

ISSN 2277 - 5730
AN INTERNATIONAL MULTIDISCIPLINARY
QUARTERLY RESEARCH JOURNAL

AJANTA

Volume - VIII

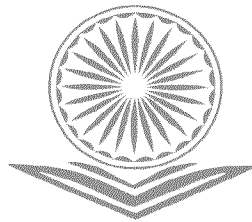
Issue - I

Part - II

January - March - 2019

**Peer Reviewed Referred
and UGC Listed Journal**

Journal No. 40776



ज्ञान-विज्ञान विमुक्तये

IMPACT FACTOR / INDEXING
2018 - 5.5
www.sjifactor.com

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Printed by

Ajanta Computer, Near University Gate, Jaisingpura, Aurangabad. (M.S.)

Published by :

Ajanta Prakashan, Near University Gate, Jaisingpura, Aurangabad. (M.S.)

Cell No. : 9579260877, 9822620877, Ph.No. : (0240) 2400877

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AJANTA - ISSN 2277 - 5730 - Impact Factor - 5.5 (www.sjifactor.com)

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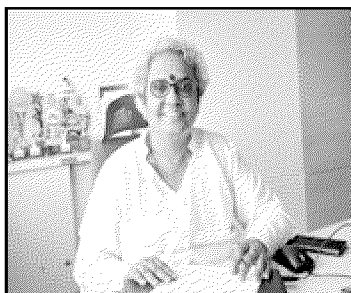


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MESSAGE FROM PRINCIPAL



On behalf of Bunts Sangha's, Anna Leela College of Commerce and Economics and Shobha Jayaram Shetty For BMS, it gives immense pleasure to present this publication of two days Interdisciplinary National conference on “AIM 2020: Strategies and challenges”.

Objective of AIM 2020 conference was to highlight the changing and futuristic dimensions occurring in all spheres of the economy viz Accountancy & Finance, commerce & Management, Media & Information Technology. Through the platform, we availed opportunity to all academicians, researchers and industrialists to brainstorm the ideas and present it in the form of research papers which are part and parcel of this proceedings.

The college affiliated to University of Mumbai completed 10 successful years and has taken great steps in inculcating and evolving research culture in the institution by organizing various seminars and conferences. This national Conference provides a path to all the academicians, research scholars, and learners to express and share their views on the conference theme.

I would like to express my appreciation towards all the members of management. I am overwhelmed by the support and coordination from the members of advisory board, reviewers, resource persons and session chairpersons.

Last but not least, I would also like to express my sincere thanks organizing committee, editorial board, presenters, participants and publisher for contributing to the grand success of this conference.

Dr. Padma Deshmukh
Principal

MESSAGE BY CONFERENCE CONVENER



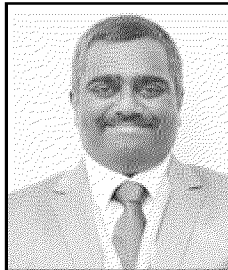
It is my great pleasure to present the proceedings of the National Conference on “AIM-2020, Strategies and Challenges”. This conference is in accomplishment of the 10th year of Bunts Sanghas Anna Leela College. We were honored to have Dr. M.S.Kurade, Dean of faculty of ARTs, University of Mumbai as the Chief Guest, Mr.Jayraj Salgaonkar, Founder Member and Director of Kalniray as the Key Note Speaker on this special occasion.

We have received more than 75 research papers and after review 66 papers were accepted. These 66 papers were presented in different categories of 4 oral sessions, i.e Accountancy & Finance, Commerce & Management, Information Technology and Media and 4 invited talks. aim-2020 directly linked to the above mentioned research areas . The research papers were in wide and innovative areas like Islamic banking, cloud computing, Indian accounting standards, journalism in social media etc. Moreover, the conference served as a platform of interlinking industry, academia and research through presentation and brainstorming of various ideas which could serve the purpose of Nomenclature AIM and the futuristic developments which all can visualize in the same in India post 2020.

Finally I am highly obliged to our Management and our dynamic Principal Dr Padma Deshmukh for her overwhelming guidance and support received for successful execution of the two day national conference. I would like to thank all the authors, volunteers and persons who directly or indirectly contributed to the conference. Without their cooperation and full support, this conference would not have been possible.

C.A.Kiran Gajjar

IQAC COORDINATOR MESSAGE



It gives us immense pleasure to present this journal issue to you on the theme of AIM 2020: Challenges & Strategies.

India 2020 was a comprehensive vision set by late President of India Shri APJ Abdul Kalam. We at ALSJ College thought to review the status of India in the field of Accounts, Finance, Information Technology, Media and Management. Academicians, industrial personas & students were provided a common platform to share their views and discuss about AIM 2020.

We hope that the outcome of this conference in the form of this journal will pave a directional path for the national strategist & economist.

At the outset I would like to thank committee members & office bearers of Bunts Sangha Mumbai & Higher Education Committee of Bunts Sangha for providing us an opportunity to organize the conference.

I would also like to thank all the esteemed dignitaries who graced the occasion & provided valuable insights about the theme.

My appreciation to all the participants, who through their effective research papers, contributed to the brainstorming sessions.

To all the teaching, non-teaching staff & everyone who directly or indirectly helped to make this conference successful, a heartfelt gratitude.

I would also like to thank Ajanta Publication for coming up with this informative issue of journal.

Prof. Sachin Pimple

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1. Green IT Awareness at Workplaces in Mumbai

Mr. Prathmesh M. Uparkar

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Abstract

Today IT sector has expanded not only in India but also worldwide. This rapid growth of IT sector lead towards growth of electric and electronic devices. These electronic devices contain toxins and hazardous materials which are very harmful for the environment. The centralized air condition system as well as power generation to run these devices emits carbon dioxide (CO₂) and other green house gases to environment. The term Green IT means using the technology that's more energy efficient, reducing the amount of electricity that datacenter uses, or buying hardware components which are made up of environment friendly components. The first step is always measuring your carbon footprint, carrying out energy audit each year. The simple steps like switching off PC's while leaving, turn off monitor during breaks also help a lot. This study is focused on the Green IT awareness level in workplaces in Mumbai and its suburbs.

Keywords: Green IT, Carbon Footprint, Server Virtualization, Operating System (OS)

Introduction

Green IT initiatives are taking place worldwide. Various government, non-government and non-profit organizations are working towards legislative measures of E-waste disposal. Green IT initiatives are being popular as not only they help to protect mother earth but also some of them are cost effective techniques which save the money for business. It also help to create positive impact on customers. This study is concentrating on measuring level of awareness of IT employees and non-IT employees towards Green IT.

Objective of Research

The objectives of this study are:

- 1) To understand Green IT awareness among employees in various businesses in Mumbai.
- 2) To study the gap between having green IT knowledge and applying it into practice.

Hypothesis

- H1: Majority of IT employees are aware about Green IT practices.

- H2: Green IT initiatives are being implemented in various places.
- H3: Awareness about Green IT initiative is spreading well amongst non-IT industries and businesses.

Research Methodology

A survey instrument in the form of questionnaire is used to collect primary data. Simple percentage method is used for analysis of data. For study target respondents are 98 employees who are currently working in IT/non-IT industries and Businesses. The respondents are of the age group of 20 to 40 working in 6 different institutes(3 IT and 3 non IT).

Data Analysis

Table 1: Awareness about Green IT

Particulars	IT Employees			non-IT Employees		
	no. of IT employees	Total Respondents	Percentage	No. of Non-IT employees	Total Respondents	Percentage
Awared about Green IT practices	33	58	56.90	16	40	40.00
Not Awared about Green IT practices	25	58	43.10	25	40	62.50

Table 1 shows that only 56.90% IT employees are aware about Green IT practices.

Table 2: Computing devices used

Particulars	IT Employees			non-IT Employees		
	no. of IT employees	Total Respondents	Percentage	No. of Non-IT employees	Total Respondents	Percentage
PC's	58	58	100.00	40	40	100.00
Laptops	33	58	56.90	25	40	62.50
Tablets	13	58	22.41	16	40	40.00
Mobile Phones.	33	58	56.90	32	40	80.00

Table 2 shows that most of the IT sector companies still using PC's which are more power consuming than that of Laptops and Tablets.

Table 3: Computer/Laptops used in Hours

Particu	IT Employees			non-IT Employees		
	no. of IT	Total	Percent	No. of Non-IT	Total	Percent

lars	employees	Respondents	age	employees	Respondents	age
0-6hrs	8	58	13.79	0	40	0.00
6-12 hrs	34	58	58.62	25	40	62.50
12- 18 hrs	16	58	27.59	8	40	20.00
18-24 hrs	0	58	0.00	7	40	17.50

Table 3 shows that PC's/ Laptops are being used in 86.21% of the IT companies for more than 6 hours.

Table 4: Working towards paperless environment

	IT Employees			non-IT Employees		
Particulars	no. of IT employees	Total Respondents	Percent age	No. of Non-IT employees	Total Respondents	Percent age
Strongly Agree	0	58	0.00	0	40	0.00
Agree	8	58	13.79	17	40	42.50
Neutral	18	58	31.03	8	40	20.00
Disagree	24	58	41.38	8	40	20.00
strongly disagree	8	58	13.79	7	40	17.50

Table 4 shows that only 13.79% IT employees agrees that there companies are working toward Paperless where as 42.5% non-IT employee agrees so

Table 5: Company does an energy audit

	IT Employees			non-IT Employees		
Particulars	no. of IT employees	Total Respondents	Percent age	No. of Non-IT employees	Total Respondents	Percent age
Yes	17	58	29.31	16	40	40.00
No	41	58	70.69	24	40	60.00

Table 5 shows that 70.69% IT companies does not do energy audit. It also show that 60% of non-IT companies does not do energy audit.

Table 6: Operating System Used

Particulars	no. of IT employees	Total Respondents	Percentage	No. of Non-IT employees	Total Respondents	Percentage
Windows	58	58	100.00	40	40	100.00
Linux	0	58	0.00	0	40	0.00
other	0	58	0.00	0	40	0.00

Table 6 shows that almost every company uses windows OS, which is more power consuming than Linux or Mac OS.

Table 7: Cooling System used.

Particulars	no. of IT employees	Total Respondents	Percentage	No. of Non-IT employees	Total Respondents	Percentage
Air Conditioned	58	58	100.00	40	40	100.00
Fans	0	58	0.00	0	40	0.00
other	0	58	0.00	0	40	0.00

Table 7 shows that almost every companies used central air conditioning systems.

Table 8: Awareness about E-waste

Particulars	no. of IT employees	Total Respondents	Percentage	No. of Non-IT employees	Total Respondents	Percentage
Yes	42	58	72.41	33	40	82.50
No	16	58	27.59	7	40	17.50

Table 8 shows that 72.41% IT companies knows about E-Waste problem.

Table 9: Participation in E-waste collection drive

	IT Employees			non-IT Employees		
Particulars	no. of IT employees	Total Respondents	Percentage	No. of Non-IT employees	Total respondents	Percentage
Yes	9	58	15.52	0	40	0.00
No	49	58	84.48	40	40	100.00

Table 9 shows that around 84.48% companies does not participate in E-waste collection

drive.

Table 10: Awareness about carbon footprint

	IT Employees			non-IT Employees		
Particulars	no. of IT employees	Total respondents	Percent age	No. of Non-IT employees	Total respondents	Percent age
Yes	0	58	0.00	4	40	10.00
No	58	58	100.00	36	40	90.00

Table 10 shows that almost all the IT employees does not know about Carbon footprint.

Table 11: how many PC's are left on while leaving from office(in a week)

	IT Employees			non-IT Employees		
Particulars	no. of IT employees	Total respondents	Percent age	No. of Non-IT employees	Total respondents	Percent age
0-10	42	58	72.41	40	40	100.00
10-20	16	58	27.59	0	40	0.00
20-30	0	58	0.00	0	40	0.00
more than 30	0	58	0.00	0	40	0.00

Table 11 shows that 72.41% IT employees found that 0-10 PC are left on while leaving in a week.

Table 12: Awareness about Server virtualization

	IT Employees		
Particulars	no. of IT employees	Total Respodent	Percentage
Yes	8	58	13.79
No	50	58	86.21

Table 12 shows that 86.21% IT employees does not aware about server virtualization.

Table 13: Implementation of Server virtualization

	IT Employees		
Particulars	no. of IT employees	Total Respodent	Percentage
Yes	8	58	13.79
No	16	58	27.59
Don't Know	34	58	58.62

Table 13 shows that only 13.79% companies are actually implementing Server virtualisation

Table 14: Awareness about power management Settings

	IT Employees			non-IT Employees		
Particulars	no. of IT employees	Total respondents	Percent age	No. of Non-IT employees	Total respondents	Percent age
Yes	25	58	43.10	15	40	37.50
No	33	58	56.90	25	40	62.50

Table 14 shows that 56.90% IT employee and 62.5% non-IT employee does not know about power management settings in their devices.

Table 15: Awareness about impact of dark colours and power savings.

	IT Employees			non-IT Employees		
Particulars	no. of IT employees	Total respondents	Percent age	No. of Non-IT employees	Total respondents	Percent age
Yes	25	58	43.10	16	40	40.00
No	33	58	56.90	24	40	60.00

Table 15 shows that 56.90% IT employees and 60% non-IT employee doesn't aware about keeping dark colour screen savers can actually save energy.

Findings

The study reveals that still many of IT/ Non IT employees not aware of Green IT practices. Windows based PC's are still backbone of IT/non-IT industries. Many of the companies are not working towards paperless environment. Almost all the companies still using windows based OS. Companies/businesses in Mumbai uses computers for more than 6 Hours a day. Many of IT employees aware about E-waste problem but very few companies participate in E-waste collection drive. Almost all IT employee doesn't know term "Carbon footprint". Very few employees know about Server virtualization. Many IT/ non IT employee does not know that the simple power management setting and dark colour can save power consumption.

Conclusion

Green IT initiatives are not very popular among the IT and non-IT companies in Mumbai. Simple tricks of changing of OS from Windows based to the Linux based System would not only save money but also it will reduce power required for computing. There is scope to have E-waste collection drives and other measures to dispose E-waste properly. Many of the awareness campaigns are needed among IT as well as non-IT employees to make them aware

about simple thing which will help to protect our environment. Environment protection act and CPCB(central pollution control board) need to be strengthened.

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2. Data Management and Security Issues Related to Internet of Things

Ms. Arti Gavas

Asst. Professor, Information Technology, Anna Leela College Of Commerce And Economics,
Shobha Jayaram Shetty College For BMS.

Abstract

Sophistication in technology drives our life to prosperity. IoT is such a technology where connectivity of world has increased greatly. IoT technology is turning out to be transformative technology in business applications as well as in home applications. Many Business organizations have already started utilizing benefits of IoT while few others are thinking to shift their base processing on IoT technology. As more and more things are linked to the Internet of Things, the amount of data associated with and generated by IoT devices is too huge and it is growing exponentially. It includes status of the device, data collected by the various sensors attached to device, metadata etc. Managing and making sense of this data is very important as well as intricate. Along with managing huge data there lies security and ownership issues with such data too.

The aim of this research paper is to examine data management and data security of IoT data. It also aims at highlighting the scenario regarding analyzing and making sense out of such data for wellbeing of humanity.

Keywords: Data management, IoT, Data ownership, Data analysis, Data Security, sensors, IoT devices.

Objectives

- 1) To study the different devices of IoT.
- 2) To evaluate different utility aspects of IoT devices.
- 3) To study different data management aspects of IoT devices
- 4) To highlight and examine data ownership and security issues of IoT data.

Introduction

We love to experiment always. We learn through experiments. With science and technology, we have made many areas sophisticated. IoT is one of those technologies. IoT has

begun to handle some of the intricate things easily. The fictional things that are seen in Hollywood movies or in the fairy tails are now being seen in the pragmatic world due to IoT technology.

Remember the Beauty and Beast film. Chatting broom, smiling tea cup, laughing clock, joyful candle stand etc. It seems that all of these things have come from the magical world. But now all this will not remain in the magical world only. We can make such things smart and connected all the time, such things can talk to us like our companion would do. They can be informative to you, they may be warning you, they can be consoling you or they can be simply monitoring you for your habits and may be conveying your status to someone else who cares for you.

Defining Internet of Things (IoT)

The internet of things (IoT) are the physical objects that we use in our everyday life which have computing ability to think and act in real world with the help of sensors, actuators and processors while being connected to the internet and being able to identify themselves and discoverable to other devices.

Different Utility Aspects of IoT

Imagine that you were asleep last night by setting an alarm for tomorrow at 6 am, but when you got awake by the sound of alarm clock you found that its 6:10 am. Why did this happen? This is because your alarm clock is smart. The digital processor in your clock reads on the Internet that your usual train will be delayed by 10 minutes for some reason today. Your watch gave you 10 minutes more sleep for the purpose of comfort. After that, as soon as you start your daily routine, the medicine bottle placed on the shelf appears to be blinking you, and you realize that its time to take your medicine. You are almost ready to go to your office and you realize that there is a sound behind your shoe rack, in fact, that sound is coming from your smart umbrella. It says that take me with you because there will be a rainfall in some time. You are looking at the dashboard placed on your door while locking the door which is displaying information about how far you are going to get the public transport vehicles that you would like to take for your journey from your current location to your office. You got this information only at one glance and in next moment you started your journey.

How can all of these things make such information accessible to you so easily? The answer is IoT. All the above things are not just objects now but they became smart objects with

connectivity on internet. These types of objects have one or many sensors that allow the real world to reach to the microprocessor in the form of input. Microprocessor works as if it is the brain of that object, its main work is to interpret the input given by sensors and take the appropriate decision with the help of algorithms hardwired in it. The decision taken by microprocessors need to be turned into an action in the real world. This is done by actuators. Actuators execute this decision often with the help of various hardware like servo motors, DC motors, display screens or simply through indicators.

Different Applications oriented devices of IoT

IoT has become common buzzword in technology circle today. People are talking more about IoT. People have found IoT is most functional technology to carry out their day to day work effortlessly. Following are few application oriented devices of IoT.

Devices based on smart thermostat

Such a device changes the temperature according to the number of people present in the room as well as the outside season, so you do not have to constantly sit in the chair with an AC remote hand.

Smart Switches/ Plugs

Such devices observe the pattern of being active and time of your sleep and thus automatically turn themselves on or off. You can also send your status to your relatives by connecting such devices to the internet. Imagine your parents are tracking your activities from far distance away from you.

Hue smart bulbs

Nowadays, such devices are easily available in market, according to your mood, these smart bulbs can create different color patterns in your room, as well as they can play music according to your mood from the Internet.

Smart Door Lock

IoT's devices can work quite differently. Now you no longer need a physical lock to lock your house door. Your door will lock automatically after you have turned back and the door will open at the moment you reach home from office. These locks can be given access privileges to other family members. Not only this, you can give a temporary access to anyone and then can take it away. For example, sitting in the office, you can give an access to your servant/maid of your home for a fixed amount of time.

Home security System

Such devices are very much needed today. You can sit in the office and guarantee the safety of your family at your home.

Smart Refrigerator

This refrigerator can continually keep on checking the inventory status of the products in it itself. It will also email you this status. And it can place an online order too for some items as per your requirement. Apart from this, it will also be able to display status on fridge's dashboard or it can send an e-mail to you time to time.

Healthy Habit Tracker

It can be a device that determines whether it is good or bad habit of yours by regular observation of your habits at your home or workplace. If you are adopting a bad habit, it can advise you at the same time. Just like your parents do. It may also convey your progress regarding adopting healthy habits to your parents too.

Smart Health tracker

All of the above applications of IoT devices may be more means of your convenience. But Smart health tracker serves a bigger functionality than your convenience. It can be used for patient care by different healthcare providers, letting them get ECG, heart rate, respiratory rate, skin temperature, body posture, fall detection, and activity readings remotely. Such trackers can alert different doctors in your city to potential health problems of their patients before they arise, or give them added insights into which treatments will be most effective for their patients.

IoT based tracking and Monitoring at public places

To maintain law and order, to ensure security at public places, Government deploys CCTV cameras. Such devices are constantly sending the status of that place through the Internet to the government offices. Many issues can be resolved through the real time data received from these devices. Traffic management, emergency planning, and pre-stampede situations can be deciphered quickly.

Smart roads

Smart roads can alert other vehicles, if they detect any vehicle approaching at atypical speed due failure in break system. If other vehicles that are in danger, then these roads can change their orientation or can implant some speed breaker like things in the way of vehicle to reduce the speed of the vehicle, and send such information to the traffic police immediately. It

can also spread a message about break down of a vehicle on that road to others so that it can get help as early as possible.

Data Management Issues

All the aforementioned devices are constantly monitoring, recording and communicating in real time. Imagine the data which is transmitted to the microprocessor through all these device sensors for 24 hours of a day, the amount of data at the end of day is going to be too huge. The microprocessor processes this data in real time, and also activates actuators accordingly. What happens to this collected data after all this? This data is not erased from the device. This data is stored on a secondary memory of the device and periodically transferred from device to the Internet on the cloud. The data stored in this way can be used for many purposes. By analyzing this data one can decipher different behavioral patterns. This data can be used for Business Intelligence, or such data can be given as feed to the learning process of neural networks.

There can be various data management issues related to the data collected by IoT devices. Few can be listed as follows:

- 1) Dealing with exponentially growing data
- 2) Storage capacity of cloud
- 3) Data accessibility and availability
- 4) Data privileges and ownership
- 5) Collecting distributed data
- 6) Heterogeneous data
- 7) Interpretation of data
- 8) Maintaining the integrity and privacy of the data
- 9) Flexibility and scalability of storage spaces
- 10) Real time analysis of data

Data Ownership and Data Security Issues

Imagine you are walking through the station premises and you have a look at a newly mounted hoarding. Even if you do not desire to read the information that on it, you are reading it. The amount of time you are reading that hoarding, the CCTV camera that was deployed at back of the hoarding, sent your face to the owner of that hoarding. The owner of that hoarding wants to draw the business intentions from the data. Perhaps from these collected data he is able to count his potential customers. But who is exactly the owner of this data? Is that you or the owner

of the hoarding? It can be you because the information that device is capturing is yours but it can be an owner too as the camera is deployed by the owner. This is an ownership issue which is very essential to resolve.

Following this there can be few security issues too regarding the IoT device data. Few of them can be listed as follows:

- 1) Authenticity and authorization of devices
- 2) Security and integrity of devices
- 3) Managing device updates
- 4) Security in communication over internet
- 5) Analyzing vulnerabilities and incidents
- 6) Ensuring data privacy
- 7) High availability of data and devices
- 8) Secure and trustworthy web applications to supervise data
- 9) Accuracy and integrity of sensors
- 10) Trustworthy mobile apps to manage data
- 11) Security intelligence practice using such data

Findings and Recommendations

The data IoT device produces includes device status, sensors readings, descriptive reports, dashboard contents/ scripts, trigger alerts and/or data visualizations. IoT data requires to be analyzed in order to make some sense out of it, but manually processing the downpour of data created by IoT devices is not that easy. So, most IoT analysis relies on programmed analytics. Such analytics uses automotive tools to decipher the intelligence out of huge lumps of data.

Many multidisciplinary concepts like machine learning, data warehousing and data mining, artificial intelligence or self learning neural networks can be incorporated to deal with data produced by IoT devices.

Incorporating security by default during manufacturing of IoT devices where security features can be configured at their most secure settings at all times, including before, during, and after development enables us to preserve data privacy and integrity, while delivering highly available IoT data, apps, and services.

Conclusion

I've provided an overview of IoT devices from their utility aspect, data management and data security aspects. The biggest challenge is to devise flexible and scalable data storage options in order to store this exponentially growing IoT data as well as providing tools that are capable for making sense of IoT data, including managing data, using analytics to gain insights, and applying rules to perform actions. Accurate Data analytics can lead to more effective ways in managing day to day tasks. Maintaining security of collected data as well as device itself is also a critical challenge, which improves reliability, and which avoids the expense of unnecessary maintenance and reduces downtime and productivity loss.

Bibilography

- 1) Examples of Internet of Things Technology in Use Today
<https://beebom.com/examples-of-internet-of-things-technology/amp/#referrer=https://www.google.com>
- 2) Top 5 negative effects of technology you even don't suspect
<https://developer.ibm.com/articles/iot-top-10-iot-security-challenges/>
- 3) Security Challenges <https://developer.ibm.com/articles/iot-top-10-iot-security-challenges/>
- 4) Making sense of IoT data <https://developer.ibm.com/tutorials/iot-lp301-iot-manage-data/>
- 5) Designing the Internet of Things (Book) Adrian McEwen, Hakim Cassimally

3. Role of Operational Research in Overcoming Research Challenges in Internet of Things

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Abstract

The Internet of Things (IOT) is nothing but combination of physical object, controllers, sensor, actuators and internet. Interoperability and scalability connected to billions of various devices. IOT is a task of businesslike public, authorized and proper experiments, including safety and confidentiality of data collection. Multi-national, multi-industry, multi-technology infrastructure, the paper reviews are the futures of IOT. The main dedication of the paper is to give a wide study, based on published literature, of the methods of Operations Research (OR). In Operations Research mathematical as well as technical tools of hard OR and soft Or are used to approaches of systems for Thinking, which supports in dealing with these problems. A subclass of these is defined as greater complexity to better deliver which is the capacity to be involved in applying thoughtful OR and Systems in the IOT systems. It is advised that OR has a role to play in balancing the technical and non-technical research challenges which confront the IOT. The main concept of IOT is logical analysis of academic research papers, corporate white papers, and professional discussions with online database.

Keywords: *Internet of Things (IOT), Operations Research (OR), Data Analytics, Decision Analysis, System Thinking,*

1. Introduction

The Operations Research (OR) field is used to solve real world problem. It contains mathematical tools, techniques, and the thinking about the system. It has qualitative and quantitative varieties which methods of OR can maintenance the design, and managing the use of Internet Of Things. IOT is new technologies which have capacities to change the world. On the other hand "BIG DATA" is obtained from IOT and it can support the quantitative outfits and practices of OR.

OR and the IOT have various application zones, Where they applied separately or jointly. e.g., in the “smart city”, the OR systems are used for routing, arrangement, discrete-event simulation, etc., may enable more effective traffic management, energy usage, etc. various OR methods needs real world data, and they combined with “big data” from the IOT. The “things” creating up the IOT embrace processors which may do a number of the procedure tools and techniques of OR.

2. The Internet of Things

• General Concept of the IOT

The IOT is started the next stage of the development of the internet. In the IOT, common devices are linked with the internet and to get similar areas. One approximation is that only 0.6% of objects that could be part of the IOT are currently connected. By 2020, there could be up to 40 billion devices connected to the internet, far greater than the number of human users as shown in Figure.

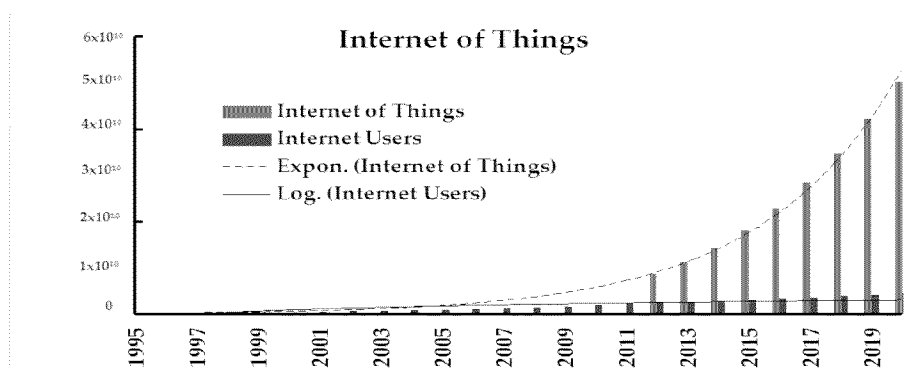


Figure . Internet of Things growth.

- Above graph shows that the growth of Internet Of Things, the red line indicates that the number of human internet users for the period 1995–2020; the blue bars indicates that the number of devices connected to the internet, while the drift lines indicates that a logarithmic growth for human users and exponential growth for number of devices connected.

An exponential curve shows that the growth in the IOT and logarithmic curve shows that the growth in the human users. The THREE main Features for IOT's are Electronics miniaturization, cost of electronic components, and the trend towards wireless communications. The physical objects contain small embedded devices that can link with the internet. The main

components of the IOT are sensors and actuators. The IOT finally reach to improvement into a network of people, developments, and physical objects that inter communication using wireless protocols.

- **Research Challenges for the Future IOT:**

There are various research task connected with the IOT. Various technical challenges cover in the IOT such as designing and managing by using a multi-national, multi-industry, multi-technology infrastructure. The business challenges of developing IOT are business models. Many current analyses of the IOT contain a section on research challenges. A troublesome task thanks to variations in word by totally different authors, the fact that the different research challenges cannot be completely separated from each other, and the fact is that They can be delineate at totally different levels of detail. For example, a high level research challenge such as “IOT design”, it contains “architecture”, “interoperability” and “scalability” is the number of low level research challenges.

Research challenges are divided into sub categories such as Design, Scientific, and management, while rather than artificial, as several research challenges be in the right place of any one category. For example, Strength is a challenge is used at both the design and operational stages, for Security. Availability and Cloud Computing are the technologies which provide to the IOT that developing knowledge consider as challenge. A current special issue of the journal Computer Communications is entirely dedicated to IOT research challenges, through mostly technical.

- **Development of Standards for the Future IOT:**

Strategies for “how to do” the events which must be done at all levels in designing and managing by using the IOT e.g., the Constrained Restful Environments (CoRE) standard is used to integrating constrained devices with the Internet. That Standards are required application requirements, communication protocols, identification of objects, security, applications, data, information processing, and the service platforms. These Strengths are focused on the practical level, addressing data link protocols such as Radio-Frequency Identification (RFID), Zigbee, Bluetooth, Near Field Communication (NFC), network/transport protocols (Internet Protocol version 6 (IPv6), IPv6 over Low power Personal space Networks (6LoWPAN) and Routing Protocol for Low-Power and lossy Networks (RPL)) and session protocols (such as Message Queue mensuration Transport (MQTT), unnatural Application Protocol(CoAP),

Extensible Messaging and Presence Protocol (XMPP), and Hyper Text Transfer Protocol (HTTP). This institute has established a protocols and open standards for connecting wireless sensor networks (WSN) to the internet.

“A society of reliable objects, people, systems and information resources with intelligent services to permit them to method information of the physical and then the virtual world react.” A directory is more than 400 existing standards that transmit to IOT has been observed and plotted to the relevant IOT technology like common interfaces and protocols, power requirements, and security constraints.

3. How can OR Support the Future IOT

- **Data Analytics**

Data Analytics is the science of learning data to draw assumptions. Identification, positional, environmental, historical, and descriptive data are connected to the IOT devices. This IOT data will produce data management and evaluation of problems. Characteristics of IOT data is heterogeneity, incorrectness, huge real time, and implied semantics leading to important data management issues. Data is characterized into RFID, address report, positional and ecological, sensor, historic, physics and command. eXtensible Markup Language (XML) offers a means of representing free data; while Structured Query Language (SQL) is imporable to be useful in the meantime IOT data will not be uniform and structured.

- **Decision Analysis**

Decision Analysis contains Analytic Hierarchy Process (AHP), Multi-Criteria Decision Making (MCDM) and Data Envelopment Analysis (DEA) established a commercial classical structure for the IOT using a literatures survey and interviews. Customer Rivers, value proposition, networks, consumer relatives, income streams, key possessions, key events, key associates and cost structure these are the nine building blocks which is used in decision analysis.

4. Systems thinking

The IOT system connected billions of devices and these are managed, maintained, operated and supported by using appropriate addressing conventions, protocols, and power. The IOT system collected billions of electronic devices, out of which some are replace in divergence to one's desktop computer that wants regular software and hardware updates for memory, CPU power, or disk space.

5. Conclusion

This paper gives a brief summary of the Internet of Things (IOT), research challenges to its design, use and widespread implementation, and the important current worldwide efforts to develop interoperability standards. The main purpose of the paper is to survey the application of Operations Research (OR) methods. The research for the paper included review of a very large number of journal articles, conference papers and industry reports on the IOT, the numbers of which are quickly increasing as the IOT has become a popular area for academic research and business investment. Most of this work is theoretical and few case studies have been informed. Reports on the application of OR and Systems Thinking to the IOT have so far been fairly unusual, the numbers can be expected to increase in future years.

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4. A Study of Virtualization with Respect to Cloud Storage

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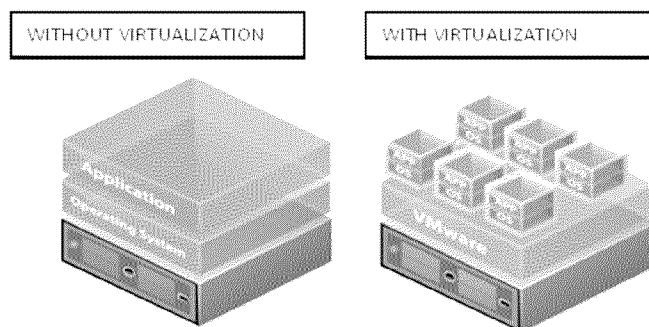
Abstract

Cloud storage is a latest and most popular model used for data storing. Cloud storage is a model of cloud computing which allows storing the data on servers over cloud (internet), which can be accessed remotely. It has increased the efficiency of an application by allowing the applications to communicate and share information and to manage the resources with ease. The vital and the most essential part of cloud computing is virtualization which enables the applications and software to allocate resources on demand whenever needed as well as it decreases the cost borne by IT organizations and also increase the security of the applications. With virtualization technique, multiple operating systems can run on same machine and many clients, at the same time can use a single instance of resource. The evaluation of virtualization has transformed the traditional practice of dedicated resources to pooled processing. This paper focuses on a conceptual study of the need of virtualization and its advantages towards cloud storage, and discusses how organization can be benefited with the use of virtualization techniques. It also gives a detailed review on cloud computing and virtualization techniques.

Key Terms: cloud computing, virtualization, pooled processing, para-virtualization, instance, IaaS, PaaS, SaaS.

Introduction to Virtualization

Virtualization is abstraction of physical components into logical objects. The physical components which can be virtualized are memory storage, processor, Networks can be virtualized. The resources of a computer are divided into multiple execution environments. Thousands of organizations have started using virtualization to distribute their workload and to make the IT services more flexible for its users. Virtualization provides access transparency. Virtualization is a layer operating system and hardware of the machine.



Techniques of Virtualization

i. Full Virtualization

In this technique, the physical server is completely virtualized to support software and applications. It gives the entirely virtualized operating system. It is most common and cost – effective type of virtualization. In this there is a virtual hardware and operating systems and software executes on top of it.

ii. Virtual machines virtualization

Virtual machines (VMs) is a software which act as an substitute for real machine , it replicate certain factual of machine and enables the software or applications to run on virtual hardware fulfilling the demands for resources.

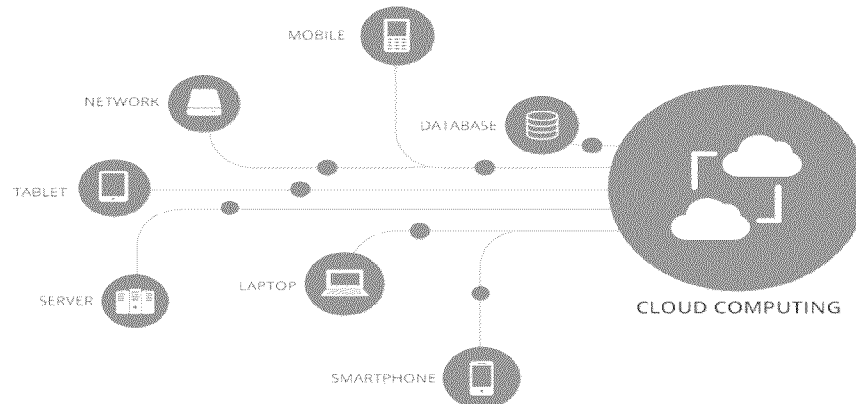
iii. Para-Virtualization

The main aim of Para virtualization is to reduce the execution time while performing operations which are difficult to execute in virtualized environment. Therefore, In Para virtualization, the operating system is modified, so that, only the software runs in particular way without executing any hardware simulation.

About Cloud Environment

Cloud storage is a network to provide resources to the users of an application, over Internet. The uses can use these resources whenever they need it. With the use of cloud computing, the load of the running applications is taken by cloud storage instead of local machine (computer). The user's computer (local computer).some organizations prefer cloud storage service of third party instead of they being setup their own infrastructure for cloud storage. Cloud computing is a way of storing and providing services which allows the user to

access technology as a Service without expertise knowledge about it, or it allows the user to control the technology infrastructure that supports the services known as Infrastructure as a Service (IaaS). Cloud computing industry also provide platform in which user can develop their own applications know as platform as a service (PaaS). It also provide software applications on subscription basis know as software as a service (SaaS).



A. Software as a Service (SaaS)

Cloud consumers release their applications in a hosting environment, which can be accessed through networks(Internet) from various clients. In SaaS Environment applications are organized in a single logical environment to achieve economies of scale and optimization in terms of speed, security, availability, disaster recovery and maintenance.

B. Platform as a Service (PaaS)

PaaS is termed as a development platform which allows the cloud users to develop their own services or applications without building the infrastructure associated with it. It serves a platform that hosts developed as well as in-progress applications.

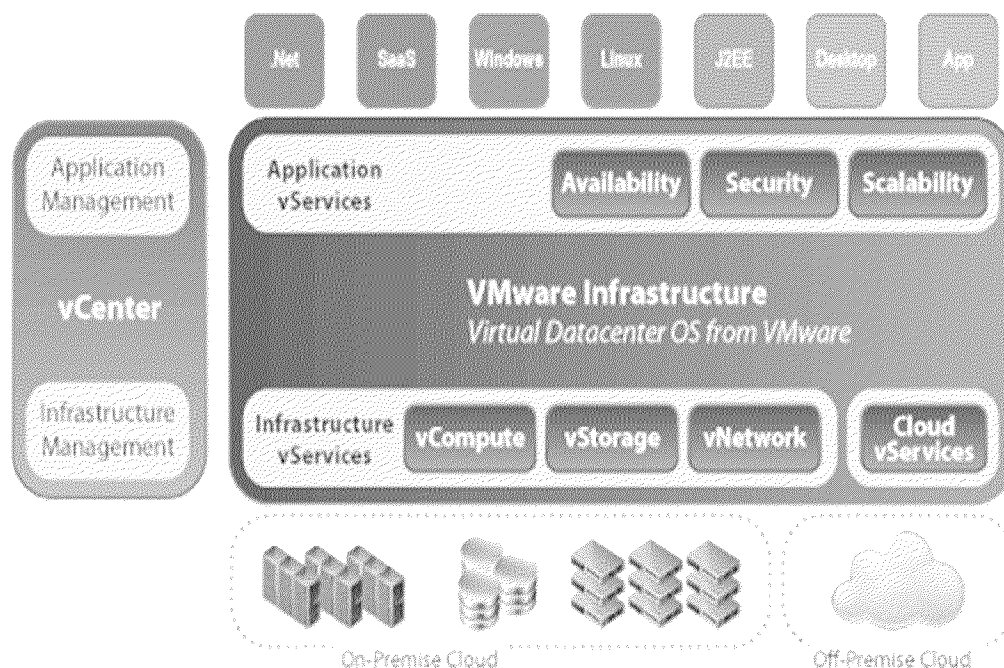
C. Infrastructure as a Service (IaaS)

It is a platform where Cloud consumers directly use IT infrastructures provided in the IaaS cloud with includes storage, networks and other computing resources

Virtualization is widely used in IaaS, it aims to provide virtualized resources to its users in order to integrate physical resources into a logical unit, so that the never-ending demand of cloud consumers can be fulfilled.

Virtualization in Cloud Environment

Computing means, binding the software to its underlying hardware. Cloud computing means, to provide these software resources to its users whenever they demand. Here virtualization of cloud plays a very essential role. Virtualization separates the software and put it in another container, where the software becomes free from its underlying layer (i.e hardware).



Since virtualization creates the instance of resources therefore the number of resources increases and thus it can fulfill the demand of the cloud users more efficiently. The biggest reason to virtualized cloud storage is to share the resources, which is the one of the biggest reason for cloud virtualization, so that limited resources can be used by multiple users at the same time. Secondly cloud storage is virtualized as to isolate a virtual machine form its underlying architecture, due to this if any of the virtual instance gets crashed, it will not affect other instances. Another reason for virtualization is that virtual partition can be created, so that one user is not able to view or misuse the data of other user which increases the security of cloud computing. Since many application runs on cloud storage, but by using virtualization technique, whenever there a new version of a current software or application, a user can always get a standard version of the applications on the cloud.

Cloud Computing: Deployment Models & Its Virtualization**i. Public cloud storage**

Public clouds are hosted by third party known as cloud service providers. One can take the subscription of the cloud storage from the cloud service provider and can store his own data or application. The cloud service provider are responsible for managing and maintaining the infrastructure need by the cloud computing. Microsoft Azure is one of the example of a public cloud. Server virtualization is one of the keystone technologies of the public cloud. It helps to create multiple virtual servers that can run multiple instance of operating System

ii. Private cloud storage

A private cloud is owned by a single organization and is exclusively used for their business purpose. Private cloud is managed and maintained by its owner. It can be located on organization's data centers site who owns the private cloud. Virtualization is not at all an alternate option for private cloud storage but it is an inbuilt feature of private cloud.

iii. Hybrid cloud

Hybrid clouds combine the functionalities of public as well as private clouds. That is, it is bound together by technology that allows data and applications to be shared between them. It also allowing data and applications to move between private cloud storage and public clouds storage and therefore it gives more flexibility and deployment options to a business. In a virtualized hybrid cloud environment, there are lots of small chunks to be managed individually or else resources will not be optimized effectively.

iv. Community Cloud

It is a multi-tenant cloud service model that is shared between many organizations. And it is governed and managed by all participating organization that are part of community cloud. With the community cloud the cost of deployment and access are spread across all the users.

Types of Virtualization in Cloud Computing**i. Network Virtualization Technique**

Network virtualization splits the available bandwidth into different channels which are different and distinguished from one another. In real time, these channels are assigned to a

particular server. Some channels can stay completely unassigned. In other words this technique resolves the complexity of the network by dividing it into smaller manageable parts.

ii. Storage Virtualizing Technique

This type of technique is mostly used for backups or to retrieve lost or hidden data (data recovery). With this technique, by using a single console one can manage to pool storage space from several storage device connected to it.

iii. Server Virtualization Technique

This technique is used to duplicate physical server by changing their operating system, processor or their identity. This increases the capacity to serves resources for sharing and utilization. This saves the user from managing complex resources of the server.

iv. Application Virtualization Technique

This technique extracts the abstraction layer and separates it from operating system. Therefore the applications become independent of the underlying operating system and runs in an encapsulated form. With this technique once application can run on different operating systems .

v. Desktop Virtualization

This technique allows emulation of entire workstation rather than only a server. This technique helps the user to access the desktop remotely with more security and portability as the workstations are running in data center servers.

vi. Data Virtualization Technique

This technique allows an application to retrieve and manage data without the need of technical details about the data. It is also termed as a technique to abstract data from different source and aggregate it into single unit.

Benefits of Cloud Virtualization To Business Organization

1. Performance Enhancement

With virtualization, the limited resources of a system can be optimized in a much better way by hosting a virtual machine manager. Whereas the capability of the system which are used rarely are also optimized with the help of virtual host thus enhancing the performance of business.

2. Data Transfer

Data can be transferred in much easier way from a physical storage to a virtual server, and vice Administrators can easily take backups on cloud, so that all the data of any organization resides on cloud and in case of system failure data can be easily recovered. Virtualization best supports long distance file transfer.

3. Shortage of Space Can be Eliminated

Many organization have started developing their own data center infrastructure as per their needs, for example, Google , Amazon , Microsoft have their own data centers. The need of data centers on cloud has rapidly increased due to the increasing needs of more memory storage space. This leads to virtualization of cloud storage space.

4. Enhancing Security By Virtual Firewalls

Since one of the major aspect to an organization is to focus on security therefore, with the help of virtual firewall security issues can be resolved. The cost incurred by the organization towards restricting data access gets lowed with the use of virtual firewalls. The data and application are protected by a virtual switch, which protect your data from cyber threats. Virtualizing the cloud storage makes it possible to take the backup of the data stores on cloud.

5. Reduce Administrative Costs

As the number of servers increase's, it increases the cost of server administration. Virtualization is a way of reducing the overhead of servers by creating virtual servers on cloud therefore it results in reducing the cost. Virtualizations can also increases the storage space virtually which can be used for carrying out the operation of an organization which can be profitable for that organization and can increase the productivity.

6. Helps the Organization To Take Eco Friendly Initaitives

Now a day organizations are working towards adopting minimum power consumption techniques. Virtualization can help organization by providing server consolidation method. Server consolidation means dropping the power consumption by number of server. The energy consumption reduces gradually which in term reduce the cost.

Conclusion

This paper is a study of various virtualization types and techniques with respect to cloud storage. The availability of virtualized server has increased the number of virtual servers on cloud storage which in turn results in profitability of an organization. The techniques of virtually maintain and sharing of resources has increased the elasticity of cloud storage as a result the performance of cloud storage can reach to next level. Due to this cloud storage has become an essential part of our daily routine.

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5. Employee Empowerment and Job Satisfaction of Employees: Roles and Business Practices in Human Resource Management for Service Industry- Revisiting Literatures

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Abstract

Review of literature plays very important role in any kind of research. Purpose of this paper is to review the quality literature on employee empowerment, job satisfaction of employees particularly in service sector and the role and business practices of employee empowerment and job satisfaction for service sector employees. Most of the literature suggests that there is a positive relationship between employee empowerment and job satisfaction of employees. If employees are empowered in organisations they are expected to perform well in the organisation as a result improvement in employee service quality and they will be able to deliver good services to their customers ultimately it leads to the higher level of job satisfaction to the employees. Total of 32 quality papers are reviewed which are already published in quality journals. The review revealed that empowerment has a positive and multi dimension role in the success of organizations by increasing satisfaction level of employees. The review also examined how an organisation employs employee empowerment in their organisations and why employee empowerment plays important role in achieving job satisfaction of employees.

Keywords: Employee empowerment, service quality, job satisfaction

Introduction

The success of an organization is extremely dependent on its human resources management. One of the key factors to achieve customer satisfaction is to give them good quality services. Previous literature suggests that employee will be able to deliver good services to customers when they are enough empowered. Empowerment plays a key role in achieving

effective employees output in order to stay financially solvent and competitive. Many service sector companies make the mistake of assuming that employees are only seeking financial benefits for their jobs. Along with the financial benefits, employees actually need power to take decisions at their own which ultimately delivers job satisfaction to employees. Organizations must have employees who are able to quickly adapt to an ever-changing world market. Companies need to invest in on-going employee empowerment process in order to both keep employees satisfy and be successful in their carrier. Handling the employees is the one of the difficult tasks for the managers. A problem appears when an organization on parallel lines start work on imparting employees empowerment as well as implementing various techniques to improve performance. In this phenomenon, effort is to maintain a required level of performance from employees while having trust on them by giving empowerment for betterment of the organization. This display of trust through empowerment for achievement of performance is, therefore, an important factor in service industry.

Tony (1999) suggested that empowerment enables the managers to perform and help others working under them to achieve through successful work systems. This requires that management should take more responsibility to lead toward destiny with the intention to develop internal commitment. An individual s personal reasons and motivation are the factors that make him committed to a particular project, person or program and create internal commitment. In this regard, internal dedication is participatory and very closely linked with empowerment.

The purpose of this study is to review current literature and analyze previous studies to evaluate whether or not employee empowerment programs are beneficial to an organizations and how job satisfaction is achieved with the help of employing empowerment in an organizations particularly in service industry.

Literature review

Hofstede (1991) suggested that transfer of power needs both subordinates and superiors to postpone their deeply fixed values of disproportion and their different roles. Superiors would need to give up with power, status and freedom (e.g. the right to make rules and laws) which they have obtained over the years (i.e. development through priority). On the other hand, subordinates would be necessary to ignore their strong reliance toward their superiors and do task separately.

Schmieding (1993) identified three variables of empowerment: context, structure and process. Context was referred to “as having a shared vision that commits people to action; this vision provided a contextual whole and represents the organizing principle of empowerment”. the second component, structure, was needed to “enhance the empowerment gained through a shared vision”. Structural components which Schmieding identified as empowering were environments in which individuals “have the right to make decisions within his or her scope of practice”. Process components were identified as key to the empowerment process in its reflective inquiry and deliberative discovery. Schmieding believed that “empowerment was most likely to occur when there was a congruent linkage among a vision, structural components that involve participation and the use of a process of inquiry”.

Bowen (and Lawler 1992, 1995) argued that empowerment practices improve job satisfaction, in part by giving employees a sense of control and making work more meaningful. Empirical evidence from manufacturing industries seems to confirm this proposition. The feedback and granting autonomy are positively related to job satisfaction.

Randolph (1995) perhaps offers the simplest definition of employee empowerment, and views employee empowerment as a process of transferring power from the employer to the employees. This transformation of power benefits organizations in many forms.

Conger & Kanungo (1988), Spreitzer (1995), Thomas & Velthouse (1990) suggests that the overall psychological empowerment construct is composed of four cognitions: meaning, competence, self-determination, and impact. Meaning refers to the value of a work goal judged in terms of an individual's own values or standards. Competence is an individual's belief in his or her capability to successfully perform a given task or activity. Self-determination is the individual's sense of choice about activities and work methods. Finally, impact is the degree to which the individual believes she or he can influence organizational outcomes. Psychological empowerment refers to a set of psychological states that are necessary for individuals to feel a sense of control in relation to their work. Rather than focusing on managerial practices that share power with employees at all levels, the psychological perspective is focused on how employees experience their work. This perspective refers to empowerment as the personal beliefs that employees have about their role in relation to the organization. The paper that motivated researchers to think differently about empowerment was a conceptual piece by Conger and Kanungo (1988). They argued that a social-structural perspective was incomplete because the

empowering managerial practices discussed above would have little effect on employees if they lacked a sense of self-efficacy. To them, empowerment was a “process of enhancing feelings of self-efficacy among organizational members through the identification [and removal] of conditions that foster powerlessness” (Conger & Kanungo, 1988, p. 484). Thomas and Velthouse (1990) extended Conger and Kanungo’s ideas with the development of a theoretical framework articulating empowerment as intrinsic task motivation manifest in four cognitions that reflect their orientation to work. Rather than a dispositional trait, Thomas and Velthouse defined empowerment as a set of cognitions or states influenced by the work environment that helps create an active-orientation to one’s job.

Balzer, et al., (1997) define Job satisfaction as the feelings a person has about her or his job. Job satisfaction is an assessment of overall job experience, and arises from many factors such as one’s relationship with a supervisor, the sense of fulfillment of work, perceived congruence between pay and work production, and physical conditions of the working environment.

Goldsmith et al.,(1997) views that avoidance of uncertainty further describes the ideal point of formalization in an organization. The suggestion of empowerment theory to replace precise control over employees, policies, suggestions and information with introduction of trust within the organization is not likely to be fulfilled universally.

Spreitzer, et al. (1997) examined the relationship between empowerment and job satisfaction in two categories of samples: Sample 1 consisted of middle-level managers and Sample 2 was lower-level employees. In both samples, Spreitzer and her colleagues found that meaning was the strongest predictor of general job satisfaction, while impact was unrelated to job satisfaction. Ambiguous findings were reported on self-determination and competence. The former was a significant predictor of manager job satisfaction, but not lower-level employees, the reverse pattern of findings were reported for competence (it was unrelated to job satisfaction in Sample 1 and a significant predictor in Sample 2).

Thomas and Tymon (1994) postulated that empowerment would accrue in higher levels of job satisfaction. They state "Because the task assessments generate intrinsic rewards associated with the job, they should be positively related to job satisfaction". Kirkman and Rosen (1999) found support for the notion that empowerment is positively related to job satisfaction. Thomas and Tymon (1994) with a sample of employees from a research hospital, electronics

firm and computer services reported that meaning, self-determination and impact were significant predictors of general job satisfaction. Competence was unrelated to general job satisfaction.

Liden, Wayne and Sparrowe (2000) investigated the mediating effects of empowerment on the relationship between job characteristics and job satisfaction with a sample of 337 lower-level employees of a large service organization. Meaning and competence were found to be significant mediating variables; self-determination and impact were not. The one consistent finding across the study is that meaning is a significant predictor of job satisfaction; studies of the job characteristic model have also noted a significant relationship between meaningfulness and job satisfaction (Johns, Xie, & Fang, 1992). On the other hand, evidence about the relative importance of the empowerment facets of competence, self-determination and impact is inconclusive. Thus, an aim of this study was to examine the relative influence of facets of empowerment on general job satisfaction and present job satisfaction. Proponents for empowerment claim that employees who feel empowered at work are more likely to exhibit positive reactions to their job, such as increased identification (Liden et al., 2000; Spreitzer, Kizilos, & Nason, 1997).

Ripley & Ripley (1992) and Spatz (2000) stated that empowerment can enhance the responsibilities as well as motivation of employees in their routine work, improve satisfaction level, quality of services, employees loyalty and productivity by giving them self respect that worth a lot and ultimately increases the productivity and quality of products and reduces the employee turnover.

Gronroos (2001) views employee empowerment as a part of the internal marketing process in an organization which when correctly implemented can have a decisive impact on job satisfaction of employees which may in turn improve the part-time marketing impact of employees in customer -contact.

Laschinger et al. (2001) revealed that psychological and structural empowerment might seem quite similar. But there is an important difference between the two. Whereas structural empowerment is the perception of the presence or absence of empowering conditions in the workplace, psychological empowerment is the employees' psychological interpretation or reaction to these conditions. In other words, psychological empowerment represents a reaction of employees to structural empowerment conditions. A link between structural and psychological

empowerment was suggested by Spreitzer's finding that managers who felt they had access to strategic information in the organization and to information on their units' performance were psychologically empowered. Laschinger et al. (2001) tested these ideas directly and found evidence to suggest that psychological empowerment is an intervening variable between structural empowerment and employee effectiveness. But because Laschinger et al.'s investigation was cross-sectional, it was impossible to make definitive causal statements. As was mentioned earlier, a longitudinal study would provide a more compelling demonstration that empowerment leads to job satisfaction.

Schlesinger and Heskett (1991) and Gerasim and Terziovski (2003) study the relationship between employee empowerment and service quality and find that both are directly and positively related because more motivated employees are able to provide better service.

Brown and Harvey (2006) define employee empowerment as a process of giving staffs or employees the authority or power to make decisions about their own job.

Demirci and Erbas (2010) calls employee empowerment a unique style of management where managers confer about various work related issues and activities with the employees of the organization.

According to Durai (2010), the employee empowerment concept actually certifies the employees with necessary power to employ plan and judgment in their work, participate in their work related decision-making, and authorizes them to respond quickly to the needs and concerns of the customers. Blanchard et al. argues (2009) that empowerment refers not only to have power or authority to make decision and act, but also to have higher level of responsibility and accountability.

According to Gill (2011), employee empowerment refers to the meaningful job of employees, their feelings of competence, autonomy, and contribution to the decision making or applications of leadership.

According to Locke (1976), employee satisfaction also known as job satisfaction, is a positive emotional state that demonstrates the perceived relationship between the expectation of an employee from his job and his perceived offerings of the job. Service is an act or representation that one party ushered to another, basically intangible and does not result in the ownership of anything, and its production may or may not be related to a physical product (Kotler, Keller 2012).

Ghosh (2013) argues employee empowerment emerges from four different perspectives: social, psychological, growth and organizational. Kahreh et al. (2011) describes employee empowerment from psychological and employment climate perspectives. Bekker and Crous (1998) state three perspectives of employee empowerment namely organizational, individual, and training and development.

Widmier and Silvestro (2013) absorbed two fundamental disputes for managing people: (a) the employees should be supervised carefully and supported with corrective actions where necessary, and (b) the employees should be given responsibility for regulating their own activities, which can be termed as employee empowerment. Empowerment does not mean power itself; it is simply a process by which power is only imparted for a drive or to an end. The key to empowerment is the delegation of authority in lower levels and engaging all employees in decision-making, which leads to improve the sense of pride, self-esteem and responsibility of the employees (Brown, Harvey 2006).

According to Lee and Koh (2001), and Zeglat et al. (2014), psychological and structural/relational empowerments are the most common forms of employee empowerment. Scott and Jaffe (1992) claim individual perspective (subjective dimension) of empowerment should be emphasized, in which the aspects include motivation, commitment, locus of control and authority.

Klagge (1998) advocates employee empowerment benefits both the employees and the organization. Ugboro, Obeng (2000), Bailey (2009), GanjiNia et al. (2013) argue that employee empowerment is one of the most effective techniques to improve employee satisfaction, morale and motivation of the employee. Yasoithai et al. (2015) states employee empowerment constructs vital impact on employee satisfaction. Since empowerment improves employees' motivation, job satisfaction and dedication to their work and organization, these activities influence fewer job switching and enhanced employee retention rates, consequently decrease employee turnover expenses (Wagner, Herter 2006). Thus, it can be said that employee empowerment has profound contribution to make employees satisfied.

Conclusions

On the basis of the previous studies done on employee empowerment and job satisfaction, it is concluded that employee empowerment has positive and significant impact on employee job satisfaction and there is significant difference among gender wise job satisfaction

level. This study confirms that employee empowerment leads towards higher level of employee's job satisfaction. The thinkers and writers on empowerment have viewed it from several perspectives. Studies suggest that superiors would need to give up with power, status and freedom to the subordinates (e.g. the right to make rules and laws) which they have obtained over the years (i.e. development through priority). On the other hand, subordinates would be necessary to ignore their strong reliance toward their superiors and do task separately. As a result, employee service quality improves and ultimately employees become satisfy with their role in an organization. Study also revealed that trust between superior and subordinates increases because of employee empowerment which is having highest impact on organizational performance. Previous study also depicts that at both the levels i.e. middle and bottom level, job satisfaction of human resource increases with increases in empowerment levels. It is also proved from the past study that empowerment act as a mediating variable between job characteristics and job satisfaction. Expert's views employee empowerment as a part of the internal marketing process in an organization which when correctly implemented can have a decisive impact on job satisfaction of employees. Important literature on empowerment suggests that the key to empowerment is the delegation of authority in lower levels and engaging all employees in decision-making, which leads to improve the sense of pride, self-esteem and responsibility of the employees.

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6. The Challenges and Opportunities of E-Commerce in India

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Abstract

E-commerce is nothing but a trade taking place between the buyers and sellers for various goods and services over the internet. It plays an important role to facilitate various business options to explore in the near future. Nowadays it is observed that with the fastest growing technologies the Commercial centre is transmuting itself into E-commerce centre. Right from the necessary products like salt to the services like Softwares everything is available for today's customer/consumer to purchase over the internet. Consumers take benefit of lesser prices which are offered by different wholesaler's retailing their products. Electronic commerce is another approach to support or expand existing businesses. E-commerce has brought innovative changes in the marketplace. Because of the popularity of e-commerce, there is a huge growth in the exchange of Goods and services both regionally and globally. E-commerce is moving into emerging countries Like India; which is giving a pathway for E-commerce industry to evolve. This paper attempts to highlight the different challenges faced by e-commerce in India and also to understand the important factors required for the growth of e-commerce. This paper also defines various services and opportunities offered by e-commerce (from Business to customers). This paper also discusses and analyze the current trends of E-commerce in India & also inspect the challenges of e-commerce in India.

Keywords: E-commerce, Current Trends, Opportunities, and Challenges.

The objective of the Paper

- To explain the concept of E-commerce
- To study the current trends & opportunities of e-commerce in India
- To study the obstacles of e-commerce in India
- To study the various challenges faced by E-commerce in India

Research Methodology

- Available secondary data was extensively used for the study. Various Books, articles and websites were referred.

1. Introduction to E-commerce

It means Electronic commerce. It is a type of trade which takes place between the buyers and sellers for numerous products and services over the web through electronic media & internet. The prompt growth of this sector in India is being motivated by customer preferences and enhanced accessibility with the help of internet the seller can directly sell off his/her goods directly to the customer or final consumer by excluding middlemen from the online portal using shopping cart system and allows payment through different means like Debit, credit or Fund transfer. It is also observed that the demand for the e-commerce market is increasing day by day. E-commerce facility is available I all type of business, customer services, Introduction of the new product, development and designing the new product. Because of the comprehensive range of products available at a lesser price compared to the local market for the suppliers, wholesaler or customer the E-commerce sector is growing rapidly in developing countries like India. In this new millennium era, every business firms want to opt for online business as the ratio of using the internet is increasing continuously compare to last decades.

	Business	Consumer
Business	B2B	B2C
Consumer	C2B	C2C

2. Types of E-commerce

- Business to Business (B2B): B2B is a situation where a trade/transaction takes place between two businesses
- Business to Consumer (B2C): It refers to transactions/trade which is directly led between firms and consumer (Final Consumer)
- Consumer to Consumer (C2C): C2C, is the business model that enables trade between two private individuals. May it be for goods or services, this type of e-commerce links people to do business with each other.

- Consumer to Business (C2B): it is that type of model in which the value is created by consumers and consumed by the business

Examples of E-commerce business model

Amazon	
Snapdeal	
Myntra	
Alibaba	

(Pictures are collected from the www.google.com as per the company logos available on companies website)

3. Market Size and Growth

Driven by increasing smartphone perceptions, the introduction of 4G networks and increasing consumer wealth, the E-commerce market is estimated to grow to US\$ 200bn by 2026 from US\$ 38.5bn in 2017. Currently, the major contributor to online retail sales in India is the electronics market with a share of 48%.

4. Some of the Recent Trends of the Indian E-Commerce Industry

- GST to Improve the Growth of E-Commerce — As GST is enforced in last year i.e. 2017 which is a single Indirect tax inclusive of VAT, Service tax, entry tax etc. across all borders. This has improved the operational efficiency of the e-commerce industry in various ways like transparency and generalization of indirect taxes.
- Cash-On-Delivery (COD) — It has remained as the most favored Electronic Payment method as it gives control over online transactions since there is no need to pay the amount until we product is received at our doorsteps
- Purchasing at Office Hours — it is observed that 60% of online shopping is done during business hours which is between 09:00 a.m. to 05:00 p.m. Marketers can take the advantage of this fact to schedule their promotions through all advertising channels.
- Men shops more than women—it's a myth buster for the society, the myth that women use to rule the in-store markets, Mens with nonrefundable income have taken the lead to play the large role in online shopping.

5. Opportunities and Challenges

In the above points, it is reviewed about how

E-commerce plays an important role in the growth of Indian Economy. The growth of

E-commerce has been notable which leads to an increase in the online shopping among Indians and moving towards digitalization. There are many opportunities available for the E-commerce sector in India. There are also some barriers affecting the growth of the E-commerce sector in India. Some barriers include problems like Security problems, lacks skills etc. Some of the major opportunities and challenges faced by the institutes are explained below:

5.1. Challenges

5.1.1. COD is the preferred payment mode: It is the recent trend and most preferred method to pay cash on delivery because of less trust in online transactions.

5.1.2. Infrastructural problems: As the internet is the strength of e-commerce. Internet diffusion in India is very stumpy (only 36%) as compared to the Rest of the World. The quality of connectivity is also poor in several regions

5.1.3. Factors of Touch and Feel: Irrespective of the growth E-commerce as compare to past decades still there are some Indian customers who are more comfortable in purchasing goods physically. They tend to purchase the products by touching the product directly rather than just placing the order online. Indian buyers are more tends to opt for other online transactions rather buying products online.

5.1.4. Privacy and Security Concern: In terms of startup and small firms, firm owners fail to take the preliminary steps to secure and sheltered their business through setting up of authentic safety services like Antivirus and Firewall protection, Which is a vital step for effective online business companies. Using unauthorized and pirated software will not protect the customer.

5.1.5. Retailers have to build their own logistics: Logistics have been one of the main issues for online retailers in India, which force them to build their own policies in the deficiencies of traditional systems to handle COD and same-day shipments. Some of the online market dealers have already built their own logistics like Flipkart, who has launched Ekart which is available for the competitors.

5.1.6. Incorrect postal address: Currently, it is one of the biggest challenge faced by E-commerce sector. Whenever a buyer places an order online, he usually gets a confirmation call

from the company, for confirming the Order details. The address provided by the customer/consumer is not sufficient because there is always some little corrections while inscribing postal addresses. Glitches in updating postal addresses are common in India.

5.2. Opportunities

5.2.1. Minimization of inventory cost:

E-commerce companies have to maintain vast inventories or expensive retail showrooms. To reduce such expenses E-commerce business can adopt Just-in-Time (JIT) system improving the firm's ability to forecast demand forecast effectively

5.2.2. Opportunity for business to globalize: By reducing the costs it helps company's especially small firms to make information on its products and services accessible to all the possible consumers spread over India. This is well confirmed by Amazon.com — one of the largest bookstores in the net by carrying out a huge amount of sales from the customary booksellers.

5.2.3. Cloud computing: It is another and the fastest growing trend in the e-commerce industry. This technology is expected to reach US\$ 3bn by the end of this year. for E-commerce businesses, it has an excess of benefits. Right from saving costs on infrastructure and administration, it leads to the speedy renovation of market openings through the real-time arrangement.

5.2.4. Better customer service: E-commerce is the best method to provide extreme level customer services in terms of low cost, quality products, and Just In Time. Customer Happiness is an important asset for any business to increase their growth and expansion. In this sector, both traders and customers get benefited. It is a substitute system of old-style business which offers an opportunity to compact their commercial from reserved places and without physical communication by saving money, cost and minimizing the risk

5.2.5. Policies for growth: The rate of growth of e-commerce in India is notable and higher than in other countries. In terms of E-commerce places 3rd position in the world because of various issues like non-availability of proper IT Infrastructure, logistic support, and financial infrastructure it faces many threats for its development. There is a rapid growth in the total no. of smartphone users and internet subscriber in India which motivates them to spread the e-commerce business all over India.

Conclusion

E-commerce is the future of shopping. Because of this sector, the gap between the manufacturer and consumer is reduced. According to the Indian population, there is huge scope for the growth of e-commerce. The Indian E-commerce industry is expected to cross \$100bn marks by 2020. The future of E-commerce sector in India is very bright if all the required factors would be implemented by establishing and taking care of all the shortcomings and by tackling all the challenges which affect the growth of e-commerce.

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7. Investment Awareness among College Students under Current Scenario with Special Reference to Mumbai City

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Abstract

In today's world young generation are more imaginative and have better understanding of technology, or we call them technological savvy as compared to older generation socially and financially. Now the question arises whether today's young and vibrant generation is really concerned and aware about their future financial status or investments. This research tries to find out above questions by examining the awareness level of college students towards investment. For the study purpose the primary data is collected through well-structured questionnaire, and the samples chosen are the students of different stream from the age group of 16 to 28 years old wherein 150 Students filled the questionnaire. The objective of this is to examine the relationship awareness and knowledge level of the participant related to investments. Chi Square test is applied to test the hypothesis with the help of SPSS. The study suggests that there are association between gender and the investment awareness regarding Investment avenues, Investments as an important factor for secured future and Tax incentives influences investment decisions were found from the study.

Keywords: Awareness, Financial Literacy, Investment, College Students

Introduction

Financial literacy is measured a significant assistant for the promotion of financial inclusions and eventually financial solidity. College students learn not only the subject but also things which are needed for the survival of the better life. To run their life in a better and prosperous way they should possess knowledge about the management of finance. Financial literacy is useful to the students to program their day-to-day expenses, plan to save their excess

pocket money, will be able to avail loan and timely repayment of their educational loans and giving complete bases for tomorrow's investment pattern. With the ever increasing cost of education it put college education students in unwarrantable fiscal situations. Most students can't open a savings account which is meant for tuition fees, books and other educational expenses. Because many of them are unaware of financial management, many of the college going students are in dilemma about how they are going to support themselves and their families while taking admission in higher education. Government and the commercial banks are providing financial backing to the students for successfully complete the education. Even after completing the education, most of the students are facing several unique financial problems due to lack of financial knowledge.

The importance of savings in the development of a nation is well known as it is the main determinant of investment, which again is widely acknowledged as the primary engine of economic growth.

Evidence shows that financial behavior is formed around the age of seven suggesting that financial education should start young. Children must be taught to spend wisely and to save judiciously, as these habits or their behavior with money will most likely influence their financial behavior when grow up. Therefore, future of financial inclusion lies in the hands of children and youth. The prominence of financial literacy has been arising with the deregulation of the financial markets and the at ease entrance to credit as financial institutions contend powerfully with each other for market share, the quick progress in development and marketing of financial products, and the government's reinforcement for people to take supplementary accountability for their retirement incomes (Beal & Delpachitra, 2003). In addition, financial literacy can avoid the university students involved in widespread debt exclusively credit card debt

Literature Review

- **Joyce K.H. Nga, Lisa H.L. Yong, Rathakrishnan D. Sellappan, (2010)** a survey was conducted wherein survey method was carried on by collecting sample and in total 280 students were surveyed at some private higher education institution in Subang Jaya, Malaysia. The survey also establishes valid and reliable scales for universal financial awareness and financial product sentience. Multivariate analysis of covariance were applied for testing the hypothesis. The conclusions of the study discovered that the level of education majorly influences the awareness level of financial product among

students. In comparison to females, males were more aware and have more knowledge about of financial products.

- **Michael (2009)** contends that if there is no or lack of financial literacy it might obstruct the capability of individuals to make well-informed financial decisions. For people who are unable to make financial decision or incapable of taking financial decisions, for them financial advice has the prospective to aid as an auxiliary for financial knowledge and ability.
- **Sages and Grable, (2009)** in their study establish that those who are no ready to take financial risk or has low tolerance level are the people that are least capable in terms of financial matters. Also they have the lowermost distinctive evaluation of net worth and are less gratified with their financial management abilities. The study also discovered that the level of financial risk acceptance of the individuals concludes their financial behaviour.
- **Anshika & Singla, (2017)** asserted that lower level of investment awareness or financial literacy India is a major obstacle in the path financial inclusion and will further hamper the path of economic growth of Indian economy. To advance financial literacy, they recommended that additional capital infusion is desirable to conduct workshops, Seminars at the schools, colleges, workplaces and residential areas. Minor events on training implications of the investment opportunities should be organised at numerous schools, colleges, offices etc. to upsurge real-world information of the finance in day to day life.
- **Aggarwal & Gupta, (2014)** evaluated the influence of demographic factors like gender and education level have an impact on financial awareness. On the basis of their survey on 148 students, they tried to find whether having a commerce degree promotes financial awareness among college students. It was found that the level of education and discipline had positive impact on financial literacy.

Need of the Study

The prime aim of the study is to find out the Investment awareness/financial literacy level among the college students. Only a few studies were conducted in India as the concept is relatively new, therefore, an endeavor has been made to study the level of financial literacy of college students. One of the study found that those who are financially literate when young will

more likely takes steps later in life to build wealth. The present study will help in determination of critical areas that will assist educators, regulators and financial institutions to design financial planning courses with better significance in serving adults to accomplish better financial freedom and be well equipped for retirement

Research Design

A. Objectives of the Study

- i. To measure investment awareness/financial literacy level among college students.
- ii. To appraise the effect of factors like gender on the level of financial literacy
- i. To offer suggestions and findings of the study

B. Hypothesis of the Study

1. here is no association between gender and Investment awareness level of college students

C. Research Methodology

Research methodology is the systematic approach to finding solution to the research problem. The data have been collected through both primary and secondary data. The sources of primary data have been collected through well-structured questionnaire, which is filled by 150 sample respondents from colleges of Mumbai City. And secondary data are collected from various journals and books.

➤ Research design - Descriptive
➤ Sampling method – Convenience sampling
➤ Sample size -150
➤ Tool used (MS-Excel & SPSS)
• Data collection tool - Questionnaire
• Data analysis tool - Frequency & Percentage analysis
• Data presentation tool - Table
• Hypothesis testing –Chi-Square Test

1. Data Analysis & Interpretation

Following is the frequency analysis and graphical representation of surveyed data.

Frequencies Analysis

Table 1: Age of the students				
	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	16-17	8	5.3	5.3	5.3
	18-20	98	65.3	65.3	70.7
	21-24	40	26.7	26.7	97.3
	25-28	4	2.7	2.7	100.0
	Total	150	100.0	100.0	

In total 150 students were surveyed, 8 students were between age group of 16-17 which is 5.3 % of the total, 98 students between 18-20 years of age which is 65.3 % of the total, 40 students were between age group of 21-24 which is 26.7% of the total and only 4 students were between age group of 25-28 which is 2.7% of the total percentage

Table 2: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	101	67.3	67.3	67.3
	Female	49	32.7	32.7	100.0
	Total	150	100.0	100.0	

Out of the total participant, 67.3 % were Male and 32.7 % Female

Table 3: Educational Qualification (Stream)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Arts	6	4.0	4.0	4.0
	Commerce/Management	131	87.3	87.3	91.3
	Science	13	8.7	8.7	100.0
	Total	150	100.0	100.0	

4 % of the participant were from Arts stream, 87.3 % from the Commerce/Management stream and 8.7 % students from Science stream.

Testing of Hypothesis

1. There is no association between gender and Investment awareness level of college students

A reliability analysis was carried out on the perceived task values scale comprising 12 items. Cronbach's alpha showed the questionnaire to reach acceptable reliability, $\alpha = 0.881$.

Reliability Statistics	
Cronbach's Alpha	N of Items
.881	12

A Likert-type scale undertakes that the forte/intensity of experience is linear, i.e. on a continuum from strongly agree to strongly disagree, and makes the assumption that attitudes can be measured.

Questionnaire were asked regarding awareness level of students in terms of Investment avenue, financial Planning, risk involved, tax advantages of investment, types of investment avenue available, positive and negative effects of investments, sources of information available for investment and political and social situations affecting investment decision. To determine whether any of the differences between the means are statistically significant, compare the p-value to your significance level to assess the null hypothesis.

Testing of hypothesis:

Table 4: Your awareness regarding Investments [I am fully aware of investments avenues]

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.507 ^a	4	.000
Likelihood Ratio	25.738	4	.000
Linear-by-Linear Association	11.933	1	.001
N of Valid Cases	150		
a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 3.92.			
Interpretation: Since the P-value (0.000) is less than the significance level (0.05), we cannot accept the null hypothesis . Thus, we conclude that there is a relationship between gender and awareness regarding Investment Avenues.			

Table 5: Your awareness regarding Investments [I am aware that investments is important for secured future]

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.939 ^a	4	.043
Likelihood Ratio	13.183	4	.010
Linear-by-Linear Association	5.281	1	.022
N of Valid Cases	150		
a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is 1.31.			
Interpretation: Since the P-value (0.043) is less than the significance level (0.05), we cannot accept the null hypothesis . Thus, we conclude that there is a relationship between gender and awareness regarding Investment is important for secured future			

Table 6: Your awareness regarding Investments [I am aware that investments are good for financial planning]**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.451 ^a	4	.244
Likelihood Ratio	5.290	4	.259
Linear-by-Linear Association	2.228	1	.136
N of Valid Cases	150		

a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is 1.96.

Interpretation: Since the P-value (0.244) is more than the significance level (0.05), we **accept the null hypothesis**. Thus, we conclude that there is **no relationship** between gender and awareness regarding Investment are good for financial planning

Table 7: Your awareness regarding Investments [I am aware that investment can give more income and stability]**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.203 ^a	4	.878
Likelihood Ratio	1.179	4	.882
Linear-by-Linear Association	.401	1	.527
N of Valid Cases	150		

a. 5 cells (50.0%) have expected count less than 5. The minimum expected count is 1.31.

Interpretation: Since the P-value (0.878) is more than the significance level (0.05), we **accept the null hypothesis**. Thus, we conclude that there is **no relationship** between gender and awareness regarding Investment are good for financial planning

Table 8: Your awareness regarding Investments [I am aware that investment has high risk]**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.491 ^a	4	.240
Likelihood Ratio	7.509	4	.111
Linear-by-Linear Association	2.804	1	.094
N of Valid Cases	150		

a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is 1.96.

Interpretation: Since the P-value (0.240) is more than the significance level (0.05), we **accept**

the null hypothesis. Thus, we conclude that there is **no relationship** between gender and awareness regarding Investment are good for financial planning

Table 9: Your awareness regarding Investments [I know exactly how and where to invest]
Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.490 ^a	4	.112
Likelihood Ratio	11.119	4	.025
Linear-by-Linear Association	2.598	1	.107
N of Valid Cases	150		

a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is 1.31.

Interpretation: Since the P-value (0.112) is more than the significance level (0.05), we **accept the null hypothesis**. Thus, we conclude that there is **no relationship** between gender and awareness regarding Investment are good for financial planning

Table 10: Your awareness regarding Investments [I know the type of investment avenues available]
Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.110 ^a	4	.540
Likelihood Ratio	3.308	4	.508
Linear-by-Linear Association	.184	1	.668
N of Valid Cases	150		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 1.31.

Interpretation: Since the P-value (0.540) is more than the significance level (0.05), we **accept the null hypothesis**. Thus, we conclude that there is **no relationship** between gender and awareness regarding Investment are good for financial planning

Table 11: Your awareness regarding Investments [I know investment has both positive and negative effects]
Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.652 ^a	4	.799
Likelihood Ratio	1.601	4	.809
Linear-by-Linear Association	.228	1	.633
N of Valid Cases	150		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 2.61.

Since the P-value (0.799) is more than the significance level (0.05), we **accept the null hypothesis**. Thus, we conclude that there is **no relationship** between gender and awareness regarding Investment are good for financial planning

Table 12: Your awareness regarding Investments [I know the concept of investments]
Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.287 ^a	4	.259
Likelihood Ratio	5.225	4	.265
Linear-by-Linear Association	1.864	1	.172
N of Valid Cases	150		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.23.

Interpretation: Since the P-value (0.259) is more than the significance level (0.05), we **accept the null hypothesis**. Thus, we conclude that there is **no relationship** between gender and awareness regarding Investment are good for financial planning

Table 13: Your awareness regarding Investments [I know where to get the information regarding investment]
Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.376 ^a	4	.358
Likelihood Ratio	4.583	4	.333
Linear-by-Linear Association	.001	1	.975
N of Valid Cases	150		

a. 1 cells (10.0%) have expected count less than 5. The minimum expected count is 3.92.

Interpretation: Since the P-value (0.358) is more than the significance level (0.05), we **accept the null hypothesis**. Thus, we conclude that there is **no relationship** between gender and awareness regarding Investment are good for financial planning

Table 14: Your awareness regarding Investments [Political and social situation in the country will affect the investment]
Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.997 ^a	4	.199
Likelihood Ratio	6.011	4	.198

Linear-by-Linear Association	1.025	1	.311
N of Valid Cases	150		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.19.			
Interpretation: Since the P-value (0.199) is more than the significance level (0.05), we accept the null hypothesis . Thus, we conclude that there is no relationship between gender and awareness regarding Investment are good for financial planning			

Table 15: Your awareness regarding Investments [Tax incentive influences the investment] Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.334 ^a	4	.004
Likelihood Ratio	15.367	4	.004
Linear-by-Linear Association	1.939	1	.164
N of Valid Cases	150		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.49.			
Interpretation: Since the P-value (0.000) is less than the significance level (0.05), we cannot accept the null hypothesis . Thus, we conclude that there is a relationship between gender and awareness regarding Tax Incentives influences investment decisions.			

Conclusion

Financial literacy or awareness of Investments plays a very imperative role in one's life for securing a balance and stable future. Five point likert scales were deployed to know the financial literacy among the college students in the city of Mumbai. From the study it can be determined that, Since the P-value (0.000) in case of Investment Avenues, (0.043) in case of Investments as an important factor for secured future & (0.004) Tax Incentives influences investment decisions is less than the significance level (0.05), we cannot accept the null hypothesis. Thus, we conclude that there is a relationship between gender and awareness regarding Investment. There is further scope for the prospective researcher in the similar field to conduct in depth analysis and inculcating more samples and /or a comparative study can be conducted to put more highlight on the area of research. More sample study might give different output. One of the limitation of the study is that it was carried in the city of Mumbai, different result could be obtained at some different city or in the rural area. Policy maker must device a policy wherein the knowledge of financial planning can be given from the early age or syllabus can be introduced from secondary level in these regards.

- 2. Acknowledgement : I really thankful to my colleague Mrs. Kiran Menghani (Assistant Professor) in assisting and providing value input in carrying out my research work**

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8. A Study on Awareness of Risk Perception of Individuals towards Various Investments Avenues

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Abstract

At present there are lot of investment opportunities are available. The investor can consider the rate of return and risk of the investment. The more return is expected from a high risk investment. The perception towards risk and risk taking ability of people is the important factor that influencing there investment decision. If some investors are prepared to take more risk. So the main aim of the study is to find out risk perception of investors towards various investment Avenues. For the study purpose the primary data is collected through well-structured questionnaire, and 70 samples were collected. The objective of this is to scrutinize the relationship demographic factors and awareness of Risk Perception of individuals towards various Investments Avenues. The study suggests that there are no association between the risk perception and demographic factors

Keywords: Awareness, Risk Perception, Investment

Introduction

Investment requires careful decision making as it is the allocation of money to different portfolios with the purpose of earning income or increase in capital investment. The impact of risk perception on the investment decisions of a well-prepared investor is a developing subject in the behavioral finance literature. Risk is a natural characteristics of any kinds of financial investments. It is the likelihood that the realistic return on any kind of investment might be less than the anticipated return. Risk perception is the conviction, whether sensible or illogical, which are held by an individual, group, or society nearly the coincidental of occurrence of a risk or about the magnitude, scale, and scheduling of its effects is a serious victory factor that endorses operational decision-making in risky circumstances complicating the analysis of financial risk is the fact that each and every investor has his own forbearance of risk and observation towards

risk. The investor's perception towards risk is a significant aspect that effects the decision making capability of investors. Investment decision usually means the decision made by investor as to where, when, how and how much funds will be invested on numerous possibilities of financial products/ instruments with the purpose of getting income or increase in value of capital appreciation. Here, the idea of investment decision is that or it can be defined as the decision taken by individual investors towards various avenues while investing. The investment decisions of investors could be predisposed by inevitable psychological and passionate factors. If we could be able to understand those factors well it will definitely assist the investors to take a suitable investment decision and also benefit them not to repeat their blunders in future in pulling out the finest financial investment avenues. Usually, the investors gauge the risk and return before investing into any kind of investment. The decision making capacity behavior of an investor is basically affected by investor's attitude towards risk. The particulars investors contemplate in a not the same way about their investment and show their capacity to make decisions in a different way at different levels of perception towards risk. Investors proceeds risks rendering to their thoughtfulness and perception which eventually affect their behavior towards risky investment decisions. The study is an endeavor made to observe the risk perception of individual investors

Literature Review

- Madhumarathi (1998) carried out a research to discover out the preferences of the investors and to know their perception about the risk in the Indian markets. Three different classes of investors had been recognized grounded on their risk perception specifically, those who are risk seekers, those who are risk bearers and those who are risk avoiders. The outcome designated that many of the investors were prejudiced by the operating performance of the companies. The risk perception were to a certain degree influenced the investment making decisions of the investors and the profit earned by investors.
- Swarup (2000) piloted a study on investor risk-return perceptions towards different investment opportunities available in the markets and established on this, the approaches that essential to be embraced by mutual funds to pierce the markets were debated
- A study of investor behavior was carried on investment avenues available in the market in Mumbai Fenil was commenced by Brahmabhatt, P.S Raghu Kumari, and Dr. Shamira Malekar. In this study which they have carried out and tried to find out the investor

behavior and their preferences towards the various investment options. The purposes for their study were to comprehend about numerous investment avenues accessible in the market, to know the planning of investors while making the investments decisions, & to observe the aspects that investors contemplate before investing. From the study it was exposed that people like to invest in stock market. The amount or percentage of income they make in a particular investment correlated to their annual income.

- A study on people's preference in investment behavior was made by N.Geetha & Dr M.Ramesh. The objectives were to analyse the factor that influence investment behavior of the people & to study the attitude of the respondents towards different investment choices. In this study they concluded that the respondents were medium aware of the available investment choices, but they were not aware of the stock market, equity & debentures. The study has been concluded that the income level of the respondents affects the portfolio of the respondents.
- N.Geetha & Dr M.Ramesh (2011) conducted a study to know the investors behaviour and preferences towards investments. The objects were to analyse the factor that were responsible or influence investment behavior of the investors & also to study the attitude of the respondents towards diverse investment varieties. From the study it was found out that the respondents were averagely conscious of the accessible investment choices, but they were completely unaware of the stock market, equity & debentures. There were correlation between the income level of the respondents and portfolio their portfolios.

Statement of the Problem

Risk is an intrinsic character of all categories of financial investments due to the unpredictability in the actual and expected returns on any given investment option. The risk perception of investors is an imperative aspect which will affect their investment decisions. The elements comprises of irregularity of returns, familiarity about the financial asset, coincidental for incurring loss, diversification of portfolios, and dependency on professional investment advice will certainly influence the choice of Investment Opportunity available in the market. This study is an endeavor to scrutinize risk perception of investors.

Research Design

D. Objectives of the Study

1. To measure awareness of individuals towards risk involvement in various Investments Avenues
2. To appraise the effect of factors like gender and education level on the level of awareness of individuals towards risk involvement in various Investments Avenues
3. To offer suggestions and findings of the study

E. Hypothesis of the Study

1. There is no association between gender and awareness of Risk Perception of individuals towards various Investments Avenues
2. There is no association between Income qualification and awareness of Risk Perception of individuals towards various Investments Avenues

F. Scope of the Study

Currently there are lots of investment avenues which are available to the investors. The investor can consider the rate of return and risk of the investment. The more return is expected from a high risk investment. The risk of an investment refers to the inconsistency of the rate of return. The risk taking capacity of people is the important factor that influencing there investment decision. The firm seeking to raise capital from the market cannot ignore the risk perception of investors because investor plays an important and valid role in the development of nation. Very little data is available about risk perception of investors in Mumbai City so this study is first of its kind aims to find out risk perception of investors in Mumbai City.

G. Research Methodology

Research methodology is the systematic approach to finding solution to the research problem. Under this study primary data is collected through questionnaire which is filled by seventy sample respondents. And secondary data are collected from various journals and books.

- **Research design** - Exploratory
- **Sampling method** – Convenience sampling
- **Sample size** -70
- **Tool used** (MS-Excel & SPSS)
- **Data collection tool**- Questionnaire
- **Data analysis tool**- Frequency & Percentage analysis

- **Data presentation tool-** Table
- **Hypothesis testing** –Chi-Square Test

3. Discussion and Data Analysis and Interpretation

Testing of Hypothesis

1. There is no association between gender, Income and awareness Risk Perception of individuals towards various Investments Avenues

	Significance based on Gender	Significance based on Income
Saving account have low risk	0.545	0.193
Fixed deposits Account have no risk as Effective regulation by the Reserve Bank of India (RBI) has ensured that your deposits are safe.	.004	0.034
Government bonds of financially stable countries are treated as risk-free bonds	.231	0.540
Equity investment have high degree of risk	.567	0.522
Bonds which are issued by the companies are riskier than government bonds	.163	0.278
Mutual funds that invest in stock market-related instruments cannot be termed risk-free or safe as investment in shares are fundamentally risky by nature	.114	0.364
Do Customary life insurance policies carry minimum investment risk and provide long-term insurance benefits.	.749	0.190
Do you think investment in Public Provident fund (PPF) is one of the safest and secure long-term investment avenue	.491	0.550
Investment in Company Fixed Deposits is highly risky	.928	0.237
Long term investment in real estate is a risky business.	.095	0.942
Post Office Savings Scheme s offer a riskless investment option	.945	0.536

The **Chi-square test** is intended to **test** how likely it is that an observed distribution is due to chance. It is correspondingly known as a "goodness of fit" statistic, since it measures how well the experimental dissemination of data fits with the distribution that is predictable if the variables are independent. In all tests of **significance**, if $p < 0.05$, we can say that there is a statistically **significant** relationship between the two variable. It can be observed the test analysis wherein there is no strong evidence of association between categorical variable therefore

alternate hypotheses is accepted. Except in the case of fixed deposits Account there is strong association gender, Income and Risk Perception of individuals towards several Investments Avenues wherein p value is 0.004 in case of gender and 0.034 in case of income, therefore null hypothesis is accepted.

Limitations of Study

- a. Survey is limited to very small sample size i.e. seventy only.
- b. Time restriction
- c. The correctness of responses based on the questionnaire may differ amongst respondents

Conclusion

The study is made to find out “awareness of Risk Perception of individuals towards innumerable Investments Avenues in Mumbai city”. The study reveals that the individuals are indifferent towards the risk involve in different kind of investment available in the market. As there was strong association was revealed from the study. It can be concluded that most of the respondent have no clue about the risk involved in particular investments, except in case of fixed deposits. The present study have only focused on the risk awareness of individuals, such study will help the policy makers to make changes in promotion strategies.so the present and the future generation become more aware , literate and will help them to take approximate financial decisions.

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9. Loan Schemes for Women Entrepreneurs

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Abstract

Women Entrepreneurs are present in multitude in the startup-up ecosystem. Women are stepping out of the comfort zones of their homes and joining the 'Entrepreneurship pool'. The chief aspect to jumpstart this entrepreneurial journey is capital. Various banks today are offering an array of specialized loans, specially designed for women entrepreneurs which comprise of highly flexible and uncomplicated terms and conditions pertaining to collateral security, interest rates, repayment options, simple procedures to name a few. The plethora of schemes for loans extended exclusively and tailor-made for women aims at promoting and simplifying the legalities and processing of loan application and sanctioning. Women have forayed into diverse sectors, creating work opportunities for many, serving the country and ensuring progress and development. Banks have realized the vast and often latent potential women possess, and are set in offering customized schemes, tailor-made to assist them augment their business. Their key objective was ensuring that lack of funds does not become an impediment in realizing and implementing their ideas.

The epoch customs and traditions of India worships female goddesses on one hand, and on the other, accepts female backwardness, skewed sex ratio, illiteracy, female infanticide, dowry deaths, family restrictions and various social issues continue to be our biggest challenge.

Keywords – Women, Loans, Banks, Schemes, Entrepreneurs

Introduction

Women Entrepreneurs are present in multitude in the startup-up ecosystem. Women are stepping out of the comfort zones of their homes and joining the 'Entrepreneurship pool'. The chief aspect to jumpstart this entrepreneurial journey is capital. Various banks today are offering an array of specialized loans, specially designed for women entrepreneurs which comprise of highly flexible and uncomplicated terms and conditions pertaining to collateral security, interest rates, repayment options, simple procedures to name a few. The plethora of schemes for loans

extended exclusively and tailor-made for women aims at promoting and simplifying the legalities and processing of loan application and sanctioning. Women have forayed into diverse sectors, creating work opportunities for many, serving the country and ensuring progress and development. Banks have realized the vast and often latent potential women possess, and are set in offering customized schemes, tailor-made to assist them augment their business. Their key objective was ensuring that lack of funds does not become an impediment in realizing and implementing their ideas.

The epoch customs and traditions of India worships female goddesses on one hand, and on the other, accepts female backwardness, skewed sex ratio, illiteracy, female infanticide, dowry deaths, family restrictions and various social issues continue to be our biggest challenge.

Popular schemes offered by Banks to women entrepreneurs

1. State Bank of Mysore's Annapurna Scheme

This scheme is offered for women entrepreneurs who are actively involved in setting up catering services. They specialize in selling freshly made, packed breakfast, meals and snacks. The loan amount can be utilized to meet the working capital requirements of the business which includes buying utensils, kitchen essentials like tools and equipment, raw material, gas connections, etc. Under this loan, a guarantor is required along with the assets of the business being pledged as collateral security. The maximum amount of loan granted is Rs 50,000 which can be repaid in monthly installments over a period of 36 months (3 years). The lender is exempt from paying the EMI for the first month. The interest rate is determined by the market rate.

2. SBI's Stree Shakti Package for Women Entrepreneurs

In this scheme, loan is offered to women-owned businesses that have 50% shareholdings/stake in a firm and participated in the State-run Entrepreneurship Development Programs (EDP). No security required option for loans of up to Rs 5 lakhs. A discounted rate of interest of 0.50% is given if the loan amount exceeds 2 lakhs. Maximum loan up to Rs 50 lakhs can be availed under this plan, with proportionate lower interest rates for higher loan amounts.

3. Bharatiya Mahila Bank's popular Shringaar and Annapurna Loan

This loan is given to promising and budding female entrepreneurs looking to setting novel and innovative ventures as well as for expansion of existing units and for meeting working capital requirements. MICRO loans, SME loans and loans against property are extended. Under this scheme, a maximum of 20 crores for manufacturing industries can be availed coupled with a

concessional interest rate. The Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE), offers loans without any collateral security for loans up to 1 crore. The Shringaar loan is pointed towards women interested in establishing beauty parlors while the Annapurna scheme is directed to women looking at establishing a catering business selling ready breakfast, lunch and snack packs. Concessional interest rate of 0.25%, a perfect combination of disbursement of working capital and long term loan, highly flexible repayment tenure lasting up to 7 years and zero collaterals for loans up to rupees 1 crore are some of its highlights.

4. Dena Banks Dena Shakti Scheme

Dena bank provides this scheme to those women entrepreneurs who require financial assistance, engaged in agriculture, allied activities, manufacturing, micro-credit, retail stores, education, housing or small enterprises. The interest rate is at a concessional amount, reduced by 0.25% for a maximum loan amount of Rs 20 lakhs for retail trade; education and housing and Rs 50,000 is granted under microcredit.

Dena Bank offers an exclusive scheme to aid female entrepreneurs, providing them sufficient financial help to build an enterprise. Loans can be availed as per RBI directions, with the amount varying according to the sector in which a woman wishes to establish a venture. This loan can be used for agriculture, MSMEs, education, housing and retail trade. Borrowers are also eligible for a special interest rate which is 0.25% lower than prevailing rates.

5. Punjab and Sind Banks Udyogini Scheme

Under this scheme offered by Punjab and Sind Bank, women entrepreneurs occupied in agriculture, retail and small business enterprises are given loans at flexi-terms accompanied with concessional interest rates. Women between the age group of 18-45 years receive the maximum amount of loan is 1 lakh. The family income is also considered and is set at Rs 45,000 per annum for SC/ST women.

6. Central Bank of India's Cent Kalyani Scheme

With the aim of supporting women entrepreneurs in starting a novel venture or expanding or modifying existing businesses, this scheme is offered by the Central Bank of India. The Cent Kalyani scheme is regarded as one of the premier loan option schemes for women looking for a business loan including overdraft facility, cash credit, and term loans at interest rates lower than the base rate to cater to varied requirements. Women associated with cottage industries, micro small and medium business, self-employed, agriculture and allied activities, retail, government

sponsored programs can avail this loan. Cent Kalyani requires no collateral security, no guarantor and no processing fee. A maximum amount of loan granted is Rs. 100 lakhs.

7. Punjab National Bank offers an array of schemes for women entrepreneurs, each one targeting an assortment of segments based on their unique needs

Mahila Samridhi Yojana – This scheme provides financial support to women who wish to establish beauty parlors, cyber cafes, photocopy stores, telephone booths, and boutiques.

Mahila Udyam Nidhi Scheme – This scheme reduces equity gap by assisting women entrepreneurs in setting innovative ventures in the small scale and cottage sector. Soft loans are extended to women who can repay it over 10 years. Under this scheme there are different loan schemes for beauty parlors, crèches, purchase of auto rickshaws, two-wheelers, cars, etc. The maximum of Rs 10 lakhs with interest rates lower than market rates is given.

Scheme for Crèches – This scheme provides financial assistance to women who want to set up crèches. The disbursed loan amount can be used to purchase resources and equipments and to meet recurring expenditure.

Mahila Sashaktikaran Abhiyan – Credit facility is extended to women who propose to institute small and micro enterprises in the non-farm sector by offering fee waivers and low interest rates. Kalyani Card Scheme – Loans for women engaged in agricultural, farm or non-farm activities at concessional interest rates is offered.

8. Government of India's Mudra Yojana Scheme

The Govt. of India for women launched this scheme with the objective of starting tiny new ventures like beauty parlors, tailoring units, tuition centers, and boutiques for individual as well as group entrepreneurs. Loans are extended without any collateral security and can be availed under 3 schemes –

a. Shishu Scheme where businesses that are in their preliminary stages of growth are given loans up to 50,000

b. Kishor Scheme where loan ranges from 50,000 and 5 lakhs and can be availed by well-established enterprise.

c. Tarun Scheme where the loan amount is 10 lakhs and can be availed by those businesses that are well established but require further funds for the purpose of expansion. If the loan is granted, a Mudra card will be given which functions the same way as a credit card however the funds available are limited to 10% of the loan amount granted.

9. Oriental Bank of Commerce special Orient Mahila Vikas Yojana Scheme for women

Oriental Bank of Commerce provides this scheme to women who hold 51% share capital either individually or jointly in any proprietary concern like saloons, boutiques, tailoring centers and beauty parlours. Collateral security is not required for loans from 10 lakhs to 25 lakhs for small-scale industries and the repayment period is 7 years at a concessional interest rate of 2%. Women have taken this opportunity in successfully establishing a strong entrepreneurial base spanning across villages, towns and cities.

10. Bank of Barodas Akshaya Mahila Athik Sahay Yojna (AMASY)

Bank of Baroda offers the Akshaya Mahila Athik Sahay Yojna (AMASY), designed to help women entrepreneurs reach their business dreams without having to worry about finances. This loan can be availed by women interested in setting up retail trade, cottage industries and associated agricultural activities.

Conclusion

Women empowerment has become pivot to the development and economic independence of women. Women's economic empowerment through the bank schemes has gone a long way in ensuring that women enjoy their rights and to benefit from resources, assets and income in their own time, without having to depend on others thus improving their economic status and overall well being. They should be capable of managing risks and uncertainties and be a pillar for their families in adversity.

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<https://www.quora.com/What-are-loan-schemes-in-India-for-women-to-start-their-business>

10. Challenges of HRM in Emerging Economies-India

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Introduction

Over numerous hundreds of years India has retained administrative thoughts and practices from around the globe. Early records of exchange, from 4500 B.C. to 300 B.C., show universal financial and political connections, yet additionally the thoughts of social and open organization. The world's first administration book, titled 'Arthashastra', composed three thousand years previously Christ, arranged numerous parts of human asset rehearses in Ancient India. This treatise introduced ideas of the money related organization of the state, core values for exchange and trade, just as the administration of individuals.

Presently days the HR director face numerous troubles in dealing with the work drive because of decent variety in work constrain, globalization, political impedance, changing need and desire for the representatives and so forth. So as to satisfy the hierarchical goal the HR personals need to think about every one of the marvels.

The quickly changing business scene implies that there are presently numerous human asset the board difficulties which will keep on developing for quite a long time to come. Tom Marsden, Director of Professional Services at Alexander Mann Solutions says that HR offices truly should increase the value of their associations. "Despite the fact that the limitations of the retreat aren't finished yet, organizations are perceiving that in 2010, they should find a way to hold their workforce. This could be through an expanded accentuation on preparing and commitment programs or by putting resources into zones that will enhance use, for example, incorporated innovation frameworks or improved applicant fascination plans. The signs are that HR offices are getting ready to expand their assets and staff as associations hope to develop."

Globalization is having both positive and negative effect on the work arrangements in India. Because of globalization the remote organizations came in India with much expert methodology than we were following in our nation. Because of globalization the quality

necessity of the work is changed, interest for talented, prepared, instructed and aggressive work is more than the individuals who are not gifted.

Workforce decent variety is additionally a noteworthy test before the HR experts. People groups from various instructive foundation, diverse locales, distinctive rank, race religion and family status is influencing the HR rehearses in India.

Objective of study

- To understand the new challenges and perspective in the field of human resource management in India.
- To analyze the impact of globalization on HR practices in India.
- To evaluate the changing HR environment in post reform period.

Significance of Study

The descriptive paper aims to study the changing practices of the human resource management in current period and impact of the global companies and environment. How the current market situation and environment affect the HR practices in India.

• Method of data collection

This paper is based entirely on the secondary data. Data collected from the journals, web, books and magazines are used to conduct the study. There is no empirical touch to this paper.

Challenges in front of Indian HR managers

Change Management

Adopting a change is a big problem in front of the employees especially when the change is not in the interest of the employees. But if any organization which wants to acquire a reputation and the profitability in short and long run both as well as want to retain their customer the change is advisable. This is typically not a attentiveness for hour skilled coaching and development, change management represents a particular challenge for personnel management. "This may be the rationale why it's cited because the foremost issue as hour continues to try to assist businesses move forward. An intense concentrate on coaching could also be required to develop additional competencies to traumatize modification management."

Leadership Development

As the second of the greatest difficulties for human asset the board, authority advancement should be a basic vital activity. Initiative is the demonstration of affecting individuals to get the ideal strategy. The earth of business is ceaselessly changing and the initiative style is likewise should be change. HR experts are looked with being relied upon to give the fundamental structures, procedures, apparatuses, and perspectives to make the best determination and build up the future heads of the association. All around the world administration improvement has been recognized as a critical vital activity in guaranteeing that the correct representatives are held, that the way of life of the association bolsters execution from inside to pick up market position, and that supervisors are prepared to go up against influential positions of things to come so the association is feasible in the long haul.

HR Effectiveness Measurement

Now a day the new phenomena is finding the effectiveness of the workforce for this one can use techniques like human resource accounting, performance appraisals etc. with many other areas of business, this profession additionally has to be ready to live ends up in terms of dealings management, as well as in terms of the positive influence on business. Utilizing metrics to work out effectiveness is that the starting of a shift from perceiving hour's role as strictly Associate in Nursing body operate to viewing the HR team as a real strategic partner within the organization

This world federation additionally notes that, "Where HR departments have traditionally focused on measuring their own effectiveness; there is an evolving recognition that they can provide organizational value by measuring the effectiveness of the entire business organization. The shift is significant as it represents movement from simply counting the numbers hired to determining the ROI of collective and individual hires on a long-term basis. Going on the far side measurement turnover, this new approach considers 'bad' turnover and 'good' turnover in conjunction with the general value of replacement hires."

- **Learning and development**

The HR supervisors are no n the days the innovative condition is ceaselessly changing so as to perform at standard with the worldwide organizations the HR of the association ought to be persistently refreshing their insight. HRD director will have a urgent job today in adequately dealing with a business, He is the person who needs to design the labor needs of his association

and address such issues. He should keep the worker confidence and inspiration levels high by coordinating the authoritative needs and the individual needs of the association's very own kin. Consequently, it is he who is basically dependable to set up and keep up an energetic association.

Opportunities

Diversity Recruitment

With the ascent of globalization, organizations of all sizes are presently connecting with clients and partners from differing societies, dialects and social foundations. Accordingly, numerous HR directors try to contract representatives from similarly different foundations. Organizations participating in this decent variety enlistment perceive the benefit of having individuals on staff that their clients can identify with, and they realize that having a group of various individuals adds to the scope of thoughts and impacts inside the association.

Training and development

There is likewise a need to ceaselessly prepare and build up the workforce to accomplish upper hand. Preparing will guarantee that the representatives build up the correct aptitudes, demeanors and information that will empower them to play out their occupations viably and proficiently. Zambia needs to put a great deal in instruction and preparing. We need to draw exercises from the achievement of Japan and Germany, which have depended such a great amount on the advancement of the abilities, aptitudes and endeavors of their kin.

Employee participation

As a result of changing administration style now the representatives are getting appropriate an incentive in the association by taking an interest in the basic leadership process. Representative interest will in general upgrade the worker's commitment. There are different strategies for representative association, e.g., joint interview, quality circles, and recommendation plans. Japan is again referred to for instance as far as representative support rehearses. The most copied systems have been quality circles.

Conclusion

In spite of much negative viewpoint the changing condition is recipient for the human asset advancement in current period. The representatives are investment in the basic leadership will give chance to works empowers them to secure their rights. Preparing and advancement process increment the productivity of the work constrain. The administration likewise passed a few Acts with respect to secure the enthusiasm of the human asset in India.

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11. Emerging Trends in Communication

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Abstract

Communication technologies have been at the forefront of all major technological advancements since time immemorial. Most notably, over the last two decades we have made major leaps from writing letters, and telegrams, to emailing and video calling for communication. Today, it seems that there is an abundance of technology and hence in this research paper we focus on what are the major emerging trends in communication. This paper shall explore Internet of Things (IoT), RF Communication, 5G, Cloud Services, Augmented and Virtual Reality, WebRTC, and Artificial Intelligence. The exponential adoption and ever increasing use of the Internet across the globe, shall not only pose a challenge to existing technologies but shall rely more on technologies enabling the Internet to solve these new problems. As we researchers scurry to address this conundrum, it is important we understand the emerging trends to produce impactful research publications keeping up with the times. The paper focuses on exploring the emerging trends with the objective of introducing them to both researchers and practitioners to review not only the diverse range of features the technology promises but also question its security, privacy, trust, and reliability.

Keywords: IoT, Trends, communication, RF, Wireless.

Related Work

The previous works have all been focused on specific area and are too narrow, and to the best of our knowledge this is the first research paper that introduces a broad range of technologies with potential for interdisciplinary applications.

Hasan[Hasan, 2014] in the book emerging trends in communication networks, focuses exclusively on the then emerging networks, and does not discuss on the potential applications in detail. The book is intended as a primer on various communication technologies backend networks. Similarly, You et. al[You et al., 2014] trends in mobile communication. The trends outlined in the paper have already been adopted and widely deployed as is the case with

802.11ac networks which makes use of Multiple input Multiple Output (MIMO) networks. The paper by Tuttle[Tuttle, 1997] is well outdated as today the use of RFID has surpassed even expected potential two decades back.

Hence, there is a need to identify the current trends in communication from a broader perspective as many technologies today are key enablers to interdisciplinary applications. There is not a better example of this than the emergence and the wide acceptance that Artificial Intelligence (AI) has seen over the past decade.

Internet of Things (IoT)

Internet of Things (IoT) is a paradigm that refers to all things connected to the internet, wherein each of the connected devices can talk to each other by various underlying protocols. The core concept is that everyday objects can be equipped with identifying, sensing, networking and processing capabilities that will allow them to communicate with one another and with other devices and services over the Internet to achieve some useful objective[Whitmore et al., 2015].

Such a sensor network has potential applications in Healthcare, retail and supply chain logistics, and Smart Infrastructures which when widely deployed helps realize the dream of smart cities. For instance, with the help of sensors and actuators we can intelligently track the energy consumption in a building and regulate the same for power consumption. Similarly, traffic can be efficiently controlled and monitored by widely deploying the sensors across a city, thus reducing the effective wait times at the traffic lights and also the commute time.

However, these applications are not without their challenges. IoT applications communicate with one other over sensor networks that are typically low powered, and thus end to end state of the art encryption technology implementations are not possible. This seriously limits applications which require transmission of sensitive data. Without an effective identity management component, data over the network can be exploited for malicious uses. This is an active area of research, and requires us to come with new peer-reviewed encryption algorithms that guarantees the anonymity of the data sent over the network.

RF Communication

Recently, there is a great interest in the wireless community to explore the efficient use of the unregulated electromagnetic radiation spectrum. RF signals offer a major advantage that it can travel through walls and even their absorption by the human bodies can help us realize various applications.

WiSh[Jin et al., 2018] is a solution that makes ordinary surfaces shape-aware, relaying their real-time geometry directly to a user's handheld device. The system uses RFID tags to achieve this. WiSh's core algorithm infers the shape of ordinary surfaces using the wireless channels of signals reflected off RFID tags received at a single-antenna RFID reader. The technology can help realize smart fabrics which are touch sensitive and also responds to users posture. This is very useful in physical therapy.

RF-iDraw[Wang et al., 2014] is yet another application of RF signals with huge promises. The proposed system can accurately track and localize an objects trajectory with impressive accuracy. The paper also demonstrates the effectiveness of the system in detecting the hand-writings in the air and also virtual touch screen, which allows a user to interact with a desired computing device by gesturing or writing her commands in the air.

These are a few of the recent systems that have been developed by the researchers using RF signals. However, all these systems are limited from a security perspective. These systems are vulnerable as anyone with readers designed to spec can track people's movement and listen in on secure transmissions. There is still work to be done with secure RF transmissions.

5G

After 4G and LTE, 5G is the next generation of mobile internet connectivity. 5G promises speed of over 100 Mbps. With such high speeds, users can simultaneously stream digital content with very high quality and also use other applications without sacrificing quality for performance. Using new 5G air interface and spectrum together with LTE and WiFi we can provide universal high-rate coverage and a seamless user experience. 5G is again interesting as we consider its potential along with millimeter wave spectrum. This spectrum is heavily underutilized and if used properly can help overcome the bandwidth shortage faced by mobile carriers. Concerning mmWave propagation for 5G[Andrews et al., 2014] the major issues of pathloss and propagation issues can be overcome given semiconductors are maturing, their costs and power consumption rapidly falling.

This exciting new technology has its own challenges, as design of hardware for 5G systems is yet more complex. Addition of more frequency bands increases the complexity of device manufacturing. 5G also has more complex MIMO requirements to increase the antennas at the base transmitting station and the user's equipment to maximize the data transfer by simultaneously sending and receiving. To overcome the limitations of high frequency radio

waves of pathloss and signal propagation, 5G works on beamforming where it focuses its beams in a particular direction. This requires more power than traditional base stations that transmit over a wider range. Hence, it leads to increased power consumption on both the user's equipment and the base station. These challenges are the current focus of research in this field, and it requires more work to be done. Specifically, beamforming is an area that has piqued the interest of researchers across the globe as it offers tremendous potential and can dramatically change how our current systems interact wirelessly.

Cloud Services

The way we communicate within our businesses and throughout our workdays has been forever changed by technology[Remo, 2018]. The advent of cloud computing, has paved the way for better collaboration, more effective processes, greater efficiencies, and streamlined business practices. Cloud computing has offered flexibility in terms of workability by enabling easier video conferencing, document sharing, messaging platforms, and online collaboration.

The major advantage of cloud computing over traditional desktops and servers is the indestructibility and redundancy that it offers. As the data over cloud is shared over multiple data-centers the data is immune to any potential natural disasters. The documents and data over cloud can be access restricted on individual and team basis, thus protecting it against unlawful access, in addition we can also track the miscreants easily if any attempt to deface or destroy the document was made.

With these advantages also come the challenge of cloud computing that if any hackers were to gain access to datacenter networks, they could track and destroy the documents from their homes. Earlier, we could unplug the machine off the internet to deny them access, but as the datacenter is always online, people with malicious intent can not only destroy the document but in some instance weaken the access restrictions thus exposing sensitive documents. Hence, privacy and security are a major concern in a cloud computing environment and is an area of active research with huge and promising rewards.

Augmented and Virtual Reality

The terms augmented and virtual reality may seem synonymous, but nothing can be farther from the truth. Virtual reality (VR) is an artificial, computer-generated simulation or recreation of a real life environment or situation. It immerses the user by making them feel like they are experiencing the simulated reality firsthand, primarily by stimulating their vision and

hearing. On the other hand, Augmented reality (AR) is a technology that layers computer-generated enhancements on top of an existing reality in order to make it more meaningful through the ability to interact with it. AR is developed into apps and used on mobile devices to blend digital components into the real world in such a way that they enhance one another [Aug, 2017].

The potential of both the technology is far reaching from offering entertainment to helping patients with PTSD (Post Traumatic Stress Disorder). Many applications these days offer AR to simulate gaming environments and also create fun applications. VR games are already a mainstream. As technological breakthroughs are made in AR and VR, it can offer new methods of communication where two people across the globe can interact with each other in a virtual space, and hence create shared experiences. Companies like Facebook are heavily betting on the potential of VR and AR systems and are funnelling millions of dollars to be the pioneers of next generation of communication technology. Other potential application of these systems are in access to just-in-time information, anytime, and anywhere; replacing manuals with VR instruction applications, generation of 3D avatars of ourselves so we can visualize our purchase before having to actually purchase it ourselves. Hence, the potential of these systems is tremendous.

The major challenges and the current direction of research in this field is developing new optic technologies that are not harmful to humans. While developing the AR and VR headsets, it is important to take into consideration various factors like the Field of View (FOV), Inter-pupillary distance (IPD), Eye relief, and the Eye box.

WebRTC

WebRTC (Web Real-Time Communication) is a free, open-source project that provides web browsers and mobile applications with real-time communication (RTC). It is a truly breakthrough concept that allows to run a video conference and to collaborate with people in the internet browser without installing any other program, special plugins, modules or accompanying programs. This takes away the user's need to install a specific application and hence anybody and everybody with access to the internet from any device can communicate to any other person. The applications of this technology once it matures is tremendous, as it would offer businesses and casual consumers alike a common access medium.

However, the technology in its current state is immature and is plagued by various limitations of bandwidth, latency, and browser compatibility. In addition, the resistance of big technological giants in adoption of WebRTC over their traditional products like Skype, Hangouts, and Facetime has significantly limited its adoption among the larger public.

Artificial Intelligence

Artificial intelligence (AI) includes learning (the acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction. AI has helped conceptualize that what we had earlier deemed impossible. AI systems can help improve the way we communicate, by transcending the limitations of language, gestures, and handicaps. Since the system can learn off of previous models and inputs, it helps us simulate not just the speaker but also the audience. This helps us improve by self-correcting and tuning.

The prime example of AI in communication is Google Buds, a device which offers real time translation of speech thus enabling two speakers of two different languages to effectively communicate with one another. This is a major leap in communication.

Other systems like emotion recognition[Zhao et al., 2016] can recognize emotions of people, this is again thanks to AI. Systems like these can help us communicate with babies and other people who might have been paralyzed. With the advent of AI such systems are no longer things out of a sci-fi movie, rather these are the systems currently being worked on by researchers in the field.

While the possibilities with AI seem limitless, there are questions that can be asked of it in terms of reliability. No matter how effective, since the AI systems depend heavily on learning, it is easy to corrupt the data with a new dataset that gives rise to adversarial network. In addition, it is also worth noting that since AI systems are dependant on learning, the resultant system might be biased to some degree to the input. In other words, if the system learns off of Person A, the device may not work as well for Person B as there might be inherent differences in the way both of them communicate. This is a well known problem in AI called, over-fitting. AI offers tremendous avenues for research and development as most applications and techniques are interdisciplinary in nature.

Discussion

The field of communication is poised to make further strides in technological advances and innovation. The paper has only briefly outlined few of the emerging trends, but it should be noted that as with any advancements as we make new breakthroughs we shall give birth to new fields that shall keep redefining the boundaries of impossibility. Communication is essential to all scientific breakthroughs and advancements hence there are more reasons to be optimistic about potential research in the field.

Conclusion

The paper discusses a few of the interesting, new, and emerging technologies in communication, along with their potential applications and challenges. The paper also provides the current direction of research in the field. While by no means is this an exhaustive coverage of all the existing technologies, these are the areas promising huge benefits and promising to shift the paradigm of communication over the next decade. It is really interesting how Artificial Intelligence has become a significant driver of innovation in every field and how communication was not immune to it either. However, one thing is certain, the Internet will continue to play an increasing role in communication.

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12. Goods and Service Tax

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Abstract

GST implies Goods and Service Tax and implementation of this form of tax will eliminate the present complicated tax on the tax system. It will also remove incompleteness of present CENVAT and state VAT and expects overall economic growth in India. GST is the biggest indirect tax in India. The basic idea for introducing GST is converting India into a single market. This might have positive impact on the GDP of India and will help to boost the Indian economy. According to various experts, by implementing the GST, India will gain 15 billion dollar a year. The huge turn around after New Industrial Policy 1991 is introduction of GST on 1st July 2017 (Saturday). GST is a tax levied only on the value added at each stage of supply chain comprising of manufacture, sale and consumption of taxable goods or services. The GST provides for a comprehensive and continuous chain of tax credits beginning from manufacture or production of goods or provision of service up to the retailer or consumer to ensure that

- a) There is no cascading effect by levying tax on tax at each stage, and
- b) The tax is levied only on the value added at each stage of supply

After several post amendment meetings among the states and the centre, four central GST legislation the Central Goods and Service Tax (CGST) Bill 2017, Integrated Goods and Service Tax (IGST) Bill 2017, Union Territory Goods and Service Tax (UTGST) Bill 2017 and Goods and service Tax (Compensation to States) Bill 2017 were introduced in the parliament on 27 March 2017 and promptly passed on 29 March 2017. The bills received the President's assent on 12 April 2017 resulting into enactment of the respective four acts. Finally, at a special session of the parliament at the stroke of midnight on 1st July 2017, India ruled out GST as its path breaking indirect tax reforms on the principal of one nation-one tax.

Indian GST with a Four- Tier GST tax structure of 5%, 12%, 18% and 28%, Zero rate and exempted supply coupled with different state and central levy- i.e CGST, SGST, UTGST, and IGST is one of the most complex and intricate tax regime in the world.

Indian GST is a unified tax model for the entire country. It subsumes multiple indirect taxes such as excise duty, service tax, VAT, CST, luxury tax, Entertainment tax, entry tax, etc under the common umbrella of GST. The GST regime professes to create a Pan-Indian common national market, facilitate Indian Businesses to become globally competitive by creating an efficient, corruption-free and transparent tax regime with minimum bureaucratic red-tape facilitating the ease of business and making inter-state movement of goods easier.

The principle objective of the GST is to reduce the complexities, remove the effect of cascading tax burden by introducing a new broad based tax regime which subsumes all the taxes levied on the sale of goods or provision of services by both the centre and the state and provide a larger pull for set off of taxes.

Key words:- GST, GDP, VAT, NIP 1991

Introduction

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Significance of GST

Goods and services tax means a tax on supply of goods or services, or both, except taxes on supply of alcoholic liquor used for human consumption (Article 366 (12A) of Constitution of India).

- Goods & Services Tax is a value added tax imposed on sale or service or both.
- GST is a destination oriented consumption tax.
- GST offers complete and continuous chain of tax credit.
- GST where burden borne by final consumer.
- GST removes cascading effect of taxation.
- GST brings consistent tax structure all over India.

As per Article 246A, the power to levy GST has been given to the Parliament as well as to Legislature of every State.

- a. CGST – enacted by Central Government of India.
- b. IGST – enacted by Central Government of India.
- c. SGST – enacted by respective State Governments
- d. UTGST – enacted by Central Government of India

Dual GST model

India has implemented a dual GST model where tax is imposed concurrently by the Central and States.

SGST	<ul style="list-style-type: none"> • State GST • Collected by the State Government
CGST	<ul style="list-style-type: none"> • Central GST • Collected by the Central Government
IGST	<ul style="list-style-type: none"> • Integrated GST • Collected by the Central Government on inter-state supply of Goods and Services

Literature Review

Goods & Services Tax Network

Goods and Services Tax Network (GSTN) is a non-profit, non-Government, private limited company. Technology backbone for GST in India. The GSTN software is developed by Infosys Technologies and the Information Technology network that provides the computing resources is maintained by the NIC.

GST Council

As per Article 279A of the Constitution of India, the President of India is empowered to constitute Goods and Services Tax Council. The President of India constituted the GST Council on 15th September, 2016. The GST Council shall consist of Union Finance Minister as a Chairperson, Union Minister of State in charge of Finance as a member, the State Finance Minister or State Revenue Minister or any other Minister nominated by each State as a member of the Council. The GST Council shall select one of them as Vice Chairperson of Council.

Functions of the GST Council

GST Council is to make recommendations to the Central Government and the State Governments on

- Tax rates,
- Exemptions,
- Threshold limits,
- Dispute resolution,
- GST legislation including rules and notifications etc.

Benefits of GST

- (a) One Nation One Tax.
- (b) Removal of bundled indirect taxes such as VAT, CST, Service tax, CAD, SAD, and Excise.
- (c) Removal of cascading effect of taxes i.e. removes tax on tax.
- (d) Increased ease of doing business;
- (e) Lower cost of production, increases demand will lead to increase supply. Hence, this will ultimately lead to rise in the production of goods. Resultantly boost to make in India initiative.

- (f) It will boost export and manufacturing activity, generate more employment and thus increase GDP with gainful employment leading to substantive economic growth;

Objectives of the Study

1. To regulate the unorganised sector in the economy
2. Awareness about GST to all the stakeholders
3. To bring transparency and accountability in business transaction
4. Sharing tax revenue between State Government and Central Government

Research Methodology

The researcher has made use of secondary data, the reason being to examine the complex subject in detail.

Taxable Event in GST

Taxable event under GST law is supply of goods or services or both. It means no supply no GST. The term, “supply” has been inclusively defined in the Act. The meaning and scope of supply under GST can be understood in terms of following six parameters, which can be adopted to characterize a transaction as supply:

1. Supply of goods or services. Supply of anything other than goods or services does not attract GST.
2. Supply should be made for a consideration.
3. Supply should be made in the course or furtherance of business.
4. Supply should be made by a taxable person.
5. Supply should be a taxable supply.
6. Supply should be made within the taxable territory

Exceptions

- (1) Any transaction involving supply of goods or services without consideration is not a supply, barring few exceptions, in which a transaction is deemed to be a supply even without consideration.
- (2) Further, import of services for a consideration, whether or not in the course or furtherance of business is treated as supply.

Composition Scheme Under GST

In GST regime, tax (i.e. CGST, SGST\ UTGST for intrastate supplies and IGST for interstate supplies) is payable by every taxable person and in this regard provision have been prescribed in the law however, for providing relief to small businesses making intra state supplies, a simpler method of paying tax and accounting thereof is also prescribed, known as compensation levy.

GST Rates

GST has been structured in a way that essential services and food items are placed in the lower tax brackets, while luxury services and products have been placed in the higher tax bracket.

Exempted GST Rate Slab (No Tax)

7% goods and services fall under this category. Some of these that are of regular consumption include fresh fruits and vegetables, milk, butter milk, curd, natural honey, flour, besan, bread, all kinds of salt, jaggery, hulled cereal grains, fresh meat, fish, chicken, eggs, along with bindi, sindoor, kajal, bangles, drawing and coloring books, stamps, judicial papers, printed books, newspapers, jute and handloom, hotels and lodges with tariff below INR 1000 and so on.

5% GST Rate Slab

14% goods and services fall under this category. Some of these include apparel below INR 1000 and footwear below INR 500, packaged food items, cream, skimmed milk powder, branded paneer, frozen vegetables, coffee, tea, spices, pizza bread, rusk, sabudana, cashew nut, cashew nut in shell, raisin, ice, fish fillet, kerosene, coal, medicine, agarbatti (incense sticks), postage or revenue stamps, fertilizers, rail and economy class air tickets, small restaurants, and so on.

12% GST Rate Slab

Edibles like frozen meat products, butter, cheese, ghee, dry fruits in packaged form, animal fat, sausages, fruit juices, namkeen, ketchup & sauces, ayurvedic medicines, all diagnostic kits and reagents, cellphones, spoons, forks, tooth powder, umbrella, sewing machine, spectacles, indoor games like playing cards, chess board, carom board, ludo, apparels above INR 1000, non-AC restaurants, business class air ticket, state-run lottery, work contracts and so on attract a 12% GST. 17% of goods and services fall under this category.

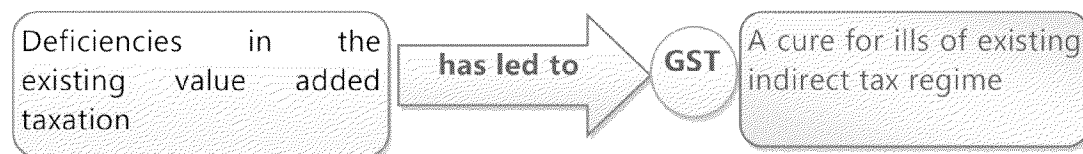
18% GST Rate Slab

43% of goods and services fall under this category. Pasta, biscuits, cornflakes, pastries and cakes, preserved vegetables, jams, soups, ice cream, mayonnaise, mixed condiments and seasonings, mineral water, footwear costing more than INR 500, camera, speakers, monitors, printers, electrical transformer, optical fiber, tissues, sanitary napkins, notebooks, steel products, headgear and its parts, aluminum foil, bamboo furniture, AC restaurants that serve liquor, restaurants in five-star and luxury hotels, telecom services, IT services, branded garments and financial services and so on attract an 18% GST.

28% GST Rate Slab

19% of goods and services fall under this category. The rest of edibles like chewing gum, bidi, molasses, chocolate not containing cocoa, waffles and wafers coated with chocolate, pan masala, aerated water, personal care items like deodorants, shaving creams, after shave, hair shampoo, dye, sunscreen, paint, water heater, dishwasher, weighing machine, washing machine, vacuum cleaner, automobiles, motorcycles, 5-star hotel stays, race club betting, private lottery and movie tickets above INR 100 etc. have been clubbed together under the 28% GST slab.

This is aside the tax on gold that is kept at 3% and rough precious and semi-precious stones that are placed at a special rate of 0.25% under GST.

NEED FOR GST IN INDIA**Exemptions from GST**

As per Section 11 of the CGST Act, 2017 and Section 6 of the IGST provides power to Central Government of India to exempt on recommendation of the GST Council either absolutely or subject to such condition, as may be specified goods or services of specified description from the whole or any part of the tax leviable thereon.

Exempt Supply: As per Section 2(47) of CGST Act, 2017 “exempt supply” means supply of any goods or services or both which attracts nil rate of tax or which may be wholly exempt from tax under section 11, or under section 6 of the Integrated Goods and Services Tax Act, and includes non-taxable supply; Exempt supply includes the supply of following type of goods and services:

- (a) Supply attracting nil rate of tax;
- (b) Supplies wholly exempt from tax;
- (c) Non-taxable supply;

Special Category States under GST

As per Explanation (3) of Section 22 of CGST act 2017, "special category States" shall mean the States as specified in sub-clause (g) of clause (4) of article 279A of the Constitution.

List of which is as follows: –

1. Arunachal Pradesh
2. Assam
3. Jammu & Kashmir
4. Manipur
5. Meghalaya
6. Mizoram
7. Nagaland
8. Sikkim
9. Tripura
10. Himachal Pradesh
11. Uttarakhand

Persons Not Liable For Registration

Sec 23(1)(a): Any person engaged exclusively in the business of supplying of goods or services or both they are not liable to tax or wholly exempt from tax under CGST or IGST.

(ii) **Sec 23(1)(b):** An agriculturist, to the extent of supply of produce out of cultivation of land.

(iii) **Sec. 23(2):** The Government may, on the recommendation of the GST Council.

Conclusion

Though GST has been adopted by various countries across the globe, the process of implementation varies from country to country. GST is one of big steps taken by government towards comprehensive indirect tax reform in India. Implementing GST brings consistency of taxes across the various states in India, irrespective of place of manufacture or distribution in India, which is better option when compared to previous tax laws like VAT and in terms of administration.

Finally, if GST is properly implemented with its tax exemptions in respect of certain goods like agricultural goods, it shall lead to rise in tax revenue for the government as the tax collection system becomes more transparent, making tax evasion problems disappear and leading to an overall economic growth of the country.

Source :- ICWAI reference material

ICAI .org.in

My Opinion

13. A Study on Factors Influencing Buying Behaviour of Consumers towards Particular brand of Shampoo

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Abstract

In the current global market, awareness about the brands among consumers play a conclusive role in the sales turnover of the company. India's FMCG sector is considered as the fourth largest sector in the economy providing employment to millions of people. Tough rivalry, low per capita consumption, low operating cost, and big distribution network are some of the characteristics of Indian FMCG industry. Main components of Indian FMCG industry are Household Care, Personal Care, and Food & Beverages. Shampoo market in India is in excess to Rs. 4000 Crore and the Indian hair care market is expected to register a CAGR of about 7.86% during 2018-2023 (the forecast period). Changing lifestyles and value systems across the society is contributing towards progress of shampoo market. Looking good and stylish, and image enhancement are some of the things attached to modern lifestyles and this is helping shampoo market to grow. The data is collected through primary and secondary sources. The results revealed that, based on gender there were association between few of the factors, in regard to herbal quality, stiffness of hair and dandruff removal

Key word: Shampoo, Consumers behaviour, FMGC

Introduction

The definitive intention of the marketing is selling. Marketing is demarcated as the managerial process through which products are harmonized with markets. The achievement of the business firms significantly depends upon how best they oblige and gratify their customers. Marketing comprises of dealing with goods and services. The goods produced or assimilated for business purpose possibly will be consumers' goods like soap, shampoo, hair oils and the like. The shampoo market in the today's global scenario is very prominent or competitive. This extensive competition outcomes in continuing variation and changes, the reason being huge sum

of investment is spent by companies in research and development. This accounts for changes in consumer behaviour. The companies, which tries to give more importance or preference for the likes and dislikes of customers only, will prosper. Consequently, if you are aware of your consumers' behaviour and what exactly is in the minds of customers is crucial to capture the market share

Consumer is the dominant point of all activities and the consumer buying behaviour varies from consumer to consumer. Consumer buying behaviour pacts with the attitude and perception of consumer. Consumers respond to the new and modern products introduced in this global era. The consumer purchasing behaviour is changed with the arrival of novel psyche changing life style, enhanced income and higher education level. A consumer purchasing behaviour is influenced by culture, social, personal and psychological factors. Consumer behaviour has been always of inordinate interest to marketers. Consumer behaviour towards FMCG products has received considerable attention from the researchers. Fast moving consumer goods [FMCG] are commonly named as consumer packaged goods. The fast moving consumer segment is the fourth biggest sector in the Indian economy. FMCG sector offers various types of product which includes soaps, shampoo and conditioner, instant hand sanitizer, after shave, shaving cream, oral care products, hair care products, baby care products, home cosmetic products and more on personal care product series for the use of consumer. Shampoo is chosen as the topic of this study because shampoo had turn out to be the part of our lives. Shampoo is used to eradicate oil, dirt and dandruff that build up in the hair.

Literature Review

- Dr Sharma, Mehta (2012) in given study revealed that consumers are more conscious towards their appearance. They found most of the consumers preferred sachet as compared to bottles.
- Anju Thapa (2013) she pointed out growing usage rate of shampoo & recurrent buying behaviour. She also pointed out numerous aspects that influence swapping behaviour of consumers such as packaging, price rise of current brand, influence of advertisement, to attempt new options influence by others etc.
- Ranganathan (2006) chairman and managing director, Cavinkare India (Pvt) Ltd, in his article pointed out in the last decade, increased competition has driven down margin for all the FMCG players. He further added that it is time for FMCG players to innovate

not just in products but in distribution, packaging, pricing, consumer promotion, communication and supply chain to gain a distinct advantage over competition and fuel their growth.

- Devendra Saraswat and Jithendra Saraswat (2011) examined the factors affecting the purchasing and brand loyalty of shampoo consumers. The primary data was collected from 200 respondents. The study reveals that the younger generation in rural areas is now spending more on personal care and grooming products. FMCG penetrates more and more beauty products in rural areas.
- V. P. T. Dhevika and O. T. V. Lata Sri (2014) conducted a study on 'Customer perceived value of shampoo in Tiruchirappalli, District' Found that customers are satisfied with the shampoo product and Quality is an significant part of the buying decision of consumers in shampoos
- Neeta Sharma and Sudharani (2014) in their article entitled 'Packaging and fast Moving Consumer Goods- with Special to Shampoos in Rural Perspectives'. Customer's perception and preference is the objectives of this study. Primary data collected through questionnaires with a sample size of 100 respondents. It concludes that consumer prefer to buy the shampoos in pouches than in bottles. Most of the consumer highly preferred the shampoos from Hindustan unilever limited and less preference to the brands of other shampoos.

Statement of the Problem

The topic deals with the study of factors that effects consumer choice for the particular brand of shampoo. The consumer preference differs from one brand to another brand based on quality, usage, price, perfumes and the like. The difficulties involved in the documentation of consumer's response which are numerous. Therefore, it is necessary to know the degree to which consumer preference diverges with income, age, gender, or other physiognomies induced the selection of this study

Significance of the Study

The study of consumer behaviour will be of immense use to retailers, distributors, marketers, manufacturers and consumers. It is indispensable for manufacturers and marketers to comprehend the consumer to stay alive and prosper in this competitive marketing environment. From this study, the manufacturers will understand the expectation of the women consumer and

manufacture their products accordingly. It becomes very essential to know what factors influencing the consumer towards a particular brand. Thus, this study helps retailers and distributors to get insights of the consumer behaviour, which will help them to tune their activities in fulfilling the needs of the consumer. Consumers are finding various problems in selecting their brand of shampoo, due to wide range of attributes and brands. The results of the study may be useful to the consumer to choose their shampoo brands

Research Design

Objectives of the Study

1. To study the buying behaviour of consumers.
2. To study factors that influence consumer behaviour towards the shampoo
3. To offer suggestions and findings of the study

Hypothesis of the Study

1. H0: There is no association between the gender of the respondents and factors influencing their buying behaviour
2. H1: There is no association between the gender of the respondents and factors influencing their buying behaviour

Research Methodology

Research methodology is the systematic approach to finding solution to the research problem. Under this study primary data is collected through questionnaire which is filled by seventy sample respondents. And secondary data are collected from various journals and books.

- **Research design** - Exploratory
- **Sampling method** – Convenience sampling
- **Sample size** - 66
- **Tool used** (MS-Excel & SPSS)
- **Data collection tool**- Questionnaire
- **Data analysis tool**- Frequency & Percentage analysis
- **Data presentation tool**- Table
- **Hypothesis testing** –Chi-Square Test

Discussion and Data Analysis and Interpretation**Table 1:** Represent the age categories of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16-20	10	15.2	15.2	15.2
	21-25	47	71.2	71.2	86.4
	26-30	4	6.1	6.1	92.4
	31-40	5	7.6	7.6	100.0
	Total	66	100.0	100.0	

From the above table it can be seen the the age group between 21-25 years which is 71.2% of the total pollution. The population of sample constitute majorly of young generation.

Table 2: Represent the gender categories of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	36	54.5	54.5	54.5
	Female	30	45.5	45.5	100.0
	Total	66	100.0	100.0	

From the above table it can be observed that the male constitute 54.5% and female constitute 45.5% of the sample.

Table 3: Represent the **Educational Qualification** of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	HSC Pass	14	21.2	21.2	21.2
	Graduate	24	36.4	36.4	57.6
	Post Graduate	25	37.9	37.9	95.5
	Professionals	3	4.5	4.5	100.0
	Total	66	100.0	100.0	

From the above table it can be observed that the major sample pollution are highly literate of which graduate are 36.45 & post graduate are 37.9 % of the sample.

Table 4 : Represent the **Income level** of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Income	34	51.5	51.5	51.5
	Below 10000	7	10.6	10.6	62.1
	10000-20000	14	21.2	21.2	83.3

	20000-30000	5	7.6	7.6	90.9
	30000 above	6	9.1	9.1	100.0
	Total	66	100.0	100.0	

From the above table it can be observed that the major sample pollution is non-earning, it can be interpreted that that they might constitute student group.

Reliability Test: The Cronbach's alpha coefficient for the fourteen items is .892, suggesting that the items have relatively high internal consistency. (Note that a reliability coefficient of .70 or higher is considered "acceptable" in most social science research situations.)

Table 5: Chi Square Result

Hypothesis of the Study H0: There is no association between the gender of the respondents and factors influencing their buying behaviour, H1: There is no association between the gender of the respondents and factors influencing their buying behaviour														
	Remove Dandruff and Dryness	Herbal qualities	To Avoid Unpleasant Odour	To Revitalize Dull Hair	To avoid stiff hair	Low Price and more utility	Fragrance	To control hair fall and gray hair	Quality	Price	Brand	social status	Perfume	To be able to Wash Easily with Less Water
Chi-Square (significance level i.e P value)	0.044	0.009	0.194	0.641	0.008	0.203	0.779	0.874	0.459	0.160	0.411	0.905	0.337	0.161

To determine whether any of the differences between the means are statistically significant, comparison of the p-value significance level were analysis to see if null hypothesis is accepted. The null hypothesis states that the population means are all equal. Usually, a significance level (denoted as α or alpha) of 0.05 works well. A significance level of 0.05 indicates a 5% risk of concluding that a difference exists when there is no actual difference.

If $P\text{-value} \leq \alpha$: The differences between some of the means are statistically significant & $P\text{-value} > \alpha$: The differences between the means are not statistically significant. From the above table no 5 it can be observed that in case of factors like, Removal of dandruff & dryness (0.044), Herbal qualities (0.009) & avoidance of stiff hair (0.008) shows P value is less than 0.05, so it can be concluded that there is an association between gender and factors influencing the buying behaviour towards the shampoo brand. And for rest of the factors P value is greater than the 0.05, is there is no association between gender and factors influencing the buying behaviour towards the shampoo brand.

Limitations of Study

1. The area of the study is limited to Navi Mumbai
2. Time restriction
3. Finding of the study is based on the information collected from the respondents

Conclusion

Majority of the consumers prefer buying a particular brand of shampoo based on gender comparison is the factors which are prominent were Removal of dandruff & dryness, Herbal qualities and avoidance of stiff hair by the consumer. There were strong association between the gender and the above mention factors which is clear from the test analysis. Producers of the above mentioned goods should focus on more on this criteria.

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14. Financial Inclusion in India

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Abstract

Being one of the fastest growing economies of the world, India still has to focus on its uneven growth. The growth and growth benefits are not uniform among certain sectors in the country. To overcome this problem, there is a need of inclusive growth in order to bring about economic development in the country as well as to have equal distribution of resources. To do so, the concept of financial inclusion comes into the context which will play a crucial role in the economic growth. Government of India and Reserve Bank of India has taken several critical steps to bring about financial inclusion in the economy among which the most recent and remarkable step was of launching Pradhan Mantri Jan Dhan Yojana (PMJDY) on 15th August, 2014 in his independence day speech. The main aim of the gigantic project was to provide financial products and services to the unreached household of the nation. Households were named with National Priority in order to open bank accounts. The purpose of this study is to understand the action plan of the PMJDY scheme as well as the progress made under it.

Keywords: Financial inclusion, PMJDY, Empowerment

Introduction

Financial Inclusion refers to providing access of financial services and credit to all individuals of the society especially to the weaker sections at an affordable cost. Around 2.9 billion people lack the access to banking and financial services and the major global problem is of accessibility and affordability of financial services.

Financial inclusion can help to uplift the weaker sections from poverty circle and help to improve the standard of living among vulnerable groups. Despite the spread of banking facilities, there were concerns that banks had not been able to include vast segments of the population, especially the disadvantaged sections of the society, into the fold of basic banking services. Keeping in view of the interests of the poor people, the Government of India has taken a number

of measures so that the underprivileged sections of the society can reap the benefits of the banking services.

Financial services needed to be provided to all in the country includes savings, loans and insurance services, credit card account, retail banking, utilization of automatic teller machines and electronic bank facilities, pension payments, and mutual fund services. It is pathetic to find that a large portion of India's poor is excluded from the formal financial sector with many of them lacking access even to the most basic banking services such as a savings account. The marginal farmers, landless labourers, unorganized sector, slum dwellers, migrants, socially excluded groups and women are the main financially excluded sections. In the competitive economic scenario, banks mainly focus on business people and on high class people living in urban centres. The poor are still left behind in the race for development and they are still unreached and continue to be excluded from all round development process.

Financial inclusion is about providing financial services to bring out growth potential of economy. It mainly concentrates on inclusive growth by providing financial services to the vulnerable sections of the society. Financial Inclusion and Financial Literacy both are twin pillars where Financial Inclusion represents the supply side i.e. creating access to financial services and financial literacy represents the demand side i.e. creating a demand for the financial services.

Financial inclusion can play a crucial role in improvement of economic status of the financially excluded by providing such services.

Review of Literature

DaraNageswaraRao(2013): Status of financial inclusion among rural households in Andhra Pradesh: Financial inclusion can be described as the delivery of banking and other financial services at affordable costs to the vast sections of disadvantaged and low income groups. The Financial inclusion policies across the country confirm developed financial systems to be correlated with lowered inequality and less significant financial exclusion. The importance of innovative Economic Strategies for financial inclusion has been increased rush.

Rangarajan, C. (2009) remarks that economic growth and social development are the two legs on which a nation must walk and FI is no longer an option but a compulsion. The process of FI is an attempt to bring within the ambit of the organised financial system, the weaker and vulnerable sections of society and Inclusive Growth cannot come without FI.

Leeladhar (2005) states that there could be multiple levels of FI and FE. At one extreme, we have customers who are actively and persistently courted by the financial services industry and who have at their disposal a wide range of services and products. They are the 'super included.' At the other extreme, we have financially 'excluded', who are denied access to even the most basic of financial products. In between are the 'under included', who use the banking services only for deposits and withdrawal of money. They have only restricted access and may not enjoy the flexibility of access offered to more affluent customers.

World Bank (2008) reports that in the absence of inclusive formal financial system, poor individuals and small entrepreneurs have to rely on informal sources to invest in better opportunities. FI can help in removing this impediment. Achieving FI in a country like India, with large and diversified population with significant segments in rural and unorganised sectors requires a high level of penetration by the formal financial system.

Objective Of The Study

- To understand the present context of Pradhan Mantri Jan Dhan Yojana (PMJDY)
- To find the progress made under PMJDY

Research Methodology

The study is based on the secondary data which is collected from government publications, official websites of PMJDY, published articles and books. The research is descriptive type of study.

Financial Inclusion and Pradhan Mantri Jan Dhan Yojana

The Government of India initiative for financial inclusion, Pradhan Mantri Jan Dhan Yojana (PMJDY) was launched by Prime Minister Narendra Modi on 15th August, 2014 through his First Independence Day speech. The main aim of this financial inclusion programme was to increase accessibility of affordable financial services to the age group of 18 to 65 years. On the day of inauguration, 15 million bank accounts were opened which was recognised by Guinness Book of World Records as the great achievement of opening 18,098,130 bank accounts in the span of one week i.e. from 23rd August, 2014 to 29th August, 2014.

Phase-I of PMJDY

- The period from 15th August, 2014 to 14th August, 2015 marks the first phase of PMJDY, following is the action plan of it;

- One bank account, every individual household must have access to it with any one bank branch across the country.
- Accident insurance covers of Rs. 1Lac limit with RuPay Debit Card for all households.
- The Aadhar enabled accounts with satisfactory operations over 6 months period will be provided with Rs. 5,000 overdraft facility.
- Transfer benefits under government schemes will be directly transferred to such bank accounts of the beneficiaries.
- Farmers will be provided with RuPayKisan Card instead of existing Kisan Credit Card. Villages will be provided with the Financial literacy programme under the scheme.

Phase-II of PMJDY

The period from 15th August, 2015 to 14th August, 2018 marks the second phase of PMJDY, following is the action plan of it;

- This scheme will cover the areas of households in hilly, tribal and difficult areas.
- The second phase of this scheme will also cover the remaining adults and students.
- Households will be provided with Micro insurance
- Unorganised sector pension scheme will be initiated under this scheme

Progress under PMJDY

• Inclusion of Women

Under this scheme, women are financially included which initiates the contraction of gender gap in financial inclusion. This can be evident through the increased number of banks accounts by women under this scheme. The objective of government to have atleast one account per household has led to the encouraging impact as accounts opened by women stands at 47% under PMJDY

Women empowerment through the scheme

Total deposits	₹73,689.72
Total beneficiaries	30.97 crore
Women beneficiaries	16.34 crore
People from rural/suburban areas	30.97 crore
People from urban areas	12.76 crore

(Data till January 2017)

Through such schemes of financial inclusion, the women empowerment can be increased. Women can increase their bargaining power in households if they have access to financial

products and services. It can also help women to earn income outside their homes and gain assets. It will also help them to keep themselves secure against risks or unexpected losses or expenses. Such key elements can make women more empowered economically.

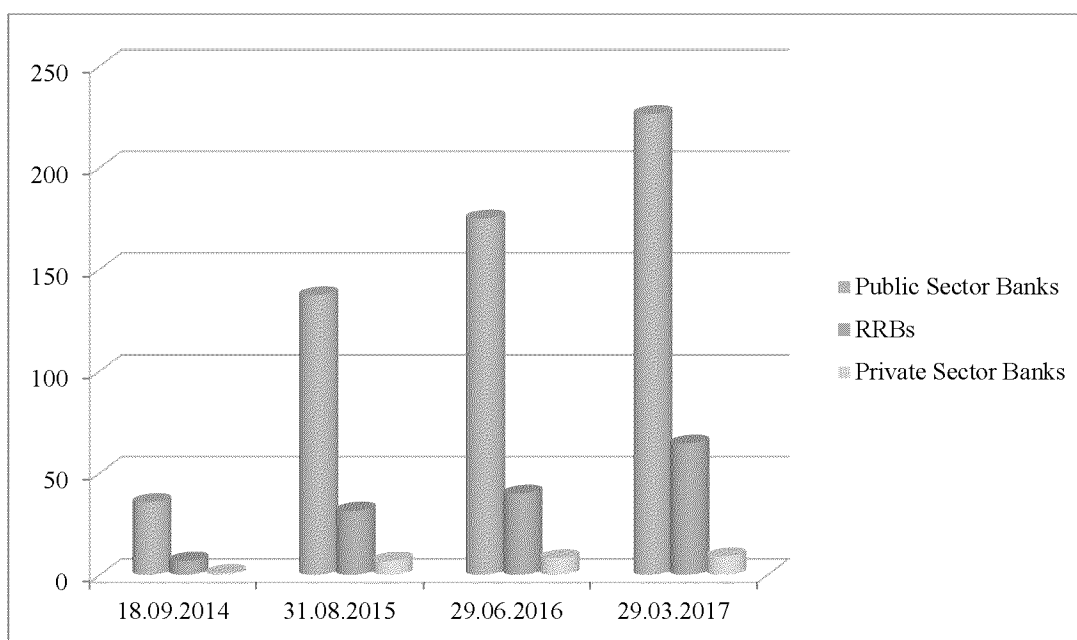
• Increased Number of Bank Accounts

The impact of financial inclusion can be clearly witnessed through the increased number of bank accounts. It was not only witnessed in women but also in adults i.e. in all 66% of adults have bank accounts or with financial institutions. This mainly benefits the vulnerable group of the society. In the year 2013, bank accounts accounted for 48% which was increased to 64% in the year 2015 out of which active account holder increased to 42% from 29%.

The following is the detail of increased number of bank accounts over a period of time of PMJDY

Banks	18.09.2014	31.08.2015	29.06.2016	29.03.2017
Public Sector Banks	35.37	137.20	174.98	226.14
Regional Rural Banks	6.88	31.40	39.79	64.37
Private Banks	0.88	7.00	8.31	9.14

Source: <https://www.pmjdy.gov.in>



• Overdraft facility under PMJDY

Total of 18 crore accounts that were owned, around 1.65 lakh account holders have used the overdraft facility provided under this scheme. The increased number of bank branches (Overall 1.26 lakh bank branches out of which 38% branches are in rural India) and ATMs has

helped the account holders to keep their accounts more active, thus making them eligible to avail the overdraft facility of the PMJDY which states that customers should use their account actively for 6 months to avail the facility of overdraft.

Suggestions

The following are some of the points of suggestions that have been derived from the study of this research paper;

- The problem of multiple accounts opened by a single person has to be monitored by the KYC details
- Private sector banks to be encouraged to increase the customer base through attractive offers for the customers
- Participation of the customers from the point of view of keeping accounts active to be encouraged
- Facilities of financial services like ATMs to be provided in vulnerable areas of semi urban and rural

Conclusions

PMJDY was a milestone for achieving the financial inclusion in the history. It encouraged new bank accounts with zero balance scheme, inclusive growth of women and adults as well as the accessibility to the financial services. Even the increase in bank accounts can be witnessed through the data of past four years which also includes the inclusive growth of women. The number of banks accounts has been increased to 49% of women ownership. To make the scheme effective, the government has to keep a strict supervision of the activities of the banks. The duplication of account has to be avoided by each household. The number of accounts that were opened under PMJDY has to be kept active as many accounts are still inactive. The PMJDY scheme can be proven as the most effective decision for inclusive growth if the implementation can be monitored and corrected timely to bring in economic development.

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15. Application of Marketing in the Field of Sports Industry

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Abstract

Sport marketing is a growing division of the marketing field that focused on the business of sports and the use of sports as a marketing tool. To be a successful in business in today's global competitive market, it is very important for any kind of business to adopt proper and effective marketing strategy and used various techniques of marketing to promote their product in a market. Sports industry having unique products and need special marketing which includes promotion not only promotion of products but also services. For sports product and service marketing various events of sports needs to be considered along with popularity of particular sport among masses. For marketing of any kind of product 4p's are important this 4p's refers to product, price, place, promotion. But in the field of sports marketing 4p's refers to Planning, Packaging, Positioning and Perception. Sports industry is very much dynamic in nature; therefore it needs continue market research and updated information about modern trend in the field of sports. Today sports industry is the most profitable industry as compare to other industry. In the field of sport marketing promotion of the products as well as services made through sports material, events of sports, service related to sports by brand ambassadors who are popular personality from the field of sports or media. The subject matter of this paper is to focus mainly on application of marketing with the reference to sports industry. As it is pretty difficult to study all marketing practices which have been utilized by the sports industry in particular, the scope of this paper is to confirmed to general marketing application have been used in sports industry. The objective of this paper is to address the development of marketing in the field of sports industry.

Keywords: Sports Industry, Sports Marketing

Objectives Of The Study

1. To identify ways to market sports products and services to consumers directly.

2. o identify use of sports to market non-sport products and services.

Research Methodology

This study is based on secondary source of information. The information has been collected from reliable sources such as journals, articles and web. The present study is exploratory and analytical in nature.

Introduction

“Sport marketing is everything that happen On-field and Off-field. It’s building relationships with fans through sponsorships and corporations, special events, endorsements, licensing and brand awareness” Rhonda L. Burch. If we trace back the history of sports industry in India one will surprised to know that India has been producing, exporting and marketing sports equipment’s and utilities since last century, India producers has introduce the stitched football to the world. Since then we have been producing and marketing, exporting sports and it’s related to goods in the field of sports industry. In order to be a market leader in today’s competitive and global market, it is important for any business to compile marketing research to choose marketing techniques to promote their business. It has become a massive advantage to the industries Marketing includes 4p’s product, price, place, promotion. Whereas, sports marketing includes 4p’s namely, planning, Packaging, Positioning, Perception. Sports marketing can be done through, Direct sources and indirect sources. Direct sources are the one which tells about the product & service, events, sport directly to the audience. It includes some of the media channels like, Television programs, Newspapers, Advertisements, Internet. Indirect sources are the one which promotes about the product/service, events, sport indirectly to the audience. It includes some of the media channels like, Events, Social activities. It acts as the best tool for promoting the sports and non-sports accessories as it is done by the reputed players who have global recognition in every nook & corner of the world. It may be classified into, Promotion of the sports & games, Promotion of the products & services through various sports players & sports teams, Promotion of sports & events in the public places to increase the participation. These types of activities are preferred by many companies because the players have the reputation & recognition all over the world which can be done through different modes of channels. They use Bill boards in the public, Electronic media, Promotional vehicles, Social Events, Print media etc.

Sports Industry and Marketing

Sport industry is one of the largest industry in the world market. It has experienced an explosive growth in the recent years. Sports industry is a market in which people, Activities, organization, business, involving in marketing of sports. It is the industry which promotes the ideas, products, services, people, and place through sports marketing. This industry has become one of the leading businesses in the present global market with a tough competition. Many companies are promoting the products & services through different innovative techniques to create awareness about the products and Services.

Marketing is an art and science too. Production, advertising and selling are the activities marketing. In fact marketing is a wide concept in which many activities are under taken. Marketing essentially starts with knowing the need and connect to the customer. Therefore marketing is a complex phenomenon but obviously a key to success especially in the digital and cutthroat competitive world.

Segments of Sports Industry

The sports industry has been segmented in to many forms.

- 1) Sports Tourism - It is one of the forms of traveling done by the people to different places across the globe to participate in sports, games & events by the players. This also creates awareness to the people how people are all around the world. Sports tourism is the fast growing sector when compared to other industries in the globe.
- 2) Sports Goods - It is used for the exercise purpose which is used by a player or a common person in order to relax. Some of the examples of these sports goods are Bats & Balls. Exercise Equipment. Rock- climbing equipment.
- 3) Sports Apparel - Apparel is nothing but the cloth that is wear by the player while playing a game. Some of the examples of the sports apparel are as follows. Track suit Sports jersey, T-shirts, Swim suit, Shorts, Cricket dress.
- 4) Professional Sports - this is one of the types of the sports where the players are going to receive payment for their performance. This also improves the reputation of the player and also the fame of the country. Some of the professional sports are as follows Cricket, Golf, Football, Rugby, and Tennis. Most of the large organizations and sports team depend upon the income from the sponsors. Some of the types of the sponsorships are

as follows. Title sponsor, General sponsor, Team sponsor, Official sponsor, Technical sponsor, Training sponsor.

Sports Marketing Structure

The first step in marketing is to know your probable customer and the need of the customer and then go back to promotion and produce according to the requirement of the customer.

Tool	Techniques to implement the principles
Principles	General rules and guide line of sports marketing
Process	the series of steps to complete a sports marketing plan outline in sports marketing frame work
Philosophy	Satisfy the need of the sports consumer cultivate the relationship between the spots brand and the consumers

Sports Marketing Framework

1. Identifying Sports Marketing Opportunities

- Analyze Internal & External Opportunities
- Analyze Organization
- Analyze Market & Consumer

2. Develop A Sports Marketing Strategy

- Develop Strategic Marketing Direction
- Develop Sports Marketing Strategy

3. Plan Sports Marketing Mix

- Product
- Price
- Plan
- Promotion
- Sponsorship
- Service

4. Implement and Control Sports Marketing Strategy

- Implementation Strategy
- Control Process

- Sports Marketing Ethics

Principle of Sports Marketing

- The sports marketing framework provides a detailed explanation of the four stages of the Sports Marketing process
 1. Identifying Sports Marketing Opportunities
 2. Develop A Sports Marketing Strategy
 3. Plan the Sports Marketing Mix
 4. Implement and Control Sports Marketing Strategy
- Marketing is more than promotion ,advertising , personal selling or sales gimmicks, marketing aims to create an exchange where the customer gives up something for a product or service.
- Sports marketing have two angles: one is marketing of sports product and service while other is marketing through sports.
- Sports marketing can be described as a philosophy (an attitude towards marketing) , a process (a series of activities), a set of principles (general rules & guidelines) and tools (Recommended techniques)
- The philosophy of sports marketing is to satisfy the need of sports consumers.
- The process of sports marketing is the series steps required to find opportunities, devise, and strategy plan the tactics and implement and evaluate a sports marketing plan.
- Sports marketing is the process of planning how brand is positioned and how the delivery of its products or services are to be implemented in order to establish a relationship between a sports brand & its consumers.
- The principle of sports marketing provide the rules & guidelines for the implantation of the sports marketing framework process, while the tools of sports marketing are specific activities designed to help execute the principles.

Conclusion

All over the World Sports Industry is growing drastically year by year. To make the Sports business sustainable it is very important to utilize Sports Marketing tools very effectively so that we can get the maximum ROI from that investment. The well-organized marketing Strategy can help to reach targeted audience using Sports as a marketing tool.

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16. Study of Problems faced by Students in Learning Mathematics in First Year Commerce and Management Studies

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Abstract

This literature reviews about the difficulties and problems faced by the students in learning and understanding mathematics and Academic Achievement. Mathematics, being a core subject in curriculum from primary education. Still, many students never get adapted to the language of Mathematics. This study was carried out on 100 students of First Year Degree Courses using random Sampling with the help of a closed ended Dichotomous Questionnaire. Besides, teaching techniques used, teachers behaviour, teachers characteristics and many other factors responsible for hindrance in learning Mathematics. Following factors were only considered in this study particularly: 1. Negative attitude of students towards the subject , 2. Lack of Self- Motivation and Self-Improvement, 3. Lack of Support from Parents, 4. Peer Pressure and Influence, 5. Language Barrier in Understanding Statement of the Math problems and 5. Nature or Characteristics of Mathematics. Even relationship between mathematics learning and academic achievement of the students were studied . This study comprises of the above mentioned five factors which is further subdivided into sub categories for better analysis. Percentage and frequency were calculated for each sub category and descriptive method was used to analyse the data collected. This study results will help teachers and researchers to understand the difficulties and challenges faced by college students in learning and understanding Mathematics.

Keywords: Problem in Learning Mathematics, Academic Achievement

Introduction

Mathematics is considered as the most crucial subject from primary education and is included in higher studies as it develop one's critical thinking, analytical thinking, problem solving ability, logical reasoning, etc. Richard Skemp quotes that, " It is easy to make simple

things difficult but difficult to make hard things easy.” It takes a great effort to make difficult concept sound easy by a math educator. But, Student’s lack of interest and negative perception towards the subject becomes a great barrier in learning Mathematics. It is often said that home is the first school and parents are the best teachers for a child. Hence, Financial, Emotional and guidance from parents is necessary for the students to achieve academically. Due to peer pressure and surrounded by friends who hate or dislike mathematics leads to low attendance in Mathematics class which has a very negative impact in learning Mathematics, which requires consistent effort in learning. The characteristic of mathematics being highly technical and conceptual requires lots of self-regulation by students. Academic achievement of students is often affected due to poor performance in Mathematics.

Objective of Research

The objectives of this study are:

1. To understand the difficulties faced by students in learning mathematics in higher studies.
2. To find relationship between academic achievement and problem in learning mathematics of students.

Research Methodology

This qualitative study involved simple survey instrument in the form of closed ended Dichotomous questionnaire is used to collect primary data by random sampling. Simple frequency and percentage method were used for analysis of data. For the study, 100 respondents were randomly selected from 350 , in which 57 students where from Commerce streams and 43 students were from Management studies between the age group of 18 to 25 yrs.

Data Analysis

Table1: Descriptive analysis showing Negative Attitude and perception of students towards Mathematics

Sr. No.	Questions asked	f(%)
1.	I feel sleepy or bored during mathematics class.	33
2.	I believe Mathematics as difficult subject.	64
3.	I believe Mathematics as confusing subject.	62
4.	I don’t understand mathematics problem completely even after help from others.	34
5.	I believe that Mathematics learned in classrooms are of no use in real	27

	world.	
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The highest frequency/percentage among the five categories is 64 which indicates that students have negative perception towards the subject.

Table2: Descriptive analysis showing lack of Self Motivation and Self Improvement by students towards learning mathematics

Sr. No.	Questions asked	f(%)
1.	I don't like to attend Mathematics lectures	17
2.	Mathematics is only for students who wish to major as Mathematician or for engineers.	36
3.	I wish, Mathematics was not included in First Year Degree Course	44
4.	I refer different books to study & understand Mathematics.	33
5.	I prefer learning other subjects than Mathematics during study time.	47

The highest frequency among the five categories is 47 which indicates that students lack self motivation towards the learning mathematics.

Table3: Descriptive analysis showing problems experienced by the students due to Lack of Support from Family and Parents

Sr. No.	Questions asked	f(%)
1.	My parents do not help me in solving mathematics problem	72
2.	My parents send me to classes or private tuitions for mathematics	38
3.	I have to work and pay for my own studies	33
5.	My Parents compare my marks with other friends/cousins.	50
6.	My Parents give me money to buy all textbooks.	91

The highest frequency among the six categories is 91 which indicates that students accept that financial support from parents. The next highest frequency is 50 which shows pressure from parents for high performance academically.

Table 4 : Descriptive analysis results showing problems experienced by the students due to Peer Pressure

Sr. No.	Questions asked	f(%)
1.	My friends help me to solve the problem.	73

2.	I am surrounded by friends who do not like mathematics.	66
3.	Even my friends are bad in Mathematics.	56
4.	My friends group talk during Mathematics Class	37

The highest frequency among the four categories is 73 which indicates that students receive help from their friends in learning mathematics problem. The next highest frequencies 66 and 56 indicates even they are surrounded by friends who are not good in Mathematics.

Table 5: Descriptive analysis showing frequency or percentage of students who faced difficulty in understanding questions of maths problem due to Language Barrier

Sr. No.	Questions asked	f(%)
1.	I am from Vernacular Medium.	32
2.	I find very difficult to understand word problems.	59

The highest frequency among the two categories is 59 which indicates that students find it very difficult to understand and interpret the word problem in mathematics.

Table 6: Descriptive analysis showing frequency or percentage of students who experienced difficulty due to Nature of Mathematics

Sr. No.	Questions asked	f(%)
1.	I have to recall all formulas and methods from lower class to solve single mathematics problem	49
2.	In other subjects, the answer part can be written in own words but not in mathematics.	88
3.	I learn concepts or theory before solving problems of certain chapters.	78

The highest frequency among the five categories is 88 which indicates that students find mathematics as highly technical subject. The next highest frequency 78 indicates that students study concepts before solving mathematics problem.

Table 7: Descriptive analysis showing frequency or percentage of students who have cleared in all subjects in first semester.

Sr. No.	Question asked	f(%)
1.	I have cleared all subjects in the previous semester	49

49% of the students have cleared all subjects in the previous semester.

Findings

The above descriptive analysis reveals that first year students of commerce and management studies have following difficulties: 63% of the students found Mathematics as difficult and confusing subject (refer Table1). The frequency or percentage of students who did not wanted Mathematics inclusion in first year of undergraduate was 44. Forty seven percent of students preferred studying other subjects than mathematics during their study time (refer Table 2). Even 59% of the students had difficulty in understanding a mathematical problem (refer Table 4). 72% of the students did not received any help in learning mathematics from their parents like help in solving a problem. 33% of the students do part-time work to cover their expenses. 91% of the students received financial support from their parents to buy study materials to learn mathematics. 50% of the parents compare their child's academic performance with their friends and siblings. It was notable to find that, 73% of the students received help from their friends in learning mathematics. But, 66% of the students think that even their friends are not good in mathematics. Academic achievement of the subjects considered was average.

Conclusion

Difficulties in learning mathematics arises due to many factors some of them considered in this study were psychological behaviour, cognitive ability of the learner, social environment, language barrier and nature of mathematics. Students have a phobia about the subject which they heard from their friends and family that mathematics is a difficult subject. They had difficulty in understanding and interpreting the mathematical language. Even they perceived their friends are not good in mathematics. Besides, most of them received help from their friends in learning mathematics. Pressure from parents for high performance by comparing their kids with their friends and siblings shows lack of emotional support. Nature of subject which demands consistency and self-regulation becomes a major barrier in learning mathematics among students. Students average academic achievement shows that learning mathematics has significant relation between both the variables as most of the students did not had mathematics in their first and second year of junior college. Workshops, bridge courses and seminars which help students to overcome the phobia of mathematics and create awareness about the nature of mathematics is suggested.

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17. A Study of Investment Avenues in Stock Market

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Abstract

Stock Market is one of the most vibrant sectors in the financial system, marking an important contribution to economic development. Stock Market is a place where buyers and sellers of securities can enter into transactions to purchase and sell shares, bonds, debentures etc. In other words Stock Market is a platform for trading various securities and derivatives. Today long-term investors are interested to invest in the Stock Market rather than invest anywhere. The Bombay Stock Exchange (BSE), the National Stock Exchange (NSE) and the Calcutta Stock Exchange (CSE) are the three large stock exchanges of Indian Stock Market.

The main objective of present study is to present review of literature related to Indian Stock Market to study the Indian Stock Market in depth. The study would facilitate the reader to know the past, current and future trend or prospects of Indian Stock Market. This study would provide guidelines to investor to maximise profit with minimize risks. High degree of volatility in the recent times in the Indian market has led to more development in the future.

Keywords: Securities, Derivatives, NSE, BSE Public Issue, Maximise profit, Minimize risk.

Introduction

Just like the way we go to the neighbourhood kirana store or a super market to shop for our daily needs, similarly we go to the stock market to shop (read as transact) for equity investments. Now unlike a super market, the stock market does not exist in a brick and mortar form. It exists in electronic form. Stock market is where everyone who wants to transact in shares go to. Transact in simple terms means buying and selling. The main purpose of the stock market is to help you facilitate your transactions. So, if you are a buyer of a share, the stock market helps you meet the seller and vice versa. Investing in equities is an important investment that we make in order to generate inflation beating returns.

Types of Stock Market

- Equity Market.
- Derivative Market.
- Currency Market.

Investment Instruments in Stock Market

- Shares
- Debentures
- Bonds
- Security
- Public Deposits

Litreature & Review

- **Ram Pattabhi (1995)** in his words emphasised the need for doing fundamental analysis and doing Equity Research before selecting shares for investment. He opined that the investors should look for value with margin of safety in relation to price. The margin of safety is the gap between price and value. He revealed that the Indian stock market is an inefficient market because of the absence of good communication network, rampant price rigging, instantaneous flow of information, professional broking and so on. He added that in the Indian stock market investment returns would improve only through quality equity research.
- **Sunil Damodar (1993)** in his words evaluated that the Derivatives especially the futures as a tool for short term risk control. He opined that that derivatives have become an indispensable tool for finance managers whose prime objective is to manage or

reduce the risk inherent in their portfolios. Their low execution costs also make them very suitable for frequent and short-term trading to manage risk, more effectively.

- **Debjit Chakraborty (1997)** researched in his study and tried to establish a relationship between major economic indicators and stock market behaviour. It also analyses the stock market reactions to change in the economic climate. The factors considered are inflation, money supply, and growth in GDP, fiscal deficit and credit deposit ratio. To find the trend in the stock markets, the BSE which comprises 100 companies was taken as the index. The stock market movements are largely influenced by, broad money supply, inflation and fiscal deficit apart from political stability.

Research methodology

- The research was conducted in Kurla.
- The primary data & secondary data is to be taken as the topic is considered about the investment avenues in stock markets.
- The sample size for the research was taken as 30 people.

Objectives of the study

Every study based on some of the objectives. It is decide the all over framework of any study. The main objective of this study is to capture the trends, activities & assumptions of people about the stock market. The present study is based on the following objectives:

- To understand the working of stock market.
- To find about the different investment in share market.
- To study the different factors influences the people to invest in the stock market.

Limitations

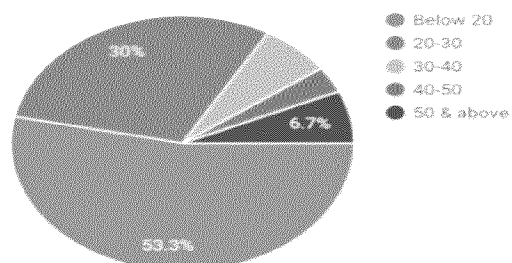
- Time was consuming because of the respondents.
- Answers by the respondents are assumed to be true.

Data analysis

Source of data: Primary data. The following pie diagrams represents the data of the survey.

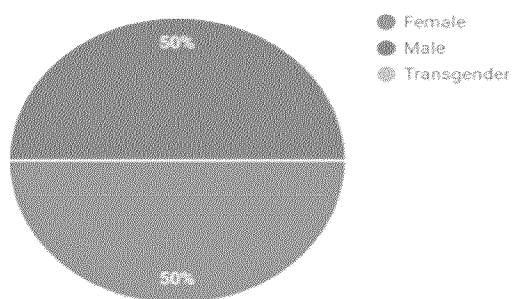
Age

30 responses



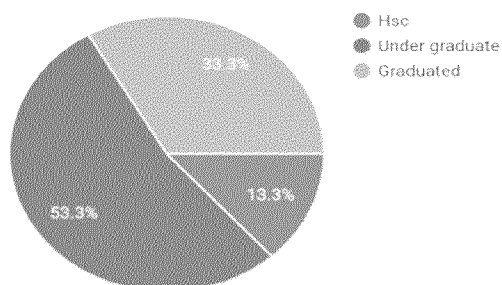
Gender

30 responses



Education

30 responses



These three pie diagrams represent the percentage of every category divided in age groups, gender & educational groups. The below question will represent a clear view of the respondents.

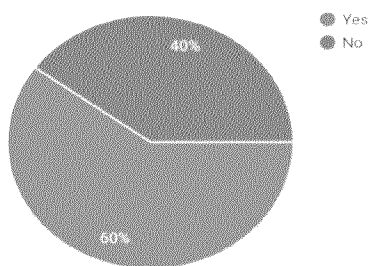


Fig 1.1

From the above graph it can be observed that, people investing in stock market is only 60% and the remaining 40% don't invest in stock market. There should be more awareness about the investing in stock market.

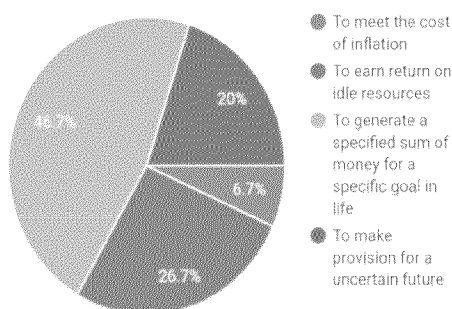


Fig 1.2

From the above graph it can be observed that, the people's different purpose of investment in stock market. To meet the cost of inflation-6.7%, To earn returns on idle resources-26.7, To generate sum of money for a goal of life 46.7% & To make provision for uncertain future-20%. The people are investing for goal oriented purpose.

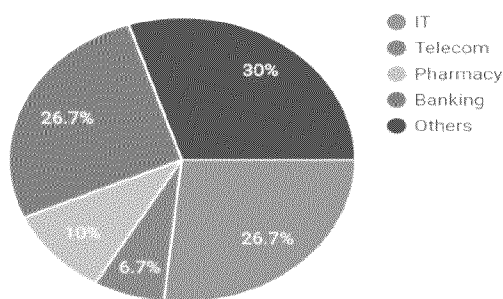


Fig 1.3

From the above graph it can be observed that, the people's investment in which sector of the stock market. IT-26.7%, Telecom-6.7%, Pharmacy-10%, Banking-26.7% & Others-30%. There are people who are interested more other sector than these also shows that the people know the market more than these sectors.

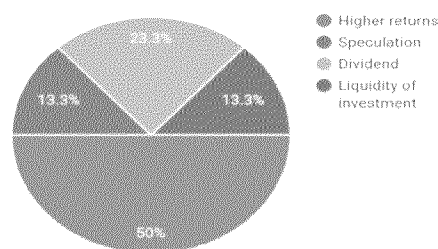


Fig 1.4

From the above graph it can be observed that, the people reasons for attraction towards the market. Higher returns-50%, speculation-13.3%, dividend-23.3% & the liquidity of investment-13.3%. There are people who are investing for higher returns.

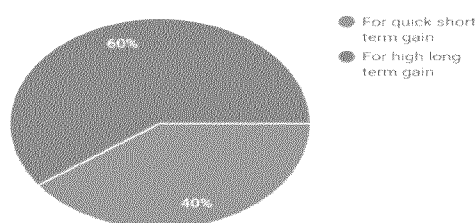


Fig 1.5

From the above graph it can be observed that, the investment purpose in terms of period of time. For quick short-term gain-40% & For high long-term gain-60%. Most of the investors go for higher long-term gain.

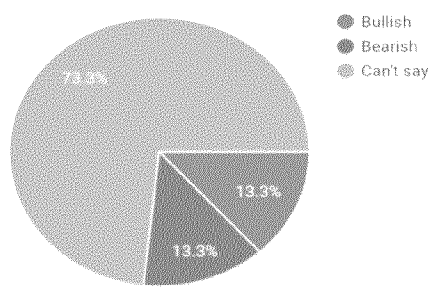


Fig 1.6

From the above graph it can be observed that, the future expectation of the equity market. Bullish & Bearish both are 13.3% & the 73.3% people can't say about the market. There should be more awareness about the conditions of market among the people & according to it for the investments should be done.

Findings

- Most of the population don't invest in stock markets as there is not much awareness about it, so there should be a proper in-depth awareness of stock market.
- Most of the people opted for high long term gain rather than quick short term returns as high long-term gain means high long-term risk as well.
- More population invest in stock market so as to fulfil their life goals and not to earn returns on ideal resources.

Conclusion

Stock market is the mitigation of risk though by the spreading of investment across multiple entities, which is achieved by the pooling of a number of small investments into a large bucket. In Stock market there are most suitable investment for the common man as it offers an opportunity to invest in a diversified & professionally managed portfolio at a relatively low cost.

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18. Digitalization of India-Scope and Challenges to E-Commerce Business

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Abstract

E-commerce refers to the sale and purchase of goods and services through electronic mode. It is done through Internet. With increase in internet use, the E-commerce is on the rise in India. It operates in four of the major market segmentations. B2B, B2C, C2c and C2B. Today almost all kind of goods and services can be availed online easily. People are enjoying online shopping to save their time and energy. It is the easiest way of demanding goods electronically. Being techno savvy, mobile users are now the evangelist of mobile commerce. With rise in sites like Face book and other social Medias the E-commerce is on the boost. These drivers are behind the growth of online business. In emerging waves of digitalization, it is sure that the initiative of the Government towards digitalization can further increase scope for E-commerce as number of people will be prone to use of mobile banking for buying commodities. It can be the key factor in prospering E-commerce business in coming days. Looking into the rapid growth of technical transformation in India, E-commerce will be the most preferred mode for potential markets. This paper is a descriptive study of prospectus of E-commerce in Digital India today.

Key words: Digital economy, E-commerce, M-commerce, internet network.

Introduction

The history of E-commerce is trace to the 1960's when Electronic Data Interchanged was being used by the business houses for sharing their documents with other companies. E-commerce is the process of buying and selling of goods and services or the transmitting the data online. It occurs between businesses to business (B2B), business to consumers (B2C), Consumers to Business (C2B) and consumers to consumers (C2C). It is synonym with term e-business or – marketing or e-trade. In general talks, it is known as online shopping. It has many variety of application such as email, online carts, catalogs, and file transfer and web services. It also has components such as social media marketing and targeted advertising. Duet to ever

changing market, there are vast opportunities for business to improve their relevance by expanding their market in the online world.

Objectives Of The Study

1. To understand the term Digitalization comprehensively
2. To study the nature of E-Commerce.
3. To highlight prospective scope and challenges to E-commerce in the Digital India Mission

Scope Of The Study

Today there is ever increasing trend of online shopping by the masses. Especially the educated population. All kinds of goods are being ordered online to save time and energy. It has been very easy to demand goods online in a shorted span of time since some years. E-commerce is on the rise in India. But after the announcement of Mission of digital India, there has been an ever increasing importance attached to this term. Many service industries like banks too are offering online services through net banking and even mobile banking. Therefore there is a need to understand how a great change can be brought in E-commerce business through digitalization. Even the better governance is brought with the help of digitalization

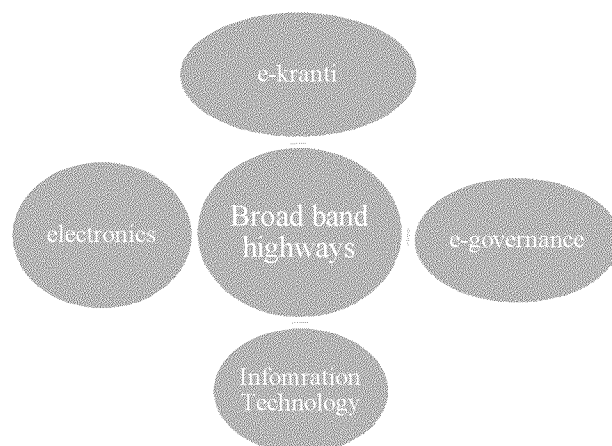
Research Methodology

The study is purely secondary data based. The information has been used from journal articles, websites, new write-ups, and theses published. It is descriptive kind of study with no empirical data used.

Digital India And E-Commerce

In the year 1990's there was an initiative of e-governance for sectoral application with more citizen-centric services. This led for a need of transforming India into a digitally empowered society and knowledge economy. New government has focused more on the digitalization of the economy with less cash transactions. The purpose is to accelerate more funds in the banks and financial institutions and curb corruption in the country. There has been a wave of digital mode of payment today. Digital India has been umbrella programme that covers multiple government ministries and departments. It is a mission towards cash less economy. It is expected to be implemented by all in the nation. It aims to provide much thrust to following pillars of growth areas. The more use of mobile devices combined with internet access via affordable broadband solutions is also driving the tremendous growth in E-commerce. Smart

phones are being used for online shopping and various payments widely by the users. A growing number of internet savvy consumers are posting and accessing classified for jobs. Online business is being taken place from Amazon, Flipkart, Snapdeal and other online websites.



Step Towards Better Governance

JAM	Jan-dhan-Aadhhaar mobile trinity for direct benefit transfer to enhance service industry efficiency and to eliminate leakage and curbed corruption
Jeevan Praman	For verifying pensioners using Aadhaar digital identity.
Umang	It has put the power of governance in the hands of common people. It offers 307 government services. It serves time of surfing various websites
eNAM	It is pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities.
eVISA	It involves complete online application for which no facilitation is required by any intermediary or agents.
eCourts	It helps in keeping a track of case status of ongoing cases across in India.
GeM	It is a transparent online market place for government procurement. It creates opportunity for micro, small and medium enterprises to sell their products to Government departments and PSUs
Digilockers	It helps in eliminating the need to carry any paper to avail a government services.

Business Models Of E-Commerce

MODEL	DESCRIPTION
B2C	The business firms or retailers directly sell to consumer. E.g Amzon,

	Flipkart
B2B	Business selling directly to another business.
C2B	Consumer sells products to the businesses
C2C	Sell from consumer to consumer at eBay
G2B	Government approach to businesses like tenders and support auctions
B2G	Businesses sell to government departments.
G2C	Consumers are linked to the government departments
G2Citizens	Government approaches to citizens directly.
P2P	Two individual interacts directly with each other without any intermediary.

Digital Steps Towards Cash Less Economy:

1. **I –ways:** According to government target for year 2014-2015, 50,000 villages were to be connected through a national optic fiber network. The target achieved is only 12percent till data showing poor implementation.
2. **Railways and e-commerce:** mobile app has been launched by railways for passengers to post their grievances. There are many Wi-Fi equipped railway stations. Getting into logistic partner of Amazon, Flip cart and snap deal, railway policy is in work. New restriction have been put online ticket bookings.
3. **FDI e-commerce:** The Ministry of Commerce and industry is not in favour of allowing FDI in business-to –consumer segment of the e-commerce sector at present. There is a positive signal for allowing FDI in online retail on some occasion.
4. **Budget for investments:** up to 1000 crores fund has been announced for tech sector. Its allocation and usability is yet unclear.
5. **Online certificates:** The Government of has launched online services to obtain Birth certificates, Caste certificates, Domicile, Marriage, Death, Driving etc certificates etc. even application for PAN card, TAN card, Ration card and Passport can be sent online.

Digital Indian Economy Targets

Digital India is a programme that is started by GOI with an objective of making all government services electronically for the citizen welfare. It aims at creating online infrastructure. This initiative is launched by Prime Minister Narendra Modi in the year 2015. Through this programme, Indian government aims to create more jobs and bring large

investments. The programme will be under the supervision and management of Ministry of Communications and Information Technology. It is an ambitious programme of Government of India preparing nation for knowledge based transformation and delivering good governance with state and Central Government. It will provide an impetus for further progress for e-governance and inclusive growth creating job opportunities.

Following are some steps towards digitalization of economy:

- Mobile connectivity will be increased in all the villages by the year 2018.
- All electronic services will be provided related to education, health, farmers, and justice through e-kranti.
- Nationwide information infrastructure by year 2017.
- Post offices can also be linked electronically.
- There will be an establishment of BPO sectors in Northern-eastern states for small villages and training students.
- Establishing Wi-Fi facilities in all universities across the nation.
- There will be more micro ATMs, consumer and medical electronics.

Challenges To E-Commerce

There are more challenges to this move of government. Looking into the literacy rate in the country there is an unusual relationship between internet access literacy rates. Mobile access is there but no excessive internet is still in use by many people. It would be difficult to expect whole population to go electronically. According to ITU only 26 percent of Indian households had access to the internet at home in 2015. In Government offices to computer issues are observed and demand computer skilled staffs. There are frauds if care is not taken. Majority of class still hesitate to buy online and use their debit and credit cards. The effective and strong system of protecting consumers payment modes are needed to be introduced.

Conclusion

E-commerce has a great scope in digital economy. The initiatives taken by the government can have a great impact on the nation if properly implanted the programmes decided. It will help financial institution to have access of more deposits as a result of cash less economy. There will be a trend of online shopping. It will not only save precious time of the consumers but also help financial system to get flourished.

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19. Role of Social Media:- Impact on Youth

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Abstract

Media is considered as the fourth pillar of democratic society after executive, legislature, and judiciary. Nowadays sensitization of news has become the measure of success in the journalistic field. It is the media has become a part of life of the people of India, who are largely dependent on the media coverage for various needs including entertainment and information. Starting from the issues relating to common man, their feeling, their necessities their expectations and very aspects of their life closely associated with the media. Media keeps the people awakened and there is no denying the fact that it has become one of the major instruments of social change. Today we are in 21st Century and people do not find time to come and interact with each other. Apart from this media like face book and other sites create a strong and loyal connection between product and individual which leads to advertising opportunities. It plays a significant role in all areas such as education, society and politics. This study is to conducted to check the impact of social networking sites on the youth everyday life.

Keywords:-Democratic, Social media, Expectations, social change.

Objectives

- To check the effect of social media on youth.
- To check out the beneficial and favor form of social media for youth
- To determine the attitude of youth towards social networking sites .

Research Methodology

Primary Data: Surveyed 60 college students from Ulhasnagar region.

Secondary Data:- Web source ,Journals, Books.

Introduction

The presence and intensity of media influences –television, radio, music, computers, films, videos and the internet-are increasingly recognized as an important part of the social ecology of children and youth and this influence have become more visible and volatile in recent decades. Research that explore the level and effects of media influences calls for measurement of

the quantity and character of exposure to a variety of potentially overlapping media sources, an analysis of the content of the media output, and examination of the social context and relationship that are associated with the media experience.

Evolution of Media

The growth of internet usage is increasing rapidly and India is one of the countries growing in a fast phase. With over 460 million internet users, India is the second largest online market, ranked only behind China. By 2021, it is expected that there will be about 635.8 million internet users in India.

On August 15, 1995, the internet was first launched for the public in India by Videsh Sanchar Nigam Limited (VSNL). Today it has been 20 years since the internet entered in India and it has moved from bulky desktops to mobile devices in our palms. Dates back to 1986 it was launched for only educational and research communities in the form of Educational Research Network (ERNET). The internet service by VSNL was first launched in Mumbai, Delhi, Kolkata, and Chennai. VSNL was able to add 10,000 users in first six months.

In 1996, some news publishers open websites for their own publications. Telecom Regulatory Authority of India (TRAI) was formed in 1997 to provide a transparent environment in telecommunication.

Impact of Social Media on Education

As per the survey of research 90 percent of college students use social network. Technology has shown a rapid development by introducing small communication devices for accessing social networks any time anywhere, as these gadgets include pocket computer laptop, pads. In today's world of connected learning, the impact of social media on education is becoming a driving factor. The world is getting smaller, and through the use of technology such as social media, the way we deliver instruction is changing. The technology referred to here really transpires just social media technologies such as Facebook, Twitter, and Snap chat. The technologies that allow these platforms to function are also one of the driving forces behind the impact of this technology on education. There are positive and adverse effects of social networking to students to students, and the jury is still out concerning the long-term effects of social media exposure may have.

Purpose of Internet Usage

USER	PERCENTAGE
Mail	33
Surfing	26.8
Chatting	18.7
Social networking	17
Other	4.5
Total	100

In the above table 1, it is clear that internet usage for the responding was mailing and surfing the net with 33%. In India social networking sites are growing fast to gain popularity but it haven't reached the expectation of global scenario.

Table 2:- Statement Showing Networking Usage Questionnaire

Items	Statements	Percentage
Dimension-1	Academic	
	Use social networking sites to solve academic problems	2
	Use social network sites to do research work	0
	Use social networking sites for online academic group discussion	0
Dimension-2	Socialization	
	Social networking sites to become more social able	1
	To create social identity	25
	Social networking sites to attending social gathering	24
	For strengthening interpersonal relationships	30
Dimension-3	Entertainment	
	To look at funny things	10
	For watching movies	6
	To get relief from stress	5
	To liking post	12
Dimension-4	In formativeness	
	For reading news	7
	To share new ideas	3
	To getting job related information	2

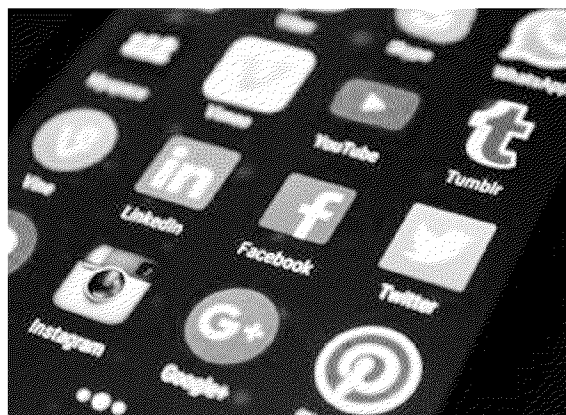
Table 3: Usage of Sites

SITES	PERCENTAGE
Facebook	31%
Snapchat	23%
Instagram	33%
Twitter	3%
Pintrest	10%
Total	100

Analyzed result collected through questionnaire from the students who using face book, Snapchat, Instagram, Twitter, Pintrest.

Education is very important part in the life of human being. Today young person demonstrates particularly enthusiasm for utilizing interpersonal organizations yet lamentably Social Networks influence instruction seriously. Past research has ascertained that over 90% of understudies utilize informal organizations.¹ Innovation has demonstrated a quick improvement by creating little specialized gadgets however these little specialized gadgets can be utilized for getting to informal communities at whatever time anyplace, these gadgets incorporate pocket PCs, portable PCs, pads and even basic cell phones and so forth Long range interpersonal communication destinations have constructive and negative effect on instruction and life of understudies.

Impact of Social Media on Education



In today's world of connected learning, the impact of social media on education is becoming a driving factor. The world is getting smaller, and through the use of technology such as social media, the way we deliver instruction is changing. The technology referred to here

really transpires just social media technologies such as Facebook, Twitter, and Snapchat. The technologies that allow these platforms to function are also one of the driving forces behind the impact of this technology on education. There are positive and adverse effects of social networking to students to students, and the jury is still out concerning the long-term effects of social media exposure may have.

Positive Impact

- By investing so much energy working with new advancements, understudies grow greater recognition with PCs and other electronic gadgets
- With the expanded concentrate on innovation in training and business, this will help understudies assemble aptitudes that will help them for the duration of their lives. Interpersonal interaction shows understudies aptitudes they'll have to get by in the business world.
- being ready to make and keep up associations with many individuals in numerous ventures is an essential piece of building up a vocation or building a business.
- It enables the kids to trade thoughts and learn new things. The more they cooperate, the more they learn. This will perpetually bring about them ending up plainly more certain about existence.
- The straightforwardness and speed with which clients can transfer pictures, recordings or stories has brought about a more noteworthy measure of sharing of inventive works. Having the capacity to get moment criticism from loved ones on their innovative outlets helps understudies refine and build up their aesthetic capacities and can give genuinely necessary certainty or help them choose what vocation way they might need to seek after^[8].
- The long range interpersonal communication innovations are inherent such a way, to the point that understudies will have the capacity to pick the gathering, movement or the individual they would need to take after for day by day refreshes. If understudies somehow happened to take after an instruction site, or a teacher, or an establishment they might need to go to for higher reviews, or an innovation they need to keep a tab on; all these and more should be possible by means of long range informal communication advances. The methods for learning is bounty.

- Technology is venture towards improvement, most likely however any innovation which can give simplicity of informal communities can be unsafe for interpersonal organization addicts.

Negative Impact

- Social Media had become a major distraction to students, causing the overall performance of students to decline, especially the ones who tend to check their Facebook and twitter while studying.
- Students have begun depending more on the data open effortlessly on these long range interpersonal communication locales and the web. This lessens their learning and research abilities ^[19].
- Students who get incorporated into activities by means of online systems administration media regions while looking at bring about decreasing in their convergence of thought. This causes decrease in their scholarly execution, and fixation to study well. Their capacity to focus on the errand is essentially lessened by the diversions that are achieved by YouTube, unearth, Facebook or Twitter.
- Students are having a harder time getting the chance to convey up close and personal with individuals. The additional time the understudies spend on these online networking locales, the less time they will go through associating face to face with others. This diminishes their relational abilities, and are losing their relationship building abilities, because of that they are investing increasingly energy talking from behind a screen ^[20].
- Students, while seeking and concentrate online get pulled in to utilizing web-based social networking destinations and at some point they overlook why they are utilizing web. This squanders their time and now and again understudies are not ready to convey their work in the predetermined time period.
- The understudy's motivational level decreases because of the utilization of these long range informal communication destinations. They depend on the virtual condition as opposed to increasing functional learning from this present reality.
- Students for the most part utilize slang words or abbreviated types of words on long range interpersonal communication destinations. They begin depending on the PC

syntax and spelling check highlights. This decreases their charge over the dialect and their exploratory writing abilities.

Self-esteem issues- Many people have found they feel more lonely as a result of social media. *This is especially true of younger people such as students who have grown up with social media* platforms. Since people are communicating more and more through electronic means, they tend to have a harder time interacting with people in the real world. They can communicate online with ease, but not when it comes to face to face communication.

Suggestions

1. Negative impacts of social media on education can be overcome by reducing the amount of time spent on social network sites.
2. Paying regard for their scholarly advance and tending to any issues will go far towards keeping the negative parts of web-based social networking from affecting their reviews.
3. Parents should also be suggested to spend more time to their rooms in leisure time in a frank way and try to understand their problems as far as possible in order that their child might not get much be addicted towards bad social networking sites.

Conclusion

These networking websites ruin the future of the students. Students spent more time on these websites rather than with their families. They considered that their friends and virtual relation are their well-wisher and they think that their blood relation are fake. That's why they like to chat with friends and share their inner feelings with their friends rather than their parents and family. It is also a strong recommendation for Govt. and international cyber jurisdiction to take part and ban these types of websites, other than government and jurisdiction, every parent should strictly ban use of social networks on their children and secure their future.

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20. An Analysis of Usage of Smart Phones in Day to Day Activities in the Field of Education

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Abstract

The Advent of cellular phones and its constant evolution has changed the entire way of computing environment. Dependency from desktop machines is gradually shifting towards mobile devices particularly the smartphones. Indian Education sector in recent years has embraced this technology to enable students and faculties alike to get key information whenever required wherever required. Survey was conducted with a view to find out the views of Faculties, Professionals, Students and other general public with objective to study the feasibility usage of smartphones in field of education. The hypothesis for the same was assumed that smart phones would be readily accepted by the students and teachers in the field of education. Alternatively it was thought that the smart phone technology is inadequate currently and could be infused into education system in distant future.

For this research the following responses were received: Professionals – 16, Students – 45, Faculties – 14, Others – 12. All the participants were using smartphones and 22% of students and 81% of non-students found mobile phones to be a burden in day to day activity. 42% of the students and 64 % of rest non students find that the mobiles should be used in day to day educational activities.

When asked whether they feel mobile phones are going to become integral part of education system majority felt that it will become an integral part of education.

Thus it can be concluded that although majority believe that the mobile phone will become an integral part of education but there will be some challenges in incorporating the same in day to day life in education.

Key Words: Smartphones, feasibility, inadequate, infused

Introduction

The evolution of technology has brought in drastic changes in the use of regular day to day activities. Right from the advent of computers to the era of smartphones dependency on gadgets has increased greatly.

Indian Education sector has also seen the changes and is getting in line with the changes of technology . right from student enrollment process to the final result declaration process every thing has been gradually computerized and gradually moving towards RDMS i.e real time database management system.

The Advent of cellular phones and its constant evolution has changed the entire way of computing environment . Dependency from desktop machines Is gradually shifting towards mobile devices particularly the smartphones. Indian Education sector in recent years has embraced this technology to enable students and faculties alike to get key information whenever required wherever required.

Objective of Study

1. To find out the feasibility of usage of mobile phones in day to day activities
2. To check inclination of general public towards use of mobile in education sector

Hypothesis

H1. Smartphones can be readily used in the Education Sector and further more in day to day teaching learning activities

H0 Smartphones no matter how developed and ready won be used in education sector

Scope of Study

1. This research is restricted to the usage of smartphone devices only
2. The are for the Research is limited to Mumbai Metropolitan and Sub urban areas

Limitation of Study

1. Devices like non smartphones and other media oriented devices are not considered
2. Calling and Text messaging activities are assumed to be online as well as offline
3. This study is not applicable in areas of no network or no access to cellular data services
4. The focus is only on Teaching Learning activities and other allied day to day education linkages are not Studied in detail

Research Methodology

1. Survey
2. One to One questioning

Statistical Techniques used

Simple Pie Chart and Bar Diagrams

Literature Review

Joel Billieux

Despite its unambiguous advantages, cellular phone use has been associated with harmful or potentially disturbing behaviors. Problematic use of the mobile phone is considered as an inability to regulate one's use of the mobile phone, which eventually involves negative consequences in daily life (e.g., financial problems). The current article describes what can be considered dysfunctional use of the mobile phone and emphasizes its multifactorial nature. Validated assessment instruments to measure problematic use of the mobile phone are described. The available literature on risk factors for dysfunctional mobile phone use is then reviewed, and a pathways model that integrates the existing literature is proposed. Finally, the assumption is made that dysfunctional use of the mobile phone is part of a spectrum of cyber addictions that encompasses a variety of dysfunctional behaviors and implies involvement in specific online activities (e.g., video games, gambling, social networks, sex-related websites).

Tenzin Yeshi University of Wyoming Steven D. Aagard University of Wyoming Cell phone is the fastest growing technology among young adults. However, cell phones are considered more as a distraction in the classroom than a tool to support college student's learning. Cell phones can be noisy and distracting, but they can also be an aid to learning (Docksai, 2009). Although cell phone is the most preferred mobile device of college students and its ownership are widespread, cell phones in general are still underappreciated in the college settings. From the literature review, majority supported the use of cell phone to enhance college students' learning and interaction despite some prevailing limitations.

Primary Analysis

The use of Smartphones has positives as well as negatives.

Some of the positives being

1. Fast and Easy to use
2. Doesn't require specific skill set to operate
3. User oriented
4. Availability of media , camera and internet connectivity on the go

5. Extensive Reach
6. Cheap
7. Compact
8. Ever evolving

Some of the negatives being

1. Addictive
2. Radiating harmful waves to health
3. Harmful to health
4. Can be misused
5. Overly dependent on availability of Network

Education over the last few years have evolved to use mobile phones in the following areas

1. Generation of PRN numbers and linking them to cell phones
2. Creation of Student profile
3. Generation of OTP to verify results online real time

Hence a questionnaire was prepared to survey a target audience comprising of Students, Teachers, Professionals and other general people to determine whether mobile phone can be used in Education sector on day to day basis or not

The Following questions were asked to the target audience

- Q1 Do You use a phone
- Q2 Is your phone a Smartphone
- Q3 What is the purpose you use the phone maximum
- Q4 Out of 5 How will you rate mobile Phone for Education
- Q5 Do you find your Mobile phone to be burden
- Q6 Do you find Adequate Content for Your educational search
- Q7 Should Phone Be used in Teaching learning in day to day activities
- Q8 Do you think Smartphones will improve understanding and learning
- Q9 What preference mobile should be used for in lectures
- Q10 Do you think infrastructure is sufficient for use of Mobile
- Q11 Can Smartphone replace physical teaching
- Q12 Do you thing mobile will evolve to become integral part of education
- Q13 Are you using phones compulsively for education even now

The following analysis was done based on responses received

Observations

1. All of the sample Size are mobile phone users and add to it Smartphone users
2. On An Average Sample crowd gives a rating of 3.5/5 for usability of Mobile Phones in Education
3. It was noticed That students and Other category people use mobiles more vividly for varied purposes but mostly for Socializing. Professionals and Faculties generally use Mobile Phones for official work purpose mostly
4. Apart from Students .Grown ups generally are finding smartphones to be a Burden in their day to day activities
5. While Over automation and overdependence on technology is a major hindrance for Students (66.67% Students) .Faculties , Professionals and Others find Addiction and Misuse of Smartphones a Major Hindrance in use of Smartphones in Day to Day activities
6. Majority though felt Smartphones will improve teaching learning and furthermore should be brought in day to day education
7. When asked whether smartphone will become integral part of teaching learning overall everyone felt it will become integral part .Though most felt it wont eliminate the need for physical availability of teachers in class room environment in near future

Conclusion and Recommendation

As all of my sample crowd was smartphone user the first part of my hypothesis was proven correct which stated smartphones can be readily used in Education . Although after study of data it was observed that majority were ready to accept smartphones were ready to be used in day to day activities in current scenario . 77% believed the technology needs to be improved to incorporate mobile in day to day activities and 36% were of the opinion that mobile phones won't be used in near future as a day to day teaching learning tool.

The major hindrances noted were,

1. From student Over Automation
2. From Faculties misuse of Cell phones
3. From professionals lack of maturity for usage
4. From other users misuse of Cell Phones

Hence the Hypothesis provided earlier cant be proved as 100% accurate though from overall findings it can be concluded that the smartphone technology can be used in day to day activities with certain modification keeping a eye on the hindrances as both the technology and readiness of all four categories of sample audience support the use of Smartphone technology in day to day activities.

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21. Machine Learning for Water Main Pipe Condition Assessment

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Abstract

Machine Learning (ML) and Artificial Intelligence (AI) are two terms that are becoming more frequently used within our current technological ecosystem. Despite their growing prominence, few understand what these terms mean and how they can be applied to address significant business problems and direct strategy.

Artificial Intelligence is the science, technology, and methodologies used to train computers to “think” more like humans by simply supplying the computer with data and allowing the computer to determine the rules that govern the data. Computers will use their own processes to deduce patterns within the data. They typically uncover rules and patterns more optimized and discrete than what could be produced by humans alone.

In short, Artificial Intelligence is a tool to easily model data developed to help humans make decisions and find patterns within complex interactions of multiple variables. Machine Learning, the application of Artificial Intelligence, gives computer systems the ability to “learn” with data, without being explicitly programmed.

Applications of Machine Learning

Sample applications of machine learning

- 1) **Web search:** ranking page based on what you are most likely to click on.
- 2) **Finance:** decide who to send what credit card offers to. Evaluation of risk on credit offers. How to decide where to invest money.
- 3) **Computational biology:** rational design drugs in the computer based on past experiments.
- 4) **Space exploration:** space probes and radio astronomy.
- 5) **E-commerce:** Predicting customer churn. Whether or not a transaction is fraudulent.
- 6) **Information extraction:** Ask questions over databases across the web.

- 7) **Robotics:** how to handle uncertainty in new environments. Autonomous. Self-driving car.
- 8) **Social networks:** Data on relationships and preferences. Machine learning to extract value from data.
- 9) **Debugging:** Use in computer science problems like debugging. Labor intensive process. Could suggest where the bug could be

Basic Principles of Machine Learning

In Machine Learning, data is processed in either a supervised or unsupervised manner. That is, either the computer is given several examples of patterns to look for in order to guide the analytical process or the computer is tasked with determining rules and guidelines from scratch solely based on the data set it receives.

Artificial Intelligence and Machine Learning are modeling tools that leverage critical components such as advanced computing power, computational heuristics, and mathematical intuition to analyze non-linear and oftentimes dynamic data sets. In traditional data analysis when predicting a result from an input, one of the foremost methods, linear regression analysis would often be used—that is creating a ‘line of best fit.’

There are a number of different Machine Learning techniques. The following are the most common:

- 1. Artificial Neural Network
- 2. Naive Bayes
- 3. Logistic Regression
- 4. Random Forests

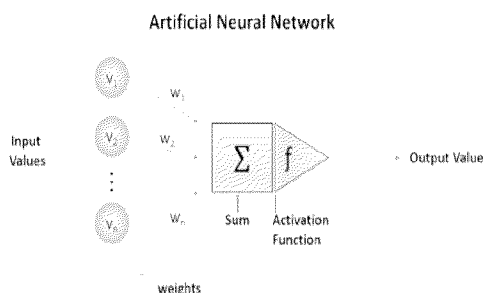
Artificial Neural Network (ANN)

An artificial neural network algorithm obtains its name from its similarity to the process of computation employed by brain cells (neurons). Neurons in our brains are connected to other neurons, receiving inputs from them. Depending on the strength of the collective inputs, the neuron will activate and “fire” a response.

If the strength of the collective inputs achieves a level above a certain threshold, the neuron will fire.

If the signal is weak and does not reach a particular threshold, the neuron will not fire.

Similarly, in an artificial neural network, various input values outlined in the diagram above (v_1 , v_2 , etc.) are fed into the algorithm, and each is given a particular weight (w_1 , w_2 , etc.). These values and weights are then multiplied and summed in a summation step according to this equation:

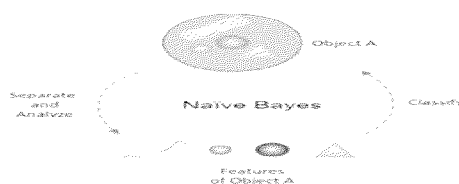


$$v_1(w_1) + (v_2)(w_2) + \dots (v_n)(w_n)$$

If the resulting value is above a particular threshold, an activation function will occur. Typically, this activation function will be a step function. That is, it will output a value of 1 if the value is above a certain threshold, and output 0 if the value falls below a certain threshold. For example, if the activation threshold for a certain neural network is set at 3, and the sum of the weighted values is 3.01, 5.7 or 294.072, then the activation function will output as 1.

However, if the sum results to a value below 3, the activation function will output as 0. The algorithm 'trains' itself by constantly adjusting the weight of a training set value depending on how much it deviates from the actual value it is trying to learn. Neural networks can be used to accomplish advanced tasks such as spam detection and even identifying fraudulent financial activity.

Naïve Bayes

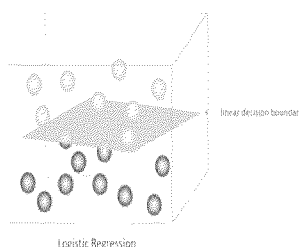


Naïve Bayes is performed by analyzing separate features of a particular object independently in order to classify the object. For example, a lemon may be considered a lemon if it is yellow, round, and at least two inches in diameter. However, these features separately by themselves would not identify a lemon.

A Naïve Bayes method will correlate these features and calculate their independent probability that the object in question is indeed a lemon and not an orange.

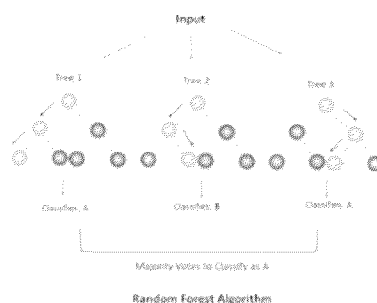
However, sometimes features of an object are not always independent of each other which is considered one of the major shortcomings of this method and why it is termed 'naïve.' Despite this, it is one of the strongest machine learning algorithms out there, often outperforming other more sophisticated methods.

Logistic Regression



Logistic regression is a commonly used classification model. When given various objects, it will determine key differences between them in order to predict the categories they belong to. For example, is it a red ball or a grey ball? Or, will a patient with a particular genetic signature respond to a certain drug? Will a student who has studied a certain number of hours pass a particular exam? Unlike linear regression models, where the output is a simple yes or no, with logistic regression the output is a probability.

Random Forests- A Random Forest algorithm is a method of classification composed of a large number of individual classification or 'decision' trees. Much like a forest is comprised of a large number of individual trees, a random forest algorithm is comprised of a large number of decision trees. A decision tree is essentially a series of yes/no questions that will systematically bucket a piece of data into a specific category, and make a 'decision' about what category the input belongs to. For example, a simple decision tree may be based on a series of yes/no questions about the weather. The outcome will determine if it is suitable to step outdoors.



A random forest expands on this by incorporating additional decision trees to derive an answer. For example, the question is whether to play soccer indoors or outdoors on a particular day. One tree may ask a number of yes/no questions accounting for time of year, time of day, temperature, etc. Another tree may account for the location and slope of the proposed field. A third tree may account for weather and wind velocity. The random forest uses all three trees to derive the best answer (indoor soccer vs. outdoor). Based on the ‘majority vote’ a recommendation can be made

Key Elements of Machine Learning

There are tens of thousands of machine learning algorithms and hundreds of new algorithms are developed every year.

Every machine learning algorithm has three components:

- 1) **Representation:** how to represent knowledge. Examples include decision trees, sets of rules, instances, graphical models, neural networks, support vector machines, model ensembles and others.
- 2) **Evaluation:** the way to evaluate candidate programs (hypotheses). Examples include accuracy, prediction and recall, squared error, likelihood, posterior probability, cost, margin, entropy k-L divergence and others.
- 3) **Optimization:** the way candidate programs are generated known as the search process. For example combinatorial optimization, convex optimization, constrained optimization.

Tools Assessment

For predictive purposes, machine learning algorithms utilize vast amounts of historical data. In the water main industry, the Likelihood of Failure Analysis (LoF), also known as Condition Assessment, provides the most valuable actionable predictions. Many utilities presume older pipes are in worse condition than newer pipes —especially older cast-iron pipes. But in fact, these pipes can be remarkably robust despite their age. On the other hand, pipes installed in more recent decades may show considerable deterioration, and could be near failure. It is important to use multiple variables and predictive approaches in LoF determination.

Methods For Water Assessment

Water main pipe condition is commonly assessed using the following methods:

Invasive

Invasive methods necessitate the removal of pipe material or the insertion of probes. These methods typically include coupon removal for analytical testing, video inspection, coupon insertion where a piece of material is inserted into the pipe and later removed for analytical testing, and magnetic flux leakage (MFL) tools in addition to other condition assessment based PIGs (Pipeline Inspection Gauges).

Non Invasive

Non-invasive methods generally involve techniques that do not compromise the integrity of the pipe, however many of these methods do still necessitate excavation adding to the time and expense involved in performing these assessments. These include acoustic velocity approaches, remote-field electromagnetic technologies, and handheld ultrasonic testing. Some of these methods are useful in detecting changes in stress level caused by soil induced bending along the length of the pipe.

Desktop

Desktop or computational approaches are by far the most cost effective and least invasive. The industry has adopted a number of different approaches ranging from a simple weighted score approach on an excel spreadsheet, to Cohort Analysis, LEYP, Kanew forecasting, Weibull modeling, and various commercially available condition assessment software.

Drawbacks Of Current Condition Assessment Methods**Invasive**

Although sampling a small piece of the existing pipe and running physical condition assessment tests may seem like a direct solution, many problems that result in failures are not uniformly distributed along the length of the pipe. Instead they are more localized. Therefore, many coupons may exhibit minimal to no material deterioration, leading to false negatives resulting in a poor understanding of the sample. In addition, certain invasive methods will not be available for all pipe material types, or diameters.

Non Invasive

Though non-invasive methodologies may be faster and somewhat less expensive than their more invasive counterparts, these assessments may not necessarily achieve a more robust and thorough assessment of pipe condition. In fact, they can suffer from similar technical

limitations in that they can only assess one point of the pipe at a time and not the pipe length as a whole. As the pipe condition can vary significantly from one point to another, the best that these methods can recommend is an average degradation assessment. This is less than ideal, for example, in the case of a pipe with one or two points of vulnerability with the remaining sections otherwise sound.

Desktop

Though desktop methods may seem to be the most straightforward approach, many of these methods are based on arbitrary assumptions and weights, i.e. older pipes are more in need of replacement than newer pipes. A more robust approach would be a large-scale comparison of these various factors to generate a more refined and accurate prediction based on the disparate interactions between component variables.

Using Machine Learning For Water Assessment

Due to the large amount of historical and geospatial data needed to run machine learning algorithms, water main condition assessment contains all the necessary components of an ideal application for machine learning in water utilities. The components include:

Historical data – installation year, pipe material, and break history

Categorical data – pressure class, geographical location, elevation and pipe diameter

Contingent data – proximity to rail systems and soil composition

The volume of data provides a unique opportunity for water utilities. Analyzing this data consistently can uncover trends, gain insight on pipeline health, and offer data-driven assessments. Coupling likelihood of failure with consequence of failure analysis could then accurately pinpoint areas most in need of replacement.

The Financial Benefits Of Machine Learning

The financial benefits of Machine Learning models are significant. Because of its accuracy and ability to predict future breakage events, these methods can assist municipal organizations in three ways:

- The deferment of current replacement jobs
- More accuracy in targeting at risk pipes
- As machine learning goes on, break rates will decrease over time

Conclusion

In the water utilities industry, due to the amount of data and variables involved, water main condition assessment is an ideal use case for this technology. For many water municipalities, water main condition assessment (LoF) is a low risk use case. The opportunity to save millions of dollars by avoiding the repair or replacement of perfectly good pipes is at last a reality.

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22. Data Center Using Green Cloud Computing: A Way to Manage Servers

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Abstract

Data Centers are integral part of IT Company. Without data centers there is no working with Networking and Cloud computing. Data centers needs to be designed to reduce power consumption by keeping the preferred quality of service. Cloud computing is a one of the dynamic field which introduce challenges for environmental protection. Cloud Computing can be easily transform into the green computing because it helps to improve overall energy efficiency as well as to reduce the e-waste and carbon footprint. We need to find aspects which can result in making cloud energy-efficient using green technology. This paper helps to clear the idea about “Green Cloud Computing” that provide strategies for saving energies in data centers.

Keywords: Data center, Green computing, Cloud computing, energy efficiency

Introduction

In recent years, public concern about environmental sustainability and corporate stewardship has grown steadily. Now all the work, communication, storage and processing etc. is fully digital i.e. machine oriented based on data centers and not manual. As compare with manual era, machine oriented approach having advantages and benefits like faster execution, easy way to handle with data due to use of use of various modern technology and machines. But utilization of high-end devices releases hazardous gases into environment and also consume huge amount of power.

Cloud Computing

A cloud data center operates data remotely and is located somewhere away from actual physical premises and which is used to store as well as to access massive amount of data through internet. It can also manage, maintain and updates various data centers situated in various geographic locations to secure your data. Thus cloud computing is far more cost effective way to design and use in data center and also it is having unlimited capacity for storage.

Green Computing

Green computing is also called green technology. It is the environmentally responsible as well as eco-friendly usage of computers and their resources. It includes good practices like to implement of energy efficient central processing units, servers and peripherals. Green computing is not only help to reduce resource consumption but also proper disposal of electronic waste to reduce the environmental impact. The concept of green computing is mainly based on green usage or green consumption, green disposal of electronic waste, green design consideration and green manufacturing of energy efficient devices. Government authorities also vigorously promote concepts of green computing through various voluntary programs and by introducing rules and regulations for their better enforcement.

Trends In Green Cloud Computing

Figure 1 present the reviewed papers by category and according to environmental issues like optimization of energy consumption, followed by resource management from last ten years.

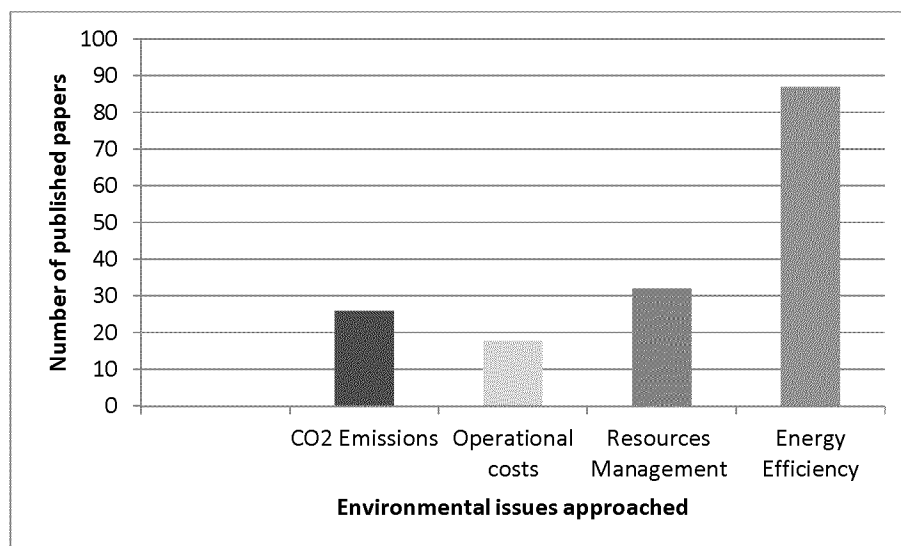


Figure 1. Distribution of surveys on environmental issues

Data Center

Data Center is centralized collection of large number of networked computer servers mainly used by several organizations for collecting, storage, remote processing, or distribution of large data. Traditionally data center is acted as hardware which can access data through local network of premises. However a data center has restricted capacity to expand the storage and workload of the organization. Data centers can progressively implements private as well as

public cloud, which builds on virtualization to help in automation. This concept is called as Green cloud data center.

Green Cloud Data Center

A green cloud data center is entirely built managed and operated on the principles of green computing as well as cloud computing. It is collection of stored, managed and distributed data, which is specially designed to achieve better energy efficiency with minimum environmental impact by minimizing the carbon footprint. It provides the same features as well as same functionality like typical data center but uses less energy and space. The design and all operations of green data centers are environmentally friendly. The concept of “Green cloud” is used in green data center as it requires no extra hardware to store data. It is having potential environmental benefits as it uses virtualization and also consumes negligible power resources for procedure and conservation. Virtualization of 100 numbers of servers is equivalent of planting around 1,570 trees or taking into consideration of 90 cars off the street.

Best Practices For Green Cloud Data Centers

1. Design Consideration

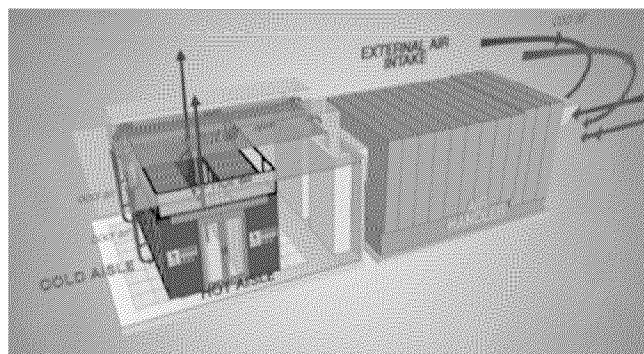


Figure 2. Green cloud Data center design

Modular design of Green data center and hot or cold aisle suppression ensure that the cold air enters into server rows and the hot air exiting from it don't mix, which is essential to increase cooling efficiency and reducing power consumption.

2. Regular Consumption Audits

Perform manual or automated audits for analysis of servers to monitor utilization rates of data center.

3. Measurement, monitoring and Management

Use only standardized energy efficient tools for regular measurements, reporting and management applications. It would be useful to measure Power Usage Effectiveness of equipment used in data center.

Conclusion

Green cloud data center is a new model envisioned to achieve not only efficient processing and utilization of computing but also help to minimize energy consumption in resources used. It is used in both individual level as well as all around the globe. Energy efficient data center resources need to be managed to drive Green Cloud computing. Thus it promotes an eco-friendly and cleaner environment with the benefits by reducing the impact on environment by cutting down e-waste in cheaper rate. This paper discusses the contribution of Green cloud computing in data center which efficiently utilizes power, space and cooling infrastructures to environment protection. It will helpful for data center managers to design and implement green data centers.

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