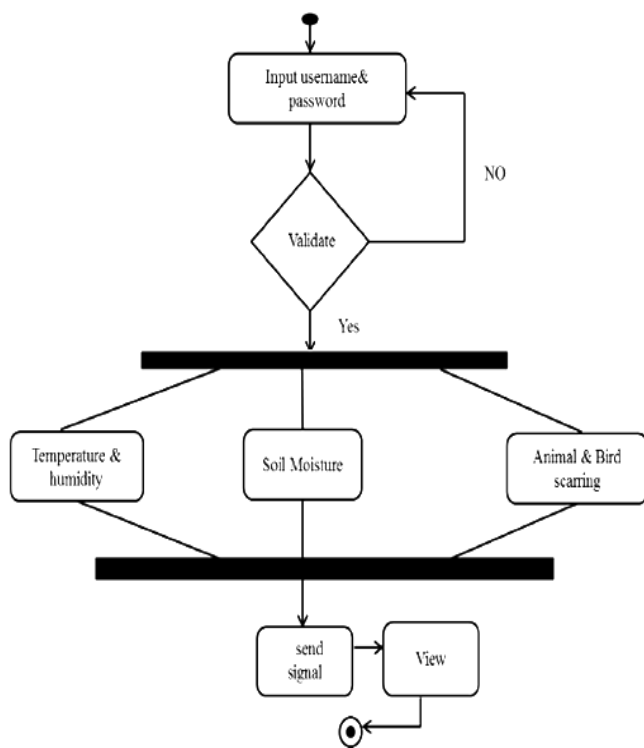
Activity Diagram for temperature humidity and soil moisture

Activity Diagram for water pump and grass cutter

Features

- User creation: This module is used to add the user
- Login: The user will login to the main page with his registered name and password. If the password doesn't match, an error message will be displayed.
- Weeding: This feature allows the user to operate the weeding machine remotely.
- Soil Moisture Sensing: This feature detects the moisture content in the soil.
- Manage Pump: In this module user can ON /OFF the pump using system software
- Animal and Bird scaring: In this module birds and animals will be chased by the recorded voices.
- Temperature and Humidity Sensing: This module is used to sense the temperature and humidity in the air.
- Hardware Connect: This module will connect software to hardware.

Hardware Interfaces

- HC-05 Bluetooth Transceiver
- Arduino UNO R3
- Regulated Power supply board with pull-up junction
- LCD 16x2 with driver PCB
- 2 Channel Relay with driver PCB
- APR33A3 8channel voice recorder/playback device
- LM 35 temperature sensor, humidity sensor, PIR sensor, moisture sensor
- 5v DC water pump with 100RPM DC geared motor

Software Interfaces

Front-end: Visual Studio 2010

- Programming language: C# .Net
- Operating system: Windows 7 or above
- Back end: My SQL 5.0
- Framework: .NET Framework 4.0

Architectural Design

Architectural design is a process of decomposing a large complex system into small sub system. These sub system are meant for providing some related services. The Architectural design is basically a framework of the system for subsystem control the communication. There are three layers in Architectural design, namely: Presentation, Business and Access Layers
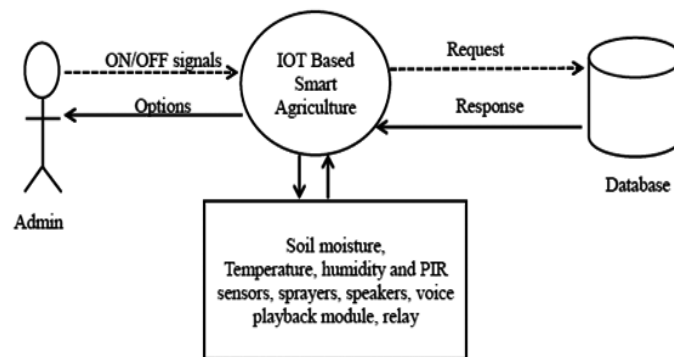

Figure Architectural Diagram

Conclusion And Future Scope

As seen in the above system, the cultivation and the agriculture industry overall can really benefit from implementation of such IoT solution. Monitor and collection of data of soil moisture, temperature and humidity across multiple fields will improve effectiveness of water usage and crop yield of large and local farms. As the world populace increases, farming and food manufacture will have to increase with it. IoT platforms will enable this efficiency and production. The system can be further improved by implementing a wireless sensor network like WI-FI instead of the Bluetooth, which will be better suitable for longer distances. Some additional features that can be added are extensible features of sensors can be added as per the need of the crop, Motion sensors for monitoring behaviour of the animals, robotic sprayers to sprinkle fertilizers and pesticides and much more.

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TECHNOLOGICAL IMPACT ON CONSUMER BUYING BEHAVIOR– A STUDY

Mrs. Poojari Jayashree Muddu [1]

Mrs. Prameela [2]

Abstract

Good governance is a need of the dynamic world. Business leaders are facing various challenges in the modern business world. They must frequently change their strategies, if they want to survive and lead. They need to be up-to-date with the changing business environment, if they want to satisfy the needs of the stakeholders. Business operates under different external as well as internal environment. Technology is also one among the important external environment which must be taken care of.

Tremendous changes are taking place in the world of technology. These changes have direct impact on the working of a business.Increased usage of mobile phones, internet, shortened the distance between the producer and the consumer. Development of various customer-friendly apps, service providers, shopping sites, etc. have made easy accessibility for the consumers. Business leaders are facing challenges to meet consumer expectations. There has been a significant shift in the consumer buying behaviour. As a business, you must keep yourself up-to-date with the changing technology as well as changing consumer behaviour.

In this paper an attempt has been made to highlight the impact of technology on consumer buying behaviour. For the purpose ofstudy data is collected from primary and secondary sources.

Keywords: Consumer, Buying Behaviour, Technology

Introduction:

Consumer behaviour is the study of individuals, groups, or organizations and all the activities associated with the purchase, use and disposal of goods and services, including the consumer's emotional, mental and behavioural responses that precede or follow these activities. It is influenced by various factors. Understanding consumer behaviour is a big challenge for any business. Technology has lead various inventions, which has posed various opportunities as well as challenges for business concerns. If the business leaders ignore these technological impacts on consumer behaviour and fail to meet their market, then they will need to pack their bags. We know that customer is the king, but now technology has given full power in the fingertips of customer.

Background of the Study:

Technology in Business:

Technology changed the structure of business at different stages of its evolution.

1. Pre 1800s: Most businesses were local, lack of transportation facility, existence of Barter system.

2. 1800s: Transportation systems developed, departmental stores developed, cash register was invented.

3. Late 1800s to mid 1900s: Mail orders and catalogues were developed and used for purchasing items from long distances.

4. 1900s: The first supermarket, first shopping mall were opened, shopping cart was invented, new highways, larger shopping centres were developed. Bank of America

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launched first credit card, Kmart, Walmart and others opened their first discount stores. In 1960s Debit card invented.

5. Late 1900s: Departmental stores found decline, Bigbox store chains began to flourish catering the need of shoppers at a single place. In 1990s, Walmart became the world's largest retailer. In 1995, Amazon took the advantage of invention in the field of internet and began to sell and ship books.

6. 2000s – Now: Many companies followed Amazon and expanded their business in online retail. This allowed customers to use online shopping. In 2006 Facebook allowed companies to promote their products through social media. In 2008, Apple and iTunes became the world's largest music retailers and Amazon became world's largest online retailer. Many departmental stores and other offline stores had to close their business because of people's interest towards online stores.

Technological Impact on Consumer Buying Behaviour:

We have seen how technology influenced on the business. In the same way it has considerable influence on Consumer Buying Behaviour also.

1. Customer Expectations: With the raise of technology, customer expectations also raised. Use of Internet, mobile phones, e-marketing, has made it possible for 24-hour shopping. A single negative review can affect on the reputation of a business.

2. Network: Today's internet has connected the whole world into a single network. Companies have to satisfy customers' changing needs at customers' place. If a target customer spends more time in social media, company should reach him/her in social media.

3. Communication: When a company fails to answer to a single query, it can damage its reputation. This is because this information reaches millions of customers. So, it must be present 24-hours to answer customer's queries.

Literature Review:

Dr.Manasa and KavyashreeK.M(2018) found that the consumer behaviour had changed drastically because of the technological interference and so is the consumer behavioural theory. They also found there is a need to develop a consumer behavioural model, especially with respect to Indian context.

Sue Yasav(2015) in their study opines that A retailer can make useof responsive website design, custom alerts and a compelling content strategy. The seamless integration of these tools into the shopping experience can attract new shoppers to a brand, and result in greater loyalty from existing customers.

Dr.Mahabir & Dr.Geetha(2013) found that consumers have overall positive image towards use of IT while making purchase. There is a need for marketers to understand what motivate consumers to purchase online and what discourages them from doing so.

Arjun Mitthal (2013) opines that internet consumer trust and perceived risk have strong impacts on their purchasing decisions. Consumer's trust, privacy concerns, security concerns are the major factors for using internet for shopping, the trust on websites influence to the purchasing decision of any consumer.

Objectives Of The Study:

- To study the impactof Technology on consumer buying behaviour.
- To study different stages of technological influence on Business.
- To study technological impact on consumer behaviour.
- To study the extent of usage of social media by consumers for buying decisions.
- To suggest certain measures to utilise technological challenges.

Methodology:

Primary and secondary data are used for study. A questionnaire is used to collect the information from 72 respondents.Non-probability sampling technique is used for data collection. Secondary data is collected from journals, articles and related websites.

Limitations:

- The sample size is comparatively smaller.
- Primary data has its own limitations which might affect the conclusion of the study.
- The study simply presents the findings and has not used other advanced statistical methods.

Data Analysis:

Only simple statistical tool and the percentage analysis are used for the analysis and interpretation of the data.

Table 1: Personal details of respondents:

Particulars	Count	Percentage
Total	72	100.00
A. Gender		
Male	36	50.00
Female	36	50.00
B. Age		
18 to 30	43	59.72
31 to 40	20	27.78
41 to 50	04	5.56
Above 51	05	6.94
C. Education		
Undergraduate	14	19.44
Graduate	20	27.78
Post-Graduate	33	45.83
Other	05	6.95
D. Profession		
Student	21	29.17
Entrepreneur	02	2.78
Service	26	36.11
Government Employee	05	6.94
Other	18	25
E. Annual Income		
below 2,00,000	40	55.56
2,00,000- 300,000 Rs	13	18.05
300,000- 500,000 Rs	04	5.56
above 500,000 Rs	15	20.83
F. Marital Status		
Single	38	52.78
Married	34	47.22

Table 1 shows that there were 72 respondents, onsisting 36 male and 36 female and majority (59.72%) come under the age category of 18 to 30. Most of the respondent's occupation is service with 36.11%. Most of the respondents (55.56%) come under the annual income below Rs. 2,00,000. Among the respondents, 52.78 % were unmarried.

Table 2: Use of social media/online shopping

	Count	%
Yes	69	95.83
No	03	4.17

Among the respondents, 69 respondents (95.83%) use social media/online shopping, and 3 respondents (4.17) do not use social media/online shopping.
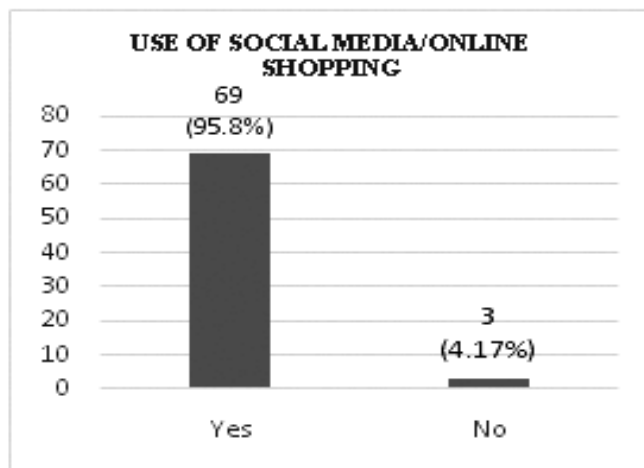

Table 3: Respondents who pay attention to the advertisement in social media/online shopping.

	Count	%
Yes	51	70.83
No	21	29.17

Among the respondents, 51respondents(70.83%) pay attention to the advertisement on social media/online shopping websites and 21respondents (29.17%) do not.

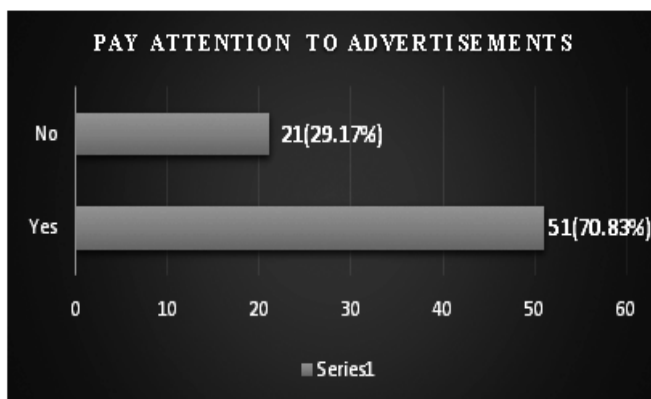### Table 4: Influence of Social Media/Online shopping advertisements in your buying decisions

	Count	%
Strongly Agree	06	8.33
Agree	38	52.78
Neutral	20	27.78
Disagree	07	9.72
Strongly Disagree	01	1.39

Among the respondents, 38 (52.78%) respondents agreed that advertisements in the Social Media/online shopping, influence their buying decisions.
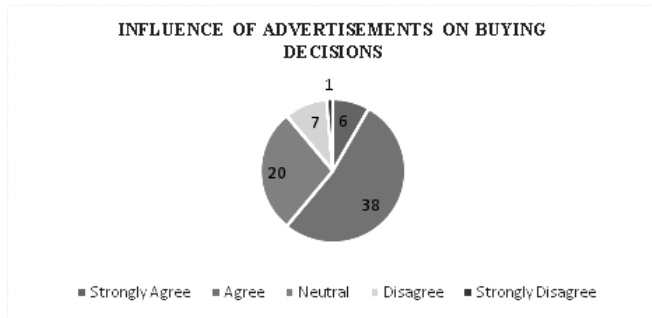

Table 5: Do Social Media/Online shopping reviewsinfluence your buying decisions?

	Count	%
Yes	67	93.05
No	05	6.94

Majority 67 (93.05%) respondents agreedthat reviews in the Social media/online shopping influence their buying decisions.

Table 6: Frequency of online purchases:

	Count	%
Occasionally	44	61.11
Weekly	0	0.00
Monthly	21	29.17
Annually	07	9.72

Majority of the respondents i.e., 44 (61.11%) occasionally do online purchases.
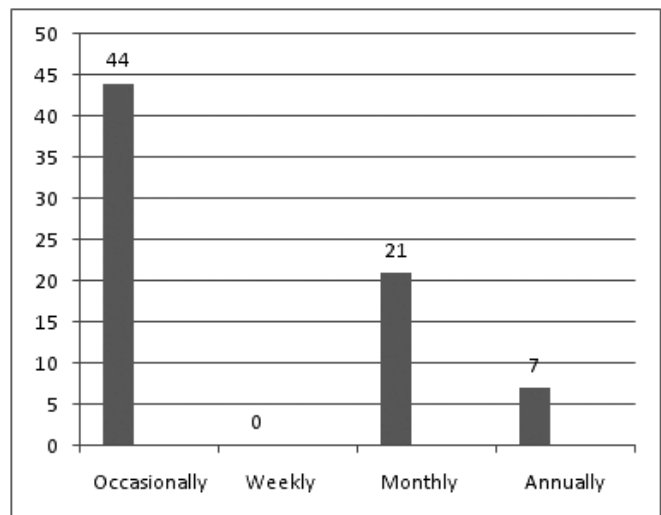
Table 7: Preferred source of information for online purchases

	Count	%
Friends & Relatives	33	45.83
Company's website	24	33.33
Advertisement in Social Media	11	15.28
Other	04	5.56

For majority of the respondents 45.83%, preferred source of information is through friends and relatives, followed by 33.33%, who prefer company's websites.

Table 8: Respondents satisfied with online/social media purchases:

	Count	%
Yes	58	80.56
No	14	19.45

Among the respondents, majority, i.e., 58 respondents(80.56%) are satisfied with online/social media purchases.

SATISFIED WITH ONLINE/SOCIAL MEDIA PURCHASES
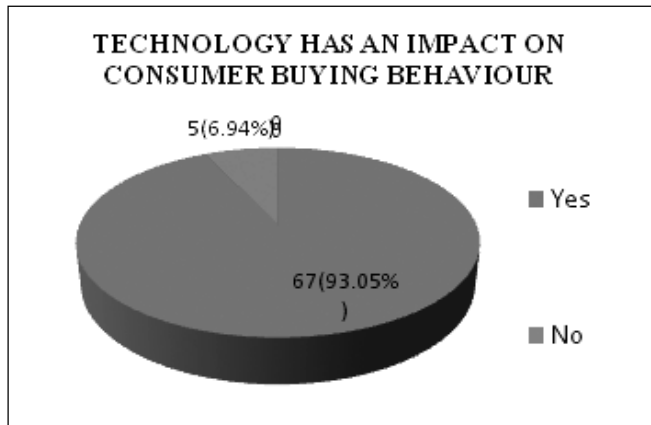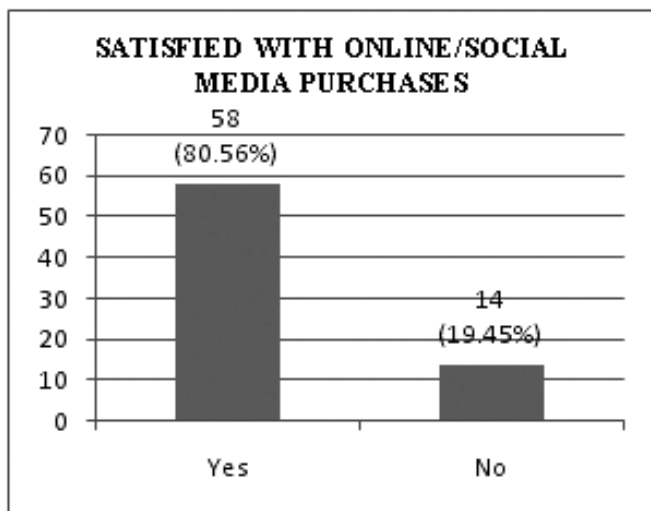
Table 9: Reasons for the satisfaction:

Strongly Agree	Agree	Neutral	Disagree	Strongly	Disagree
Increases efficiency in purchasing	09	27	16	03	-
Reduces cost	14	32	07	02	-
Better decision making	14	26	15	01	-
Provides sufficient information	23	29	04	-	-
Wide variety / range of products	21	29	03	01	01
Enables Door Delivery	29	21	05	01	-
Replacement options available	18	26	10	01	-
Easy and convenient payment mode	22	27	05	-	-
Good discounts/lower prices	16	27	09	02	-

Table 10: Reasons for Dissatisfaction:

Strongly Agree	Agree	Neutral	Disagree	Strongly	Disagree
Internet Problems	10	11	07	00	
Security Problems	09	10	07	03	-
Defective Items	06	14	08	-	-
Delay in Delivery	03	14	04	07	-
Poor Packaging	03	06	11	08	-
Lack of physical verification	09	10	05	03	-
Frauds in Online shopping	04	13	08	02	-

Table 11: Do you agree "Technology has an impact on Consumer Buying Behaviour"

	Count	%
Yes	67	93.05
No	05	6.94

Majority, i.e., 93.05% agreed that technology has an impact on Consumer Buying Behaviour.

TECHNOLOGY HAS AN IMPACT ON CONSUMER BUYING BEHAVIOUR

Findings:

1. Among the respondents, majority, i.e., 69 respondents (95.83%) use social media/online shopping,

2. Among the respondents, majority, i.e., 51 respondents (70.83%) pay attention to advertisement on social media/online shopping websites.

3. Majority,38 (52.78%) respondents agreedthat Social Media/ online shopping advertisements influence their buying decisions,.

4. Majority of the respondents i.e., 44 (61.11%) Occasionally do online purchases

5. For majority of the respondents 45.83%, preferred source of information is through friends and relatives, followed by 33.33%, who prefer company's websites.

6. Among the respondents, majority, i.e., 58 respondents(80.56%) are satisfied with online purchases.

7. Respondents prefer social medias/online shopping because of the increased efficiency in purchasing, reduced cost, better decision making, wide choice, door delivery facility, easy replacement, easy payment mode, good offers/discounts, etc.

8. Their major concern which hinders on buying decisions include, internet problems, security problems, defective items, delay in delivery, poor packaging, lack of physical verification, frauds, etc.

9. Majority of the respondents, i.e., 93.05% agreed that technology has an impact on Consumer Buying Behaviour.

10. Some respondents are disappointed when they receive products which are entirely different from what is shown in the advertisements.

Suggestions:

1. Respondents mainly fear of quality of products they receive through online modes, since there is no physical verification possible. This must be properly taken care of by the companies to secure customers confidence.

2. Delivery time, proper packaging, quality issues, customer service, customer queries, etc. should be paid proper attention.

3. Business owners need to concentrate their strategies on technologies for growth and development and increasing their customer base.

4. Companies need to secure their networks to avoid frauds and obtain confidence of the customers.

5. Small business owners can make use of technology to reduce their operating, advertising and other costs.

6. They can also use technology to gather information relating to business and customers for strategy development.

7. Instead of spending too much on advertisements, companies need to concentrate on reaching their customers through social media.

Conclusion:

Technology has great impact in almost every field, and so in consumer buying behaviour. In most societies technology has enabled economic growth and leisure. Now, even the new small businesses and retailers can find and reach their customers through social medias and that too without the need to have a business outlet or advertising expenditure. In this study we have found that technology influence consumer buying behaviour through advertisements, reviews, offers/discounts, wide variety, 24-hour access, easy replacements and other benefits. We also found that internet problems, security issues, quality issues, delivery time etc. hinder on the success of certain companies. Companies need to devote much of their time on technology to influence consumer behaviour.

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Influence of Artificial Intelligence on Digital Marketing

Muddassir Khadar [1]

Abstract

D³g³tàl marketing ¾thåàdvårt³¾³ng& promotion îfbu¾³nå¾sesàndthå³rbrands through d³g³tàlmåd³à channels. Businesses are finding unique solutions to keep their sales ticking and devising very unique digital marketing strategies. Different forms of Digital Marketing are used apart from the traditional known methods such as SEO,SEM, Social Media Marketing etc. With the growth of Artificial Intelligence, its impact into the digital landscape is easily being realised and how it can be used to create innovative digital marketing campaigns. Marketing currently represents the4^{th}largest use case of AI in terms of resources spent on it. With AItechnology being more feasible to implement than ever before, we are beginning to see its potential for marketing slowly opening up in different areas under marketing. This study aims to find out the areas of influence of Artificial Intelligence on the Digital Marketing Strategies. The findings reveal that AI has spread its roots to almost all arenas of digital marketing like chatbots, predictive Marketing, automation, content generation, personalized UI, Ad targeting, Voice search. Customer Buying habits and preferences are also tracked and useful insights provided using AI. AI thus helps the organisations drive the opportunities of achieving things with a greater degree of speed and accuracy, helps in computation of large volumes of data providing useful insights to make data driven decisions.

Keywords: *AI, Digital Marketing, SEO, Chatbots, Lead Scoring, Target Marketing, Voice Search.*

Objectives

1. *To study the usage of AI in marketing.*
2. *To Study the areas of Influence of AI on the digital marketing strategies.*

Research Methodology

This is a conceptual study where datahas been sourced primarily through secondary sources collected from various journals, research papers, websites, various reports, books and articles published online. AI being an upcoming field of study, there are not many research articles published in this area specific to the linkage between AI and Marketing which is the scope of the current study.

Importance Of This Study

Artificial Intelligence has slowly grown to be an important part of our daily life. AI is being used almost everywhere in every sector. By **2025**, the market for global artificial intelligence is expected to be almost **$60 billion whereas** in the year **2016** it was **$1.4 billion (Source: Accenture.** We use feature one form of AI or another in already about **77 percent** of the smart devices **(Source: Accenture)**.Artificial Intelligence has affected Digital marketing in a multitude of ways. A survey by Salesforce indicated that nearly 51% of marketers are already using AI, and 27% of new marketers are even planning on incorporating this technology by 2020. A survey in 2017 by Evergage on personalization in real time showed that 33% of the marketers surveyed made use of AI to provide personalized web experiences. 63% responded that personalization in AI increased conversion rates and improved the consumer's experience (Adext AI, 2019).

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Introduction

Artificial Intelligence is the creation of Intelligent Machines which are capable of thinking and reacting like Humans.The goal of artificial intelligence (AI) as a science is to make machines do things that would require intelligence if done by humans (Negnevitsky, M. 2004).Artificial Intelligence has been treated as the next big industrial revolution; people believe that artificial intelligence can provide a solution to most of the problems and challenges that exist right now in the world.Artificial Intelligence (AI) and Machine Learning (ML) are causing disruptions and transforming the technological landscape in almost all domains of each industry (Aulakh, Abeer, (2019).84% of marketing organizations have implemented AI and machine learning in 2018 (Source: Forbes). Artificial intelligence uses technologies which includes natural language processing, speech recognition, machine learning, robotics, and computer vision. These technologies provide a number of opportunities for business. Machine learning is a method to get artificial intelligence and deep learning is considered one of the branches of machine learning and a method for understanding machine learning. The major emphasis of deep learning is on algorithms driven by the configuration and function performed by the human brain (ShahidZafeer Muhammad & Li Gang, 2019). "Weak AI" is that which does something very specific and it does it very well, "strong AI" on the other hand is that which thinks like humans and draws on general knowledge, imitates common sense like humans, threatens to become self-aware and as feared by most, takes over the world (Sterne, 2017).Digital marketing is a term which is used for the targeted, measurable, and interactive marketing of products and services using various digital technologies to reach the viewers, turn them into potential customers, and also retain them. Digital marketing includes methods such as search engine optimization (SEO), search engine marketing (SEM), content marketing, influencer marketing, content automation, campaign marketing, data driven marketing, e-commerce marketing, social media marketing, social media optimization, e-mail direct marketing, display advertising, e-books, and optical disks and games, and any other form of digital media (M, M., & M, P. D, 2019). Artificial Intelligence and digital marketing have started to go hand in hand. With the power to gather knowledge, analyze it, apply it then learn from it, AI is remodelling the digital strategy. As it continues to advance, the capabilities to use it for digital marketing strategies will also enhance and provide valuable client insights for firms (Nicole Martin, 2018).

Usage Of Ai In Marketing

AI has boosted theperformance of marketing in different ways. In nearfuture, it is expected that AI will boost its impact, for e.g.Robots will be used as a substitute forsalespersons,websites will be updated and reformatted automaticallyby eye-tracking data. AI has been used to enhance and upgrade all theoutdated methods of marketing (Hoanca& Forrest,2015). With the help of AI which would analyze the data, companies can be successful increating customized marketing campaigns. AI will also help in improving yieldmanagement by presenting dynamic pricing and giveexcellent customer service. (Bughin, Hazan, Manyika&Woetzel, 2017). AI is expected to play an important role in predicting not only what customers want to buy, but also what price to charge, and whether price promotions should be offered (Shankar 2018).Because AI can help firms predict what customers will buy, based on this firms may even substantially change their business models, providing goods and services to customers on an ongoing basis based on data and predictions about their needs (Davenport, T., Guha, A., Grewal, D. et al. 2019)AI plays a significant role in the background, monitoring consumer sentiments on the internet and social media. These social listening kits, driven by AI engines ensure that consumers can easily find their preferences. (Grewal .et al. (2017)

Areas of Impact of AI on Digital Marketing.

Chatbots: Chatbots are computer programs developed for interacting with online customers and they also complete the order for them. Chatbots can be integrated into websites and social media pages. Chatbots boost engagement, they can help customers 24/7 and they can handle several customers simultaneously. Importantly, Chatbots can respond immediately to customer's queries through chat interaction. Many online businesses already implement chatbots to provide better customer support. In many cases the customers do not realize that they actually interact with the machine(Rajanarthagi, 2019).AI bots will be used in future which willfunction as well as human salespeople, to make initial contact with sales prospects.Unlike humans, bots never actually lose patience. They are available 24×7 to handle several requests simultaneously thereby resulting in tangible

results. However, a chatbot must be able to understand the nuances of a language in order to give a comfy experience with convincing responses (Geekschip, 2019).

Semantic search: Semantic search helps in findings answers to a search query much faster. Semantic search is a data searching technique that understands user's intent and contextual meaning of a search query rather than using keywords. AI can do this by understanding the meaning of search phrases. It involves finding the relationship between words and phrases in the search query. Machine learning technique helps the search engines in trying to understand what information the user might need based on their search history and user persona. With the help of machine learning, the search quality will increase constantly (Rajanarthagi, 2019). Ranking is anessential functionality that is innate to any application offering search features to users. Given a query, documents relevant to the query have to be ranked according to their degree of relevance to the query. The data that is retrieved usingan algorithm should be ranked appropriately irrespective of the data set it has been extracted from(Rai, Piyush&Prabhumoye, et al. (2014). Google is trying to learn on how they can provide better results to end users that satisfy their intent. If theweb content fails to provide users with a positive experience where he does not find the content useful or relevant, and it did not meet their intent, then it'll be difficult for the webpage to rank in the top positions of the SERPs (Search Engine Results Pages) as the machines continue to learn and get smarter(Winston Burton, 2017). Through better search results, Netflix estimates that it is avoiding cancelled subscriptions that would reduce its revenue by $1 billion annually (Bughin, J.,et al.,2017).

Content Creation: The concept of content marketing can be defined as a marketing approach, which aims to find products produced according to customers' needs and create customer satisfaction and fulfilment in this way (Karkar, A,2016).There is a lot of research work that focuses on the potential of relevant business models in success of today's content marketing under some industries (Amit, R. and Zott, C, 2001). Artificial Intelligence can write data focused contents such as stock updates, sports stories, and financial reports. Gartner predicts that by 2018, nearly 20% of content of businesses will be authored by machines with a speed of producing 2000 articles per second.

Content Curation is the process of gathering, organizing information relevant to a particular topic.The best example for content curation is e-commerce websites like Amazon which recommends similar products based on what has been previously looked or purchased.It takes significant time and energy to create effective content. The idea is to create awareness for people to buy a product or service. AI helps the marketers to create relevant content that the target audience wants to read and also keep them engaged(Geekschip, 2019).AI can already write reports and news based on data and information. Intelligent tools like Wordsmith, Quill and Articooloare already being used by the Associated Press and Forbes to create news, which leads to clicks on their websites (Realomat, 2019). UtkuKöseprovides some sample models of intelligent content marketing approaches in order to improve functions of content marketing (Köse, Utku&Sert, Selcuk, 2016). Machine learning and image, speech, and natural language generation enable advertisers to curate content whilelearning from consumer behavior in real time, adjusting content on the fly (Kietzmann, et al, 2018).

Ad targeting: AI can generate and promote online Ads by generating or improving Ads content based on user's interest, likes, dislikes and preferences,.Google Ad platforms already make use of machine learning and artificial intelligence to target the audience. AI can deliver Ads to users based on their previous purchase history, search history, interests, demographics, etc and display the right Ads to the right audience at right time. This will give better ROI to advertisers (Rajanarthagi, 2019). Facebook is one of the most profitable platforms for advertisers having more than 1billion monthly users and an infinite number of selection criteria of the target groups. Facebook ads produce large and productive results within a few hours. If an ad is placed in the right target group and contains the right offer, it generates sales usually at low acquisition costs. And if the ad is run successfully, then the sales will scale up and thus the profit by increasing the display costs. And this display can deliver quality performance for a certain amount of time until the target group is exhausted (Rob Miller, 2018)

Predictive marketing: Predictive analytics refers to the use ofmachine learning, data mining, and artificial intelligence to examine the historical data in order to predict the future trends.When the user browses on the internet every time AI collects the information related to the user's online behavior and analyze that data. This data

reveals a lot of information about the user like brand preferences and buying frequency. Artificial Intelligence has the capability to understand the needs and preferences of consumer based on the data analyzed and then helps companies to understand what their customers want by segmenting the audience. (Rajanarthagi, 2019). AI can also predict behavior for new users part from analysing past behaviour of existing users. AI can collect information about all users across the internet and not just for a session. This helps to concentrate on targetingonly potential leads and eliminating those unlikely to convert (Rob Miller, 2018). Using AI, online retailers may be able to predict what customers will want with higher degree of accuracy and could transition to a shipping-then-shopping business model. That is, retailers will be able to use AI to identify customers' preferences and ship items to customers without a formal order, with customers having the option to return what they do not need (Agrawal et al. 2018).

Voice search: Voice search is an easier and quicker way to search for information.By the end of the next decade, the vast majority of shopping purchases will be made by voice. Retailers are scrambling to add artificial intelligence to ensure their sites can be crawled via voice and virtual assistants. Audioburst uses artificial intelligence to index audio broadcasts, which makes it easier to find and extract what a consumer might want. VSO (voice-search optimization) is the new SEO. By 2020, more than half of all internet searches will be made without the use of screens. Rather than typing a topic and then clicking through links, consumers will instead get answers while conversing with smart speaker devices, their cars, TV remotes, and more (Amy Webb, 2019).Voice commerce is helping its users in placing orders online using voice assistants. Apple and Google have already developed their personal assistants such as Siri and Google assistant. The number of consumers who are using smart speakers for their purchases is increasing rapidly and percentage buyers using virtual assistants are not limited to one category of products and rather vary in a wide range of products (Manoj Rupareliya, 2019).Location-specific information is not the only thing people want from brands out of a voice assistant. According to a Google survey, people want to get information about deals and sales, about upcoming events, personalized tips, customer support etc(ChaitanyaChandrasekar, 2018)

Target right audience: AI assists in penetrating deep into the data which is easily extractable from several sources and help the digital marketers in reaching the right audience through segmentation. The consumer can now browse from anywhere at their own comfort through the AI enabled websites with relevant suggestions. For instance, the personalized content recommendations seen in typical e-commerce websites such as "user who bought X has also bought Y" or the YouTube suggestions which customers might find enthralling (Geekschip, 2019). Google analytics powered by Artificial intelligence can segment the audience based on factors like location, demographics like gender, age, income, education, profession etc and psychographics like preferences, interest, attitudes etc. It helps to decide which target audience is best the product or service (Rajanarthagi, 2019). Artificial intelligence analyzes millions of data on a single user profile and makes use of Algorithms for detecting patterns from large volumes of data. Digital Marketers can effectively group and cluster the data to create rich user profiles for individual customers – based on their online browsing behaviours. There is no need to target a broad demographic but instead more niche audiences can be pursued, exhibiting very specific behaviourslikecustomers frequently engaging with beauty care products on social media in the luxury segment (Andrew Arnold, 2018).

Lead Scoring :Lead scoring is a method for ranking leads based on customer buyingbehavior relating to their interest in the product or service and their current place in their buying cycle. It helps to identify which customer is likely to engage or buy. Artificial intelligence can automatically prioritize real hot leads and improve sales productivity (Rajanarthagi, 2019).Predictive lead scoring uses algorithms to establish shared traits among the leads that converted and those that did not. Using this knowledge, the lead scoring software will create and test different predictive scoring models, automatically selecting the best one based on a sample data set. This takes all the guesswork out and a finely tuned model for the company is resulted from this process. Furthermore, making use of machine learning, the lead scoring software will increase the accuracy by continuously re-analysing data and incorporating new insights to determine the lead scores (Source: Salesforce, 2018). Predictive lead scoring, through machine learning, allows marketers to make accurate predictions about the purchase intent of consumers. A machine-learning algorithm runs through a database of verified existing customer data; recognizes

trends and patterns and creates robust lead profiles for advertisers (Kietzmann, et al, 2018).

Web Development :AI helps to design websites faster and much easier with a few clicks. AI can help design a website within minutes based on pieces of information provided by users like page layout, images, text, calls-to-action, etc.The user interface design process includes a lot of creativity and often begins on a blackboard where website designers share their ideas. Once a design is drawn, it is then translated manually into an HTML structure in order to begin the web development process. This takes in a lot of effort and often delays the design process. Using AI, one could capture the website contents of the board on a photo and then upload it to an AI routine in order to generate the prototype web app (Sophia Martin, 2019).

Email Marketing: Email Marketing is a direct and cost-effective approach in digital marketing. With the assistance of artificial intelligence, email marketing is much more powerful than ever. It has introduced several benefits to garner higher conversions, including personalization, automation and data analysis. Some of the most successful email marketing campaigns are focused on creating emails that look like they were written personally by humans rather than being machine-generated. AI technology helps analyze consumer behavior and study their interests to generate a data-driven insight which makes it possible to create customized emails that are tailor-made for each individual subscriber.AI can also help determine what kind of content and images that are going to be most effective in drafting the welcome emails, order update emails and retention emails among others to achieve the highest amount of engagement and conversion possible.AI takes the guesswork out of the equation and determines the right times to automatically send out emails based on subscribers' activity history.AI knows what promo works best with each customer based on their history, interests and habits, whether it's product recommendations, discounts, freebies, or rebates. When a customer abandons a shopping cart, AI can retarget that customer by sending an email either to have them reconsider and finally purchase the product or recommend a similar item (SmartInsights,2019)

Conclusion

AI is transforming the way present-day websites are being developed. That's why many software development companies are using AI power to create smart web applications for increasing engagement, scalability, interaction, viability, experience and overall feel of the website.Using Artificial intelligence for digital marketing strategy will give several benefits. The decision to embark on a new era driven by AI, or get stuck in the past, will be everyone's personal choice. Artificial intelligence will continue to grow and improve without any slow down. Implementing AI into the digital marketing strategy will provide customers with abetter experience and give businesses much needed insights in order to succeed. AI has transformed the landscape of marketing and helps in updating the outdated methods of marketing. It will be a major challenge for the organizations to transform according to the changing landscape of marketing.

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(Footnotes)
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ACCOUNTING FOR SOCIAL RESPONSIBILITY: AN EVALUATION OF MANGALORE REFINERY AND PETROCHEMICALS LIMITED (MRPL), MANGALURU

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Abstract

William Clay Ford quotes "Creating a strong business and building a better world are not conflicting goals-they both are essential ingredients for long term success". Business is a socio-economic activity. It draws its input from society. With the changes taking place in the environment, it has not only compelled business enterprises to fix the objectives that consider the welfare of the society but also account and report information with regards to discharge of their social responsibility. Hence the boundaries of principles and practices of conventional accountings have been extended to such areas for social disclosure and attestation with regard to the measures of social programs.

This study regarding social accounting helps to achieve a balance among its economic, social and environmental responsibilities. An effective approach to CSR can open up new opportunities, and increasingly contribute to the corporates' ability to attract passionate and committed workforces. The data explored through the study facilitates the company to build the relationship with business in the community and with local authorities. It will also spell out the values, ethics and the relationship of the company with the stakeholders.

Keywords: *Accounting, society, Social responsibility*

Introduction

One of the major areas of accounting in last few decades has been accounting for society and environment which is termed as "Social Accounting". Social Accounting involves reporting of social responsibility of the business, has been a part of societies for more than hundred years. The areas covered by social accounting include pollution control, community relations, product quality, plant safety, equal employment opportunity, charitable contributions, employee benefits, and responsiveness to consumer complaints.

The firm seeks to place a value on the impact on society of its operations by accounting for social costs and contributions. It is a systematic analysis of the effects of the organisation on its shareholders, with the input from the society. It provides tools and guidelines to collect, analyse and monitor financial, social and environment data.

The Institute of Chartered Accountant of India (ICAI) also encourages companies for reporting their social performance in annual reports. The amendments of 1988 to the Indian companies act require the disclosure of "energy conservation and pollution control."

The change in the system pressurized company managers of both public and private companies to exhibit some information regarding the social activities undertaken by them in their respective annual reports both in descriptive as well as quantitative terms.

In August 2013, the Parliament has made CSR (Corporate Social Responsibility) to be mandatory. The statements advocates that those companies with net worth above Rs. 500 crore or an annual turnover of over Rs. 1000 crore must set aside 2% of average net profits of 3 years towards CSR. As a result social accounting and reporting gained its prominence in India.

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Although Social accounting in India is in gaining relevance, it is still in developing stage. There is no standard formula, (Gupta & Radhaswamy, 1972)established concepts and principles with regards to accounting for social activities of the company. Social accounting is yet to be mandated for private companies. As the result many companies do not follow this part of accounting. There is no cadre for social accountants. The company may fail to prepare accurate statements.

Objectives of the Study

The primary aim of the study is to analyze the accounting and reporting practices of MRPL, Mangalore during the past 5 years with respect of social activities and contribution. The other purpose with which the study is conducted may be as follows:

- The study aims to determine the impact of such disclosure on the various factors of the company.
- To understand the net social contribution on MRPL towards various section of society.
- To identify the ways of planning and organizing CSR activities.
- To draw up conclusions and suggestions through the study.

Statement of the Problem

The traditional accounting has focused on establishing accounting framework that measures corporate success based on the maximization of shareholders' value by the level of profits made and the same accounting procedures are followed by most of the companies even today. Many ventures are judged solely by their financial performance even when their activities have a lot of social impacts. This is due to lack of accounting policies for reporting and disclosure. The study will seek to provide disclosure of various social activities undertaken by MRPL, Mangalore and determines the impact of social accounting on the financial position of the company.

Methodology

The analysis is based upon the social account reporting and disclosure practices of Mangalore Refinery and Petrochemical Ltd (MRPL), Mangalore. The purpose of selecting MRPL is that it is a renowned company and involved in number of social activities. The analysis would be focusing on the information regarding the social activities undertaken by MRPL, Mangalore during the past 5 years i.e., 2013-14 to 2017-18 drawn. The study undertaken will be based upon the quantitative data that is collected from the annual reports and other documents of the company and further analysed using tables, charts, graphs and statistical techniques like regression and correlation.

Literature Review

Epstein and Eloas (1975) carried out a study of corporations to examine the reporting their social responsibilities in annual reports. The study concluded that the areas of corporate social accounting which appeared more frequently in the annual reports of the selected corporations were: environmental quality, equal employment opportunities, product safety, educational aid, charitable donations, employee benefits, and various community support programmes.

Maheshwari, Sn and Maheshwari Sk (1995) have put forth the business organisation as a social unit which uses society's resources as input to produce the goods and services. The business organisation is therefore compiled to operate within the overall parameters determined by the society. The basic idea behind this arrangement is that all sectors of economy, operating in large scale or small scale, should work for the overall good of the society.

Ness Mitchell R (1992) concludes that corporate social responsibility is a strategic decision whereby an organization undertakes an obligation to society, for example in the form of sponsorship, commitment to local communities, attention to environmental issues and responsible advertising. It has found that the impact of organizational decisions on society in the wider sense has been in evidence in the agricultural and food industries in association with merger and takeover activity, environmental pollution, intensive livestock production, hygiene, health and international marketing practices.

Kamla (2007) carried out a detailed study on social accounting and reporting practices in the Arab countries namely: Saudi Arabia, Kuwait, Qatar, Bahrain, Oman, United Arab Emirates (UAE), Syria, Jordan and Egypt of the Middle East. The study attempted to investigate critically the actuality and potentiality of social accounting and reporting practices in the Middle East from postcolonial view. The study concluded that social accounting manifestations in the Arab Middle East are largely orientated towards repressive/counter radical positions of accounting.

Roy Abhijit .Et Al, (2017) state that corporate environmentalism is an aspect of good corporate citizenship that revolves around the concept of sustainability. In this study they have examined the determinants of corporate environmental responsibility and the economic benefits attached to it.

The study focuses on the disclosure aspect of corporate environmentalism and study how corporate governance practices of companies influence voluntary environmental disclosure quality of firms from polluting as well as non-polluting sectors in Indian context. The study reveals significant impact of corporate governance variables on corporate voluntary environmental disclosure.

Results and Discussion

Chart No 1: Total Social Expenditure (Rs In Crores) On CSR Activities of MRPL Over past 5 Years
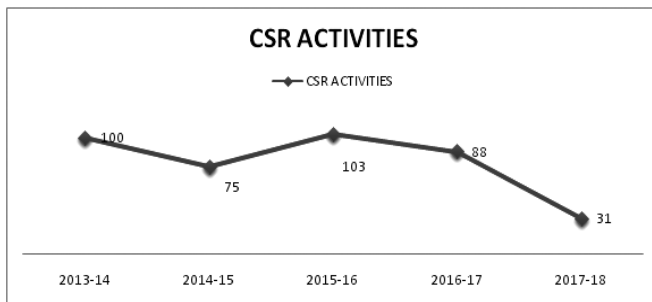
In order to compare the performance of the company with regards to CSR activities over the past year's trend analysis is undertaken taking 2013-14 as the base year. As a result it is found that the amount spent on the CSR activities is highest during the year 2015-16 in spite of the fact that company suffered heavy loss in the same year. The amount expended during the year 2017-18 drops down to 31% and is least of the prior years.

Chart No 2: Amount spent on Various CSR Activities.
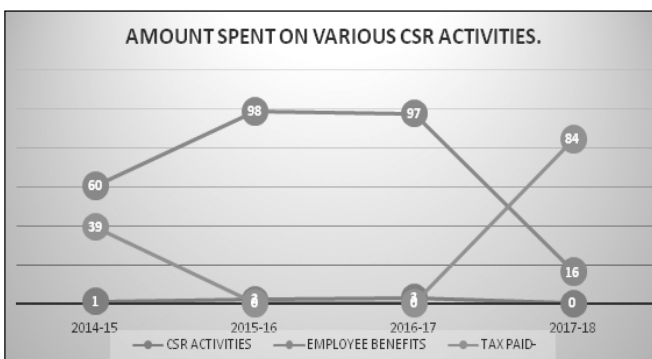
It can be interpreted that major part of Social Expenditure was expended for meeting employee benefits and in payment of tax. Only about 1-2 % was spent for CSR

activities. During the year 2014-17, company had no tax liability as the company had negative profit (i.e., it suffered loss). And in the year 2017-18, the portion of CSR of the total Social Expenditure was negligible.

Hypothesis 1: To test the impact of social accounting and reporting on the financial position of the firm and to access if it is positively associated with such variable, correlation analysis is undertaken. Correlation Coefficient is calculated as per Karl Pearsons method. The variables that is tested for is profitability, net worth and earnings per share.

A. *The association of average social accounting with the net profit.*

Ho: Average social accounting is not positively associated with the net profit.

H_1: Average social accounting is positively associated with the net profit.

Table No 1: Profit Before Tax and Total Social Expenditure (Rs in Crores) of MRPL over past 5 Years

YEAR	NET PROFIT (Rs in Crores)	SOCIAL EXPENDITURE (Rs in crores)
2013-14	-476.85	469.28
2014-15	409.70	218.94
2015-16	-2155.89	190.37
2016-17	1173.5	327.44
2017-18	5531.42	2254.79
TOTAL	4481.88	3460.82

The results of the test are as follows:

R= 0.91

A Correlation Coefficient of 1 denotes that the variables are perfectly positively associated. Whereas Correlation Coefficient of -1 denotes perfectly negative correlation. The correlation co-efficient between Social Expenditure(X) and Profit before tax (Y) is 0.91 showing a positive relation. It concludes that profit increases with the increase in the Social Expenditure and vice versa but the proportionate change in profit is not as same as the proportionate change in Social Expenditure. Hence we 'reject' null hypothesis.

Average social accounting is positively associated with the net profit.

B. The association of average social accounting with the EPS.

Ho: Average social accounting is not positively associated with Earnings Per Share.

H_1: Average social accounting is positively associated with Earnings Per Share.

Table No 2: Earnings Per Share (Rs) and Total Social Expenditure (Rs In Crores) of MRPL over past 5 Years

Year	Eps(rs)	Social Expenditure (Rs in crores)
2013-14	68834	469.28
2014-15	75226	218.94
2015-16	62412	190.37
2016-17	50864	327.44
2017-18	59415	2254.79

The results of the test are as follows:

R= 0.84

The correlation co-efficient between Social Expenditure(X) and EPS (Y) is 0.84 which signifies positive correlation. It concludes that EPS increase with the increase in the Social Expenditure and vice versa but the proportionate change in EPS is not as same as the proportionate change in Social Expenditure. Hence we 'reject' null hypothesis.

Average social accounting is positively associated with the EPS.

C. The association of average social accounting with the Networth.

Ho: Average social accounting is not positively associated with Net Worth.

H_1: Average social accounting is positively associated with Net Worth.

Table No 3: Networth and Total Social Expenditure (Rs In Crores) of MRPL over past 5 Years

YEAR	NETWORTH (Rs in Crores)	SOCIAL EXPENDITURE (Rs in crores)
2013-14	6883.4	469.28
2014-15	7522.6	218.94
2015-16	6241.2	190.37
2016-17	5086.4	327.44
2017-18	5941.5	2254.79

The results of the test are as follows:

R= -0.24

The correlation co-efficient between Social Expenditure(X) and Net worth (Y) is -0.24 which signifies negative correlation. Infact, as the value is closer to '0' we can conclude that there exist weak correlation or no correlation between the variables. Hence we 'accept' null hypothesis.

Average social accounting is not positively associated with the Net Worth

HYPOTHESIS 2: To test if the social contribution made by the company MRPL shows an increasing trend over the past five years, least square method is adopted and a trend line is established. Results are predicted by plotting the trend values on the graph.
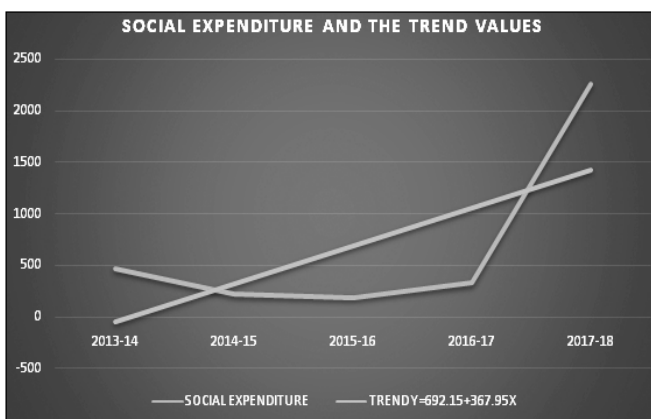
Ho: There is no significant increase in social contribution of MRPL with respect to past 5 years.

H1: There is increase in social contribution of MRPL with respect to past 5 years.

Table No 4.21: Social Cost (Rs In Crores) And The Trend Values

Year	Social Expenditure	Trend Y=692.15+367.95X
2013-14	469.28	-43.75
2014-15	218.94	324.2
2015-16	190.37	692.15
2016-17	327.44	1060.1
2017-18	2254.79	1428.05

Chart No 4.21.1: Social Expenditure and the Trend Values

The above line graph represents an upward trend which depicts the increase in the social expenditure over 5 years. Therefore, we 'reject' null hypothesis and 'accept' alternate hypothesis.

There is increase in social contribution of MRPL with respect to past 5 years

Conclusion

Henry Mintzberg quotes "Corporations are social Institutions. If they don't serve society they have no business existing"

Achieving economic efficiency is a necessary, but not a singular, requirement of business sustainability. Stakeholders demand business organisations are socially and environmentally responsible, and balancing financial performance and corporate sustainability are considered a major challenge in today's economic environment.

It was deduced that companies that pursue social goals vigorously and disclose them usually enjoy the benefit of patronage and good reputation in the environment in which they operate and this will lead to increased market share and positive financial performance thereby adding to increase in the firm's value/ net worth. Therefore it may be concluded that social responsibility accounting was proved successful in fulfilling the functions attached to it.

Suggestion

On the basis results and findings of the study, the following suggestions may be given:

" The data on environmental reporting can be more quantified in order to assist stakeholders in their decision making.

" It is also suggested that MRPL must get the social performance audited by the independent person to improve the reliability on such data provided.

" The company should diversify their social contribution in the areas such as rural development, contribution to the improvement of standard of living of lower section of society.

" More focus is required on environmental protection measure and the disclosure of such data in both qualitative and quantitative terms.

" The government should provide tax rebates for companies that incur social cost as a way of encouraging good corporate reporting.

" Uniform social accounting and reporting practices must be adopted for comparison purpose.

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AN ANALYSIS ON LEGAL REGULATION OF CYBER CRIME TO PROVIDE CYBER SECURITY IN INDIA

Mrs. Shubhalakshmi P.

Abstract

The world has become so small and come closer because of the influence of globalisation and innovative technological progress. Software Technology has reached its zenith but crimes that involves and uses computer devices and Internet, became rampant which has threatened cyber security. This is nothing but Cyber Crime without using physical force one can be commit against an individual or a group. Cyber Crime can also be committed against Government Departments, Private organizations and Non-Government Organisations as well. It may be in the form of hacking, phishing, virus attack, online fraud, electronic fraud, email bombing, spamming, cyber stalking, web jacking etc. It is difficult to trace the criminals in case of cyber-crimes as crime scene is not fixed to get evidence on it. To overcome from this risk of cyber-crimes, one should be aware about cyber security and data protection along with legal remedies for it. Cyber-crimes are dealt under few provisions of Indian Penal Code and criminal law. The Information Technology Act 2000, as well as its amended provisions in 2008, sanctions legal remedy to the cyber-crimes. It also narrates offences and punishment for the same. So, combating cyber-crime in any means is the need of the hour.

Introduction

Cyber Crime is not defined anywhere in the legislation but impact of cybercrime is severe and it is difficult to find the where abouts of the person committed crime. Cyber-crime is just a combination of crime and computer technology. Any kind of crime or offence in which a computer is used is considered as cyber-crime. In cyber-crime, fraudster steals information or data stored in the computer or destroys them for ever. Sometimes they steal intellectual property and utilize them in unauthorised manner too.

Different Kinds of Cyber Crimes

Cybercrime is a kind of criminal activity which takes place in the cyberspace. Even though cyber-crimes are crimes done by using computers, it can be inflicted against a person, property as well as against the Government. Cyber space has lots of components which includes computers, networks, software, data storage devices, the internet, websites, emails and even it includes electronic devices such as mobile phones, Automated Teller Machines etc. Cyber-crime against a person can be done through cyber stalking, impersonation, loss of privacy, transmission of obscene material etc. Cyber-crime against property can be done through unauthorized computer trespassing, by computer vandalism, transmission of harmful programmes, siphoning or tapping of funds from financial institutions, stealing secret information & data, copyright violation etc. Even against Government cyber-crimes can happen. They are in the form of hacking of Government websites, cyber extortion, cyber terrorism, infliction of computer viruses and so on. Other than these, there are certain other crimes like logic bombs, spamming, virus, worms, trojan horse, e-mail bombing, e-mail abuse etc.

Hacking

Hacking is an act committed by a fraudster by accessing computer of any other person without his prior permission. It is nothing but intruding privacy of an individual which is considered as an offence. Hackers usually gain an advanced understanding of computers and

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they commonly misuse this knowledge for deceitful reasons. They are technologically advanced and have skills and expertise in software programs and language.

Computer Fraud

Fraud is a kind of cybercrime that intends to deceive a person with the reason to gain important data or information. Computer fraud can be done by stealing, altering, destroying or suppressing any useful information to secure unlawful or unfair gain.

Identity Theft

In identify theft, cyber criminals steal personal data, especially passwords, data of banking, details of bank account, credit cards, debit cards, matters of social security and other sensitive information. Through this kind of cyber-crime, criminals can steal money.

Scamming

Scamming is done through different forms in cyber space such as by offering computer repair, network troubleshooting, and Information Technology support services, by forcing the users by posing some issues in computer but in reality, such issues do not exist.

Computer Viruses

The criminals can gain unauthorized access to systems and steal important data through infliction of computer virus. Mostly, highly-skilled programs send viruses, malware and Trojan, among others to infect and destroy computers, networks, and systems. Viruses can spread through removable devices and the internet.

Ransomware

Ransomware is a kind of malware from crypto virology wherein the victim is threatened from publishing or perpetually block access to data unless certain said amount is paid to the person committing this offence. Ransomware enters computer network and encrypts files and information through public-key encryption.

Distributed Denial of Service attack

This kind of attack is one of the most popular methods of hacking. There will be interruption on temporary or permanent basis, in servers and networks that are successfully running. Hackerswill manage to make the website unavailable for users when the system is offline.

Botnets

By sending spams or malware, computers are attacked by remote attackers called bot herders is called as botnets. Botnets specifically attack the information technology infrastructure of business and Government sector.

Spamming

In spamming, electronic message system is used, commonly through sending email messages that host malware, fake website links and other malicious programs. Email spamming is a popular kind of cyber-crime.

Phishing

Phishing is an activity wherein phishers act like a legitimate company or organization. By email spoofing they extract confidential informationlike credit card numbers, social security number, passwords, code words etc. They also send thousands of phishing emails which carry links to fake websites. Users will enter their personal information by believing that these are genuine sites to upload personal information.

Social Engineering

Sometimes criminals in cyber space, can contact through phone calls, emails or even in person is called personal engineering. Basically, they will depict themselves as legitimate companies and gain the confidence of the people first and later extract personal data as well.

Malvertising

Malvertising is a kind of attack in which perpetrators inject malicious code into any legitimate online advertising networks which redirects users to malicious websites.When the usersclick these advertisements, thinking they are legitimate then they will be redirected to fake websites or a file carrying viruses and malware will automatically be downloaded. And they will destroy data and create problems in cyber space.

Cyberstalking

Cyberstalking is a kind of cyber-crime in which a person is followed online anonymously. The stalker will follow the victim, mostly women and children including their activities.

E-mail Bombing

By sending large amount of emails to a victim account, the email account, the mail server or email account could be crashed.

Salami Attack

The financial institutions will be attacked by this kind of cyber crime wherein a very small amount of money will disappear from customers account while the employee of the Bank inserts a program.

Software Piracy

The original contents including songs, books, movies, albums, and software will be copied in duplicates and which leads to copyright infringement. This software piracy will result in illegal production of goods by fraudulent where the real owner's business gets affected.

Child Pornography

Because of the internet, pornography of children made available everywhere which is considered as an offence under law. Child pornography is a kind of cybercrime which involves the exploitation of innocent children in the porn industry.

Cyberbullying

Cyberbullying is a kind of harassment that takes place through digital devices such as cell phones, computers and other gadgets. Cyberbullying usually occurs through messages, text and applications which can also be done through online in social media where people can participate and share content. Through cyberbullying sending, posting, or sharing of negative, harmful, false content about someone else is done which causes humiliation to the victim.

Data Diddling

Data Diddling is a method of cyber-crime which involves altering raw data just beforeprocessing by a computer and later changing it back after completion of processing.

Legislations Governing Cyber Crimes

Cyber law incorporates various aspects mainly laws relating to cyber-crimes, electronic and digital signatures, intellectual property issues, data protection, privacy matters and so on.

Information Technology Act 2000

The Government of India enacted Information Technology Act and it got President's assent on 9th June 2000 and became effective from 17th October 2000. The main objective of this Act was to provide legal recognition for e-commerce that is electronic data interchange and other means of electronic communication, which are mainly alternatives to paper-based methods of communication and methods of storing information, to facilitate electronic filing of documents etc. Further, IT Act 2000 had an objective to amend certain legislations like Indian Penal Code1890, the Indian Evidence Act 1872, the Bankers' Books Evidence Act 1891 and the Reserve Bank of India Act1934.

The legislations like the Indian Penal Code, Indian Evidence Act etc contained certain provisions to identify and administer crimes of varied nature by they could not address the issues of cyber space directly. So, the need to amend these legislations along with formulation of new technological oriented legislation arose. It was Information Technology Act which consists of all the provisions to look in to the issues on cyber-crimes and cyber security matters under same umbrella. The main objective of the IT Act is to give legal recognition to electronic documents, digital signatures and to identify various offences along with redressal methods.

Information Technology Amendment Act 2008 focuses on legal recognition of electronic documents, digital signatures, data protection, data privacy, information security etc. The IT Amendment Act also focus on additional cyber-crimes like child pornography and cyber terrorism. The Information Technology Act consists of 13 chapters and 90sections.

Cases on cyber crime

There are plenty number of cases reported and sorted out by the cyber crime police department in relation to cyber-attack.

Four call centre employees, in 2004, who were working at an outsourcing facility operated by Mphasis, obtained PIN Codes from the customers of Citi Group, who were the customers of Mphasis. But they were not authorized to receive the Personal Index Numbers from the customers but after obtaining number they joined with other few employees and opened new accounts in Bank with false Identity Proof.They have transferred money from the bank accounts of CitiGroup customers to the new accounts at Indian banks. But in 2005 the Indian police had identified the individuals involved in the scam and arrested them and recovered the amounts too.

In 2009, Bomb Hoax mail was dropped to a private news channel by a teenager from Bangalore who was arrested by the cyber-crime investigation cell of to a private news

channel. He has challenged to search five bombs which are kept in Bombay within two hours. Police identified him and handled the situation.In another case, in 2010 the fake profile of then PresidentPratibha Devi Patil, created and was posted the fake profile in the name of the President.

Pornographic scandal took place in Jawaharlal Nehru University wherein two accused students initially tried to extract money from a girl who is caught in the videobut they could not receive money from her. But later, they uploaded it in mobile phones, internet and sold through Compact Disk as well in the blue film market.

SIM Swap Fraud was identified in August 2018 at Bombay wherein, two men from Navi Mumbai were in fraudulent money transferfrom the bank accounts of numerous individuals through obtaining their SIM card information through illegally.

The Canara Bank ATM servers at Kolkata were hacked by fraudsters in July 2018 in which around 20 lakh rupees from different bank accounts were swindled. The fraudsters were holding the account details of numerous ATM users across India.

National Cyber Security Policy 2013

The Cyber Security Policy 2013 provides a strong vision to secure the critical infrastructure and build a strong cyberspace for citizens, business, and government. The policy also intends to evade any resultant economic instability arising due to cyber-attacks.

Section 3, 3A, 4 and 5 of Information Technology Act mainly consists of electronic records and electronic signature related matters like their legal recognition and authentication. Section6,7 and 8 denotes as not to confer right to insist document should be accepted in electronic form and section 10-A deals with electronic contract. Chapter IX of Information Technology Act gives details on penalties, compensation and adjudication matters. Section 43 of the Act deals with penalty and compensation for damage to computer, computer system, etc. and 43A, 44, about compensation for failure to protect data and penalty for failure to furnish information, returns, etc. Residuary penalty also discussed under Section 45 of the Act. There are Cyber Appellate Tribunal established under section 48and 49 of the Act.

There are certain offences dealt under different sections of IT Act 2000 like section 65, tampering with computer source documents, section 66 hacking with computer systems, section 73 publishing of false digital signature etc.Sending threat messages through e-mail is a punishable offence under section 503 of Indian Penal Code. Forgery of electronic records also discussed under section 463 of IPC, E-mail spoofing, web jacking, E-mail abuse also considered as an offence under section 463, 383 and 500 of IPC.

Penalties for Computer Crimes

Section 65 to 78 of the Information Technology Act discuss about various penalties relating to computer crimes. As per the Act, civil liability and stringent criminal penalties may be imposed on any person who causes damage to a computer or computer system. The offender would be liable to pay compensation for gaining unauthorized access to a computer or computer system, introducing a virus in the system, damaging the system, denying access to an authorized person or assisting any person in any of the above activities.For the violation of its provisions there are specific penalties are imposed.If any person contravenes any rules or regulations framed under the Act for which no specific penalty is prescribed, he will be liable to pay compensation not exceeding Rs. 25,000.

Any person who intentionally or knowingly tampers with computer source documents would be penalized with imprisonment up to three years or a fine of up to Rs. 2 lakhs or both. In simpler terminology, hacking is made punishable.

The Act also disallows the publishing and dissemination of obscene information and material. The introduction of this provision should curtail pornography over the net. Any person who disobeys this provision will be punishable with imprisonment of two years and a fine of Rs. 25,000 for the first conviction. In the event of a subsequent conviction, the imprisonment is five years and the fine doubles to Rs. 50,000. Section 79A of the Act depicts notification by Central Government forexamination of Electronic Evidence.

Cyber Security

As the world has become digitally sophisticated, even the offences are also done in such a manner that offenders are not traced easily. Because of technological growth and accessibility for internet, most of the transactions and activities are done through internet and there arose a need to formulate law to govern this system of transactions

and business along with finding solutions to the problems which may occur in cyber space. Security and protection for all data and information and privacy matters are required as they are the basic things of any individual to be maintained. To protect ourselves from cyber-crimes, one should be well equipped with suitable law to handle the issues which are happening in cyber space. So, legal issues relating to internet are dealt through cyber law in India.

There are certain reasonable security practices to be followed for cyber security like site certification, security initiatives, awareness training, conformance to Standards, certification and adherence to policies like password, access control, email related policies etc.

Other than these, there is also requirement for periodic monitoring and review of our computers and related aspects of cyber space. The ATM card must have security featuresenhanced along with ATM monitoring systems which can prevent any misuse of data.

Sometimes, people receive even unsolicited text messages from an unknown number. But one should not respond to such messages. While downloading to mobile phones, one should download from a trustworthy source only. Those emails or calls which will ask for personal information and other details who are totally unconnected Persons To Us Not To Be Responded.

Conclusion

To prevent cyber-crime there are different provisions under law but they are not sufficient and effective to combat crimes in cyber space as it is borderless. The Government of India planned to formulate projects which need to be implemented effectively to serve its basic purpose. They are National Cyber Coordination Centre, Cyber Attacks crisis Management plan Internet Spy System Network, Crime and Criminal Tracking Network Systems etc. So, there is requirement of cooperation and coordination between various departments in the Government to handle cyber crime issues.

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A STUDY ON ROLE OF MOBILE BANKING AS A TOOL OF FINANCIAL INCLUSION WITH SPECIAL REFERENCE TO MNAGALURU RURAL

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Abstract

Financial inclusion means ensuring access to cost-effective, appropriate financial services and products in a rational and transparent manner to all sections of society, including the weak, poor, unbanked remotest villages. Mobile banking technology is becoming increasingly weighty, especially in the context of developing economies, where many low income family circle and microenterprises do not have ready access to financial services. Mobile banking facilitates financial inclusion, and provides potential for financial integration. Over the last five years, mobile financial facilities have grown considerably in India. The rapid evolution in the mobile money industry, in particular, has led to better access for the under privileged and the disadvantaged population to reasonable financial services not only within, but also across borders. Regardless of the opportunities it provides, the rapidly developing technology stances a challenge to regulators to support cross-border payments in a world that is also engaged in combating the rise in money laundering, terrorist financing, fraud and other financial crimes. In order to enhance growth and contribution of mobile banking to financial inclusion and integration, The Government of India has adopted bank-led models in line with national economic and financial sector development. After the demonetization, there has been a discussion on the appropriate policy models for technology-enabled mobile financial services, and their effects on financial exclusion in India. Technology has carried about previously unimagined changes in people's lifestyles. An electronic device is generally regarded as one of the most suitable delivery channels for financial services. Mobile technology as one of the most hopeful tools for expanding access to finance and achieving financial inclusion due to the ubiquity of mobile phones and good mobile network coverage, even in rural areas. The present paper discusses about analysis of mobile banking and feedback from users of such technology.

Key words: *Financial Inclusion, Mobile banking.*

Introduction

Background of the Study

Financial performance is established on the principal of comprehensive growth and will be the promoter to authorize the poor to contribute to the social and economic growth of India. As per census, on an average 58.7 percent households had reported usage of banking facilities. Out of the 24.89 crore households, 14.81 crore reported usage of banking services, nearly 10 crore households were not availing the services; which is a significant percentile of the population.

Promoting financial inclusion involves developing customer experiences that help people plan for and achieve their financial and expenditure goals. That requires two things: (i) extracting information from clients as to what their goals are and in what time frame, they aim to achieve them, and (ii) presenting the bank's various services (savings, credit, payment) in the context of those goals. Both these things are hard to do when customer interactions are infrequent and not very consistent. In one

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month, a bank client typically listens to one bank advertisement on the radio or TV and walks over to a branch once, which means that communication is very limited and mostly one-way. In this setting, the bank's promotion has to be as simple as possible, and that means making it product-driven.

Mobile banking isan alternative of branchless banking service provided by a bank or other financial institution that allows its customers to conduct financial transactions remotely using a mobile phone. It uses an application, provided by the financial institution for the purpose. Mobile banking is generally available on a 24-hour basis. Some financial organizations have margins on which accounts can be operated through mobile banking and a limit on the amount that can be transacted.

Transactions through mobile banking may include obtaining account balances and lists of latest transactions, electronic bill payments, and funds transfers between a customer's or another's accounts. Some applications also enable copies of statements to be downloaded and sometimes printed at the customer's premises; and some banks charge a nominal fee for mailing hardcopies of bank statements.

From the bank's point of view, mobile banking facilitydecreases the cost of handling transactions by reducing the need for visit to bank branch for transactions. Mobile banking does not include transactions involving cash, and a customer needs to visit an ATM or bank branch for cash withdrawals or deposits. Many applications now have a remote deposit option; using the device's camera to digitally transmit cheque to their financial institution.

problem statement

As Mobile banking alternative engaged main space, banks started getting trust and confidence that they can manage to offer the service with the help of technology at a lower cost. But it could never enable any rural individual to conduct operation from a remote location by fastening the process of financial inclusion. In spite of making sufficient improvements in all the areas relating to financial viability, profitability and competitiveness, there are concerns that banks have not been able to reach the enormous portion of the population.

Objectives Of The Study

● To study the awareness, usage and frequency of usage of services of mobile banking.

● To determine motivating and hindering factors affecting use of technology in banking.

" To study the availability of technology related infrastructure to mobile banking in rural areas.

Literature Review

From literature reviewed, the major reason for the introduction of Branchless Banking in many nations is that, reaching out the unbanked areas. The unbanked can simply be described as those individuals that do not have any form of account with a bank, Anderson (2007) defined the unbanked as diverse group of individuals who remain outside the banking mainstream for many reasons.

Rangarajan Committee (2008) on financial inclusion specified that: The financial services include the entire gamut of savings, loans, insurance, credit, payments, etc. The financial system is expected to provide its function of transferring resources from surplus to deficit units, but both deficit and surplus units are those with low incomes, poor background, etc. By providing these services, the aim is to help them come out of poverty.

Many of unbanked people who are usually low income people are less exposed to technology (Coetzee, 2005), In India, Vinayak (2007) cited an Indian lady who claimed that she has never entered a bank in her life due to the fact that the nearest branch was 8 km far away from the village.

One of the most accepted solution to this problem is the shift- from the Branch-based Banking System to the adoption of Branchless Banking System. Guatam (2008) opined that if the unbanked Africans cannot go to the Bank, it is the Bank that must reach out to them and it is possible only through Branchless Banking. African Banks are now moving closer to the 230 million unbanked households in Africa's rural areas through advanced satellite technologies (IT News, 2008). CSR News (2000) also revealed that, the rapid growth of Branchless Banking is reducing the cost and expanding the availability of such service to those in developing countries who lack access to financial services.

The topical endogenous growth literature structured on 'learning by doing' processes, allocates a special role to finance (Aghion and Hewitt, 1998 and 2005). The researchers so far have not only looked at how finance facilitates economic activity, but also social aspects like poverty, hunger, etc. The consensus is that finance promotes economic growth, but the magnitude of impact differs.

Finance and economic development literature discloses that the earlier theories of development concentrated on labor, capital, institutions, etc., as the factors for growth and development. There have been frequent researches analyzing how financial systems help in developing economies. A great deal of consistency exists among economists regarding financial development prompting economic growth. Many theories have established that, financial development creates favorable conditions for growth through either a supply leading or a demand-following channel.

Methodology

Data Collection

Primary data was collected by administering a semi-structured questionnaire. This type of questionnaire used both closed and open-ended questions. The questionnaire was prepared and distributed to 150 respondents in Mangaluru rural area. Secondary data was collected through review of both empirical and theoretical data from books, journals, dissertations, magazines and the internet.

Data Analysis

Before processing the responses, the completed questionnaires were edited for completeness and consistency. Quantitative data collected was analyzed by the use of descriptive statistics such as frequency and percentage and presented through frequency tables. This was done by tallying up responses, computing percentages of variations in response as well as describing and interpreting the data in line with the study objectives.

Result and Analysis

- *Demographic:* The study found that majority of the respondent as shown by 65 percent was male whereas 35 percent of the respondents were female. 67 percent of the respondents were aged between 25-34 years. 52 percent of the respondents were possessed below SSLC. Major portion of the respondents were belong to the income group of below Rs.20, 000 per month and they are daily wage based workers.

- *Awareness and Usage of Mobile Banking:* 100 percent of the respondents possess bank account and in that 47 percent of the respondents motivated by Pradhan Mantri Jan-DhanYojana (PMJDY) and 36 percent of them motivated by agents appointed by the respective bank. 30 percent of the respondents possess SB Account from more than 5 years. 85 percent of the respondents aware about Mobile banking but 77 percent of the respondents operate their account only by visiting the bank and only 19 percent use mobile banking facility. Out of all the alternatives of Branchless banking (i.e., ATM, Mobile banking, Internet Banking, Business Correspondent etc.) majority of the respondents aware about Mobile banking but they donot use the services of mobile banking.

- *Motivating and hindering factors for Mobile Banking:* 42 percent of the respondents (out of 19 percent who use Mobile banking) said that they use Mobile banking mainly to save out of their income and the remaining 58 percent of the respondents opined that banking transactions through Mobile banking saves their time, cost and energy. The remaining 81 percent of the respondents who do not use Mobile banking opined that the main reasons for not using mobile banking alternative is apprehension of technology, fear of mistake, unaware, illiteracy and lack of trust. 92 percent of the respondents opined that there is a need to improvement and trust building strategies to use mobile banking facility.

- *Potential users of services Mobile banking:* A majority of the surveyed claimed that Mobile banking services will contribute to an increased use of transaction; saving and loan service etc. provided there is a drastic development in technology and regular monitoring of system is very much essential. When such improvements are introduced, majority of the respondents opined that, they will start doing financial transactions through the help of mobile banking.

Conclusion and Recommendations

For the better financial performance, Mobile banking model has been termed as an effective tool to provide basic banking services to the under privileged economy and also can be said at a cost and time effectiveness model which saves a lot of expenditure and time both to the customers and the bank. Mobile banking service to the customers is also termed as important because it is the only alternative of branchless banking through which the Bank can provide service to the rural masses. Based on the findings it is inferred that a large proportion of rural population in South Canara district do not use Mobile banking for reasons which include insufficient knowledge, fear of insecurity, lack of awareness about these facilities,

lack of access to the basic delivery channels and infrastructure facilities. It evident that any required technological change in banking services are said better, only when it is easy to understand, usable and adoptable by the users. The 'inclusive growth' is a necessary requisite for smoothening our country's journey towards growth and development. Inclusive financing is the delivery of financial services at reasonable costs to the sections of underprivileged and low income segment of the society. As real India lives in rural area, inclusion of these ignored sections in the socio-economic mainstream and enabling them to gain benefits of globalization should stand as a priority.

Finally, the study concludes that if all the necessary infrastructures and awareness programmes can be put into place, Mobile banking will be an effective tool for reaching the unbanked people. Based on the above findings, the study puts forward the following recommendations-

oAwareness level about Mobile banking is low. In real what comes in Mobile banking people do not trust it. Concerned authorities should find out the need of mobile banking in rural areas and should arrange for awareness and training programme about the usage of mobile banking so as to perform financial transactions in a better way.

oAll mobile based financial transactions under the authority of a bank must accomplish with the same financial technology, rules and regulations of the bank. Banks must have an implementation strategy for their network to ensure maximum coverage which is turned out in an efficient manner.

oCustomers expect a positive and consistent service from mobile banking, therefore, mobile banking need to be developed and continuous support to help customer, maintain data of financial transactions done by the customer and to provide technological support for any devices or equipment they operate.

oThe Bank needs to audit the security measures being taken to ensure that, the customer can transact confidently. If authorities deal with challenges that hamper the mobile banking alternative, banks and the Indian government will be more likely to meet their financial inclusion targets and, finally, it helps economic growth and healthy environment.

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A CONCEPTUAL REVIEW ON CHALLENGES AND SECURITY ISSUES IN E-COMMERCE

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Abstract:

E-commerce is the process of buying and selling of various products and services by businesses through the internet. E-commerce is the web to conduct business but when we concentrate on commercial deals among organizations and individuals demanding selective information systems under the guarantee of the firm it accepts the form of e-business. It encompasses the entire scope of online product and service sales from start to finish. E-commerce tools include computer platforms, applications, solutions, servers and various software formats manufactured byE-commerce service providers and purchased by merchants to increase online sales.

Without proper security measures in place, e business are at risk of losing customer's data and revenue. Security risks associated with E-commerce can be as a result of human error, an accident or unauthorized access to systems. Security issues in E-commerce such as integrity, authentication and non-repudiation must be dealt with effectively for any online business to be successful. To solve the security issues in E-commerce, merchants and payment companies should collaboratively come up with effective solutions.

Key Words : *E-commerce, Cyber Crimes, Web-site, Data-base, Internet, Hackers*

I think computer viruses should count as life. I think it says something about human nature that the only form of life we have created so far is purely destructive. We've created life in our own image. - Stephen Hawking

Introduction:

The cutting edge for business today is E-commerce. Today E-commerce is a by-word in Indian society and it has become an integral part of our daily life. E-commerce stands for electronic commerce. It means dealing in goods and services through the electronic media and internet. On the internet, it relates to a website of the vendor, who sells products or services directly to the customer from the portal using a digital shopping cart or digital shopping basket system and allows payment through credit card, debit card or electronic fund transfer payments. E-commerce involves carrying on a business with the help of the internet and by using the information technology like electronic data interchange. More simply put, E-commerce is the movement of business onto the worldwide web.

Objectives:

- To study the existing security threats involved in E-commerce.

- To carry out an intensive study on dangers & threats created in the usage of E-commerce practices.

- To understand various derivational damages & side effects caused due to E-commerce applications.

- To forecast & predict subsequent potential impacts that may be newly crept into the system out of the addiction to the technology.

- To suggest suitable measures to take care of security issues.

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Methodology

The data have been collected and analyzed in the study from secondary published sources viz., books, newspapers, websites and research studies. The proposed study is confined to discuss the security issues involved in E-commerce.Cybercrimes, online identity verification, Omni channel customer experience, data leakage, records maintenance, phishing, bank information stealing, ethical hackers, identity theft, credit card stealing are some of the variables that are discussed in the paper.

Review of Literture

Raven, compared India and china's approaches in adoption of E-business. Based on the literature survey and secondary data, the study analyzed various factors influencing the growth of E-business in the two countries. The factors examined include government policy and focus, existing technology infrastructure regulatory environment, experience and understanding of business operations, and culture, among others. The study concludes that china appears to be ahead of India in the infrastructure, but India is ahead in E-readiness. Further, in states that both countries are poised for rapidly increasing E-business. However, problems of poverty and inequality between urban and rural connectivity must be resolved to really take advantage of E-business in both the countries.

Miyazaki and Fernandez (2001) stated that information privacy and security would be the major obstacles in the development of consumer-related e-commerce. They described that risk perceptions regarding Internet privacy and security have been identified as issues for the consumers. They explained that the early research suggested that the risk perception wouldn't affect e-commerce much. However, recent studies revealed that consumer risk perceptions would be the main obstacle to the growth of E-commerce. They explained that the higher Internet experience would reduce the risk perception of E-commerce which includes system security, retailer fraud and privacy. They suggested that further research is needed to find out how risk perceptions influence e-commerce, how retailers should manage it and how the management of risk perceptions may impact consumer welfare. These are the limitations of this article.

McKeefry (1998) stated at the beginning of the E-commerce, consumers were concerned about the credit-card information they released over the Internet. However, now many of these concerns have been solved by the integrators and developers and thus, produced a secure environment. In fact, educating the consumers about the security of Internet credit-card transaction is more important. They explained that SET (Secure Electronic Transaction) is one of the solutions for the security issue in E-commerce especially in credit-card transactions. It is expected to cover other payment methods in the future. The limitation of this article is that it didn't explain in detail about how to educate consumers about security of Internet credit-card transactions. Besides that, discussion about transactions in e-commerce in this article is limited to credit-card transactions only.

Chadwick (2001) stated that creating trust is one of the processes in building a relationship with a consumer. He mentioned that research showed that trust could develop over timeor swiftly. He explained that there is a difference between E-commerce interactions and face-to-face interactions in the process of building relationship with a consumer. He stated that trust must exist for a successful transaction. He described that trust does affect how consumer can behaves in an E-commerce transaction. When the price differences are small, consumers preferred to buy from an online company they trust. He also explained that trust problem appeared both in E-businesses and consumers.

Website in E-Commerce

For choosing an E-commerce Web Development Company, there are some factors that need to be considered for good business. The most important factors which must be analyzed are the capabilities, creativity, and specialization of the company and it must be reviewed time to time which helps in selecting better options for the business development. Some of the points which need to be checked before making a decision to select an E-commerce development company are:

● *Availability of Staff* : The company must have high skilled, experienced & professional enough number of staff available with them to handle & manage your project properly. There should be few account managers assigned to your company to handle & address your queries & concerns.

- *Deep Knowledge :* The team responsible for design & development of the website or portal must be well versed with networking, latest technology, programming, software development & SEO tactics to create a user friendly & SEO friendly website.

- *Responsible :* Besides having sound and versed workers, the company must have an ability to take the responsibility of the client, by keeping in mind about the client's requirements. So it is important to check its credibility by previous clients.

- *Delivery of Product* : There must be a proper and on-time delivery of the products, in order to maintain the long relationship with their clients and make them happy at all times. So punctuality & timeliness of the company needs to be checked.

- *Is E-commerce Important for the Business? :* E-commerce business is the best option available for the people to build a better business world for insuring success in future rather than doing a traditional mode of business. For any business person, to have an E-commerce business is added advantage for their business.

Emerging E- Commerce Threats

❍ E-Commerce business is all about the right execution. The online store should offer a good shopping experience to the users. Customer satisfaction becomes an important factor to make your E-Commerce business successful.

❍ E-commerce security is the protection of e-commerce assets from unauthorized access, use, alteration, or destruction. It includes:

- *Omni Channel Experie*nce : Lack of transparency of inventory across the enterprise, and navigating each and every customer uniquely are the biggest challenge for retailers in implementing omnichannel.

❍ Data SecurityAttackers can not only infect website with viruses, but they can also expose confidential data.

- *Online Credit Card Fraud:*

❍ When an Internet vendor detects fraudulent credit card information, the credit card cannot be confiscated and the fraudster and credit card are free to try alternative sites.

❍ Fraud perpetrators are also free to use stolen card numbers or even attempt to manufacture numbers for use, as purchase over the Internet does not need the actual cards and signature.

❍ The remoteness of the buyer and seller make it extremely difficult to apprehend the fraud perpetrator. In fact, remoteness is among the factors that attract individuals to Electronic commerce fraud.

- *Privacy :* ID numbers, passwords, credit card numbers and fraud instruction guides are available in Internet chat rooms. Applications Corp claims that many Electronic commerce sites do not adequately protect consumers databases and are vulnerable to hackers seeking customer information.

❍ Competitors are a real hazard to companies engaging in Electronic commerce as they try to steal valuable customer information. Thus, key passwords for sensitive directories are likely to be broadcast semi publicly over the Internet, where anyone with a little luck and packet sniffer can discover them.

- *Domain Name System (DNS) spoofing*: Hackers with write access changes the translation file rerouting web surfers to hacker.com. If the two webpage's look identical, even prudent customers can be easily defrauded and the company's reputation damaged.

- *Vulnerabilities in General Security Procedures:*Carelessness like giving out passwords over the phone, or throwing security manuals without shredding can create problems if it falls in the wrong hand.

- Spamming: It means sending unsolicited commercial Emails to individuals.

❍ E-mail bombing caused by a hacker targeting one computer or network, and sending thousands of email messages to it.

❍ Surfing involves hackers placing software agents onto a third-party system and setting it off to send requests to an intended target.

❍ DDOS (distributed denial of service attacks) involves hackers placing software agents onto a number of third-party systems and setting them off to simultaneously send requests to an intended target.

Sl. No.	Crime head	2010	2011	2012	2013	2014
1	Tampering computer source documents	64	94	161	137	89
2	Computer related offence	510	983	1875	2516	5553
3	Transmission in electronic form	328	496	589	1203	758
4	Unauthorized access to protected computer system	3	5	3	27	0
5	Obtaining digital signature certificate by misrepresentation	9	6	6	12	5
6	Publishing false digital signature certificates	2	3	1	4	0
7	Fraud digital signature certificate	3	12	10	71	3
8	Breach of privacy	15	26	46	93	18

Types of web crimes:

Cyber crimes	Hackers	DOS (Denial of Service)
Online credit card frauds	White hat hackers	Spamming
Privacy	Black hat hackers	E-mail bombing
DNS	Grey hat hackers	Surfing
Masquerading or spoofing	Red hat hackers	DDOS (distributed denial of service attacks)
Sniffers	Blue hat hackers	Viruses
Theft of software	Elite hackers	Worms
Theft of hardware	Hacktivist	Trojan Horses
Passive unauthorized access		
Active unauthorized access		

Preventive Measures

A few technology methods to overcome the security threats are listed below:

● *Encryption :* Sensitive information such as credit card details can be defended by encryption, that is, the use of secret codes. The goal of encryption is to make it impossible for a hacker who obtains the cyphertext (unreadable form of the message after being encrypted) as it passes through the network, to recover the original message.

There are two main types of encryption:

- ● symmetric or private key systems.
- ● asymmetric or public key systems.

In a Privatekey system, the same key is used to encrypt and decrypt the plaintext. The key is called a private key and must be shared by the sender and receiver of the text.
● The private key must be kept confidential, and must be known only to its owner.

Public-key encryption uses two closely related keys. One key is used to encrypt the message, and the other key is used to decrypt the message. The public key can be made known to other parties, and can be distributed freely both keys, however, need to be protected against the slightest modification, or the mechanism will not work

● *Digital Signature :* A digital signature is a cryptographic method that fulfills a similar purpose, as does a written signature. It is used to identify and verify the originator and the contents of a message. That is, a recipient of data (such as an email message) can verify who signed the data, and that the data was not modified after being signed. The main purpose of digital signatures is for sender authentication.

● *Digital Certificate* : Authentication is further strengthened by the use of digital certificates. Digital certificates verify that the holder of a public and private key is who they claim to be. Third parties called certificate authorities (CA) issue digital certificates. A certificate contains items such as the subject's name (owner of the private key), validity period, subject's public key

information and a signed hash of the certificate data (i.e. hashed contents of the certificate signed with the CA's private key). Certificates are used to authenticate Web sites (site certificates), individuals (personal certificates) and software companies (software publisher certificates).

● *Secure Socket Layer (SSL):* It addresses some of the security concerns relating to data transfer over the Web. The Web itself, because it uses simple TCP (Transmission Control Protocol) for its transmission process, does not encrypt the data sent across it. Anyone who intercepts a Web transmission has complete access to the data contained therein. If a transmission containing credit card numbers falls into the wrong hands, it is important that this data should not be readable by anyone other than the sender and the intended recipient.

● *Secure Electronic Transaction (SET)* : It is developed by Visa and Master/Card. There are 3 entities in a SET transaction -customer, merchant and payment processing firm. SET use SET digital certificates for each of these entities to ensure mutual authentication. When a customer wants to make a purchase, he uses an electronic wallet. An E-wallet is a helper application used to store information about the customer's credit cards and the SET digital certificates for each of the cards. The E-wallet sends both the order information and the payment.

Suggestions

● Adoption of safer online payment system.

● One-click checkout can help to prevent cart abandonment. Allow the customers to save the information and other details for a faster checkout.

● A natural, balanced spread of opinions can attract the users and they may be able to show trust in any brand.

● Avoid any suspicious reviews or fake reviews on website.

● Consumers must educate themselves to protect their confidential information and consumer rights.

● There are many passwords guessing programs publicly available with built in dictionaries containing hundreds and thousands of words so users must be careful.

● Consumers should be more proactive to know the sites they are visiting and be more cautious in giving personal or financial information and also take the effort to know the credibility of the organization they are dealing with.

● Internet Security and Consumer Rights courses are to be made available in secondary education system. Citizens should be taught about these issues when they are young.

● IT and Internet Security Road shows and Exhibitions to be extended to rural areas to educate the rural people.

● Educate consumers as to how their personal data can be protected.

Conclusion

E-commerce is not just about setting up a website and selling online, it is much more than that. It takes a diligence, hard work, persistence and mostly, the courage to take risks. The dynamics of the electronic commerce industry are continuously changing depending on the customer's demand and shopping behaviors. E-commerce business provider should give importance on every customer by giving smooth service and many options for payment and have more functions available online. The role of government is to provide a legal framework for E-commerce so that while domestic and international trade are allowed to expand their horizons, basic rights such as privacy, intellectual property, prevention of fraud, consumer protection all are taken care of.

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