

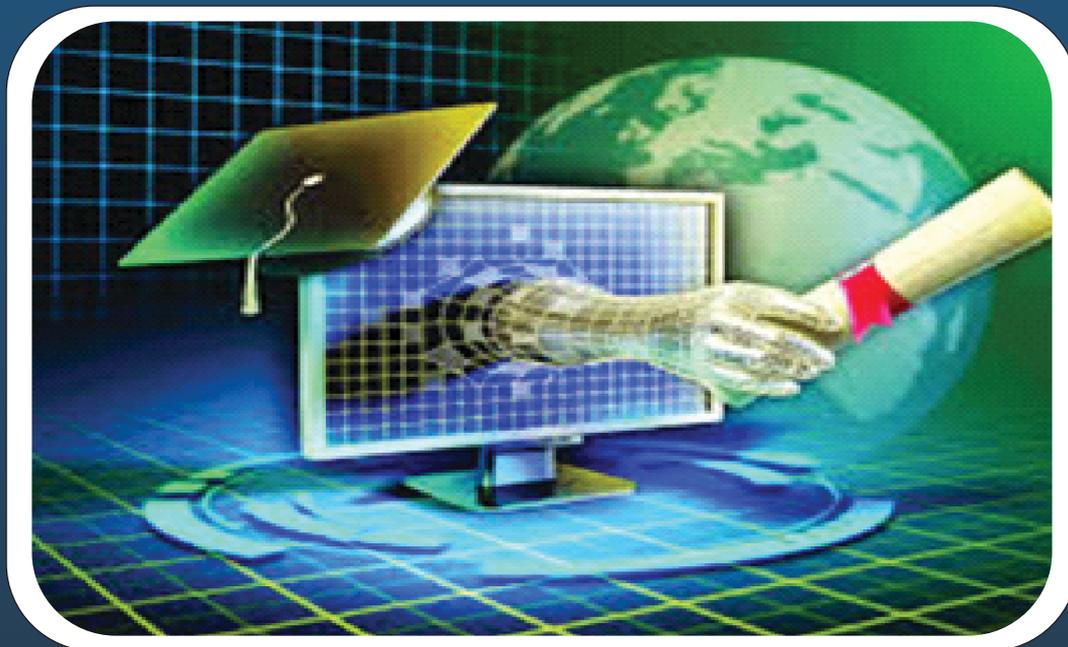
Anekant Institute of Management Studies (AIMS), Baramati

Edited Book

On

Digital Era: Emerging Opportunities

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**Anekant Education Society's
Anekant Institute of Management
Studies (AIMS), Baramati**

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Edited Book
On
Digital Era:
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Message from the Hon. President



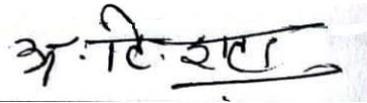
I extend a warm welcome to all the resource persons, delegates, faculty members and students for our 9th National Conference on “Digital Era: Reimagining Global Area”, being held in online mode.

Education, which has always played an important role in the life of man, has gained a lot of importance in the present time digitalization. The current developments have brought forth a variety of new avenues, fields, areas and opportunities which is an ideal situation for those who want to work hard for self-satisfaction and high earning.

Anekant Institute of Management Studies is an institution that aims at the holistic development of the student community. Our staff are hand-picked and trained to ensure that the students are given every possible support in all their endeavours – academic, professional or social. It is a management institution that ensures each of its students to have ready access to a wide range of learning.

In this age of technology, knowledge is just a click away and we ensure that everybody at our institutions has the best of technology at his/her disposal. Technology is changing and changing for betterment only, making lives simpler and easy to live, processing faster, aiding in decision making, converting luxuries to affordability and making the impossible seems possible. This National Conference is another effort from us in this direction.

Wishing a great success to all the concerned...

A handwritten signature in black ink, written in Devanagari script, which reads 'अ.दि.शर्मा'.

Shri. Arahad Das H. Shah (Saraf)
AES, Baramati

Message from the Hon. Secretary, AES



GREETINGS AND WELCOME TO THE NATIONAL CONFERENCE ON “DIGITAL ERA: REIMAGINING GLOBAL ARENA”

I have a satisfying sense of pride and happiness in being the host of this academic event. All our institutions including AIMS, Baramati are dedicated to honing the character of students and helping them attain higher standards of intellectual excellence. Along with subjects prescribed by the curriculum, we also provide soft skills and life skills to our students so that each individual emerges as a better human being.

We constantly introspect and review our performance keeping in mind the dreams of our beloved Founders and all the important stakeholders. We plan meticulously for the years ahead and pledge to rededicate ourselves to the cause of quality education and open new vistas in the arena of learning and research.

I am sure, the present conference will add value to the thought process, understanding, and overall professional /Social/ personal lives of the participants by means of mutual deliberations.

My hearty wishes to everyone associated with the National Conference.



Shri. Jawahar M. Shaha (Wagholikar)
AES, Baramati

Message from the Hon. Secretary, AIMS



A Hearty Welcome to all.....

We have been observing for over a year that, the pandemic crisis has brought the whole world to a near shut down, but the digital world continues to progress braving all kinds of distancing and slow down. Rather, the digital world has fortified its stance in enabling educational institutions, business houses and all our institutions to survive, sustain and grow despite the operational challenges.

As the significance of the digitization of businesses and functions grow from imperative to inevitable, we present a platform to address the 360-degree overview of challenge vis-à-vis solution approach through digitization.

The present Conference on **Digital Era: Reimagining Global Arena** and the release of Edited Book “**Digital Era: Emerging Opportunities**” brings you the latest trends and covers almost all the vital aspects of the digital transformation pertinent to versatile industries and functions. This is a platform where industry experts and business leaders, solution providers can converge on a common platform to explore revolutionary technologies, best practices and applicable solutions for any business. This is a curated opportunity to come together to integrate knowledge and idea sharing against the backdrop of adoptable technologies.

The present event is being conducted on online platform, making it possible for all across the world to participate and present their ideas on the Conference theme.

I wish the National Conference a great success.

A handwritten signature in black ink, appearing to read 'Milind R. Shah'.

Shri. Milind R. Shah (Wagholikar)
Secretary, AIMS, Baramati

Preface



Seasons Best Greetings!!!

I am happy to welcome, all scholars, academicians, fellow members from industries, participants, my dear students and all our well-wishers. I am indeed delighted to reminiscence all our previous National Conferences, wherein we had great intellectual's networking and learning environment at large.

This is being the 9th National Conference in consistency of sequence, titled on '**Digital Era: Reimagining Global Arena**' has its own decade privilege. The conference carries great use and apt to the current scenario. This conference certainly is a power engine to the business and entire working environment. Digitalization bound to pave away the progress and prosperity to the global arena. Further, this conference had intellectual contribution and research papers from PAN India to be chronicled as Edited Book titled **Digital Era: Emerging Opportunities**.

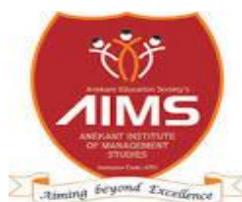
Undoubtedly AIMS is the reflection of student's patronage year-on-year and the staffs are the architect in the process. The accountability and involvement of every single staff has made it perfect and punctual. The committees namely review & editing led by Dr. U.S.Kollimath, Dr.D.P.More and Prof.S.S.Khatri. The registration headed by Prof. S.S. Badave. Presentation Committee administered by Dr.Manisha A. Vhora and Prof. P.D.Hanchate. The feedback & certification monitored by Dr. A. Y. Dikshit and social media headed by Prof. S.S. Jadhav. The technical know-how perfectly dealt by techno-savvy Dr.P.V.Yadav & Dr.T.V.Chavan. The **Convener** of the conference Dr. V.N.Sayankar meticulously coordinated the entire minute to minute conference proceedings and he himself handled the anchoring team. And all non-teaching staff namely Mr. V.D.Shinde, Mrs. S.M.Beldar, Mr.U.P.Gardi and Mr.A.S Dengale are really inextricably tied up with our progression.

Digitalization is Life!

Regards

A handwritten signature in blue ink, appearing to be 'M.A. Lahori', written on a light yellow background.

Dr. M.A. Lahori
Director, AIMS, Baramati.



Edited eBook

Digital Era: Emerging Opportunities

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Significant Concerns Affecting Western Maharashtra's Primary Agricultural Cooperative Societies

Ms. Preeti Dikshit

Research Scholar,
Annasaheb Magar Mahavidyalaya, Hadapsar
preeti.a.dikshit@gmail.

Dr. Ashlesha Mungi

Assistant Professor, Shardabai Pawar Mahila Mahavidyalaya,
Shardanagar
armungi2010@gmail.com

Abstract: A village or a community of small villages organizes the Main Agricultural Credit Society at the grass-roots level. It is the fundamental unit that deals with rural credit to farmers in order to meet their financial needs. Appropriate and timely financing is needed for the growth of the agricultural sector and related activities. However, several financial issues arise during the growth of the cooperative structure. The aim of this paper is to investigate critical issues in agricultural cooperatives. The study is based on empirical evidence. Western Maharashtra has been chosen as the study location. Respondents are the Chairman and Secretary of chosen PACS. To collect primary data, interviews are performed. The findings and recommendations are presented to highlight PACS' major concerns and boost agricultural cooperative efficiency.

Key Words: Primary Agricultural Cooperative Societies

Introduction: Cooperative businesses play an important role in the economy of Western Maharashtra, especially in the agricultural sector. Cooperatives function under a business model that poses specific financial, governance, policy, and communication challenges. Since the early 1900s, agricultural economists have been motivated to pursue research and education because of these peculiar difficulties and the prevalence of cooperatives in Indian agriculture. Agricultural cooperatives were formed under the Co-operative Credit Societies Act of 1904 to help small and marginal farmers collect their agricultural production. In Maharashtra, the cooperative model has long been the dominant method of collecting farmer output; however, the cooperative model has several shortcomings that prevent successful collective action. The majority of Maharashtra's Primary Agricultural Credit Societies (PACS) have prioritised their political agenda over their entities' economic benefits. As a consequence, the cooperative model identifies a number of flaws that hinder successful group action. Access to capital, technical advances, and competitive inputs and markets are just a few of the issues that small and marginal farmers face. A large number of these cooperatives in Maharashtra are currently in financial distress and are becoming increasingly reliant on government subsidies to

survive. PACS is the most appropriate institutional form for mobilising farmers and building their capacity to collectively exploit their production and marketing power, according to the Maharashtra government. This paper is the product of an empirical analysis of external environmental and strategic problems that concern agricultural cooperatives. This paper examines the financial, governance, and communication challenges that agricultural cooperatives face. This research aims to recognise new cooperative development problems that concern agricultural cooperatives.

Review of the Literature: Agricultural economists' interest in agricultural cooperatives is understandable and justified. Agricultural economists are well-positioned to answer the particular problems and economic concerns that the agricultural cooperative credit business model raises. Furthermore, since agricultural cooperatives are owned and operated by farmers, cooperative-related research has the potential to support a significant number of farmers. Agricultural marketing cooperatives have about 72015,000 members (Joshi et al., 2019). There have also been a variety of literature and research-based attempts to recognise agricultural cooperative problems, crucial issues, and

success factors. The aim of this paper is to summarise the cooperative community's current problems and needs.

Research Methodology:

In a nutshell, research methodology is as follows:

1. Study Philosophy: Methodological
2. Research Methodology: Descriptive
1. 3. Methodology: Quantitative, cross-sectional, and positivist
3. Main and secondary data forms
4. Interview Diary as a data collection tool
5. Survey as a data collection method
6. Attendees: Chairman and selected PACS members
7. Convenience Sampling is sampling method.

Question: What are the most urgent problems for agricultural cooperatives?

Research Areas: The current study looks at a few main issues that PACS in Pune, Nasik, Satara, Sangli, Solapur, Kolhapur, and Ahmednagar are grappling with. Western Maharashtra is divided into seven districts.

The research focuses on three main areas:

1. Studying external environmental and strategic issues that affect agricultural cooperatives.
2. Research into agricultural cooperatives' financial, governance, and communication problems.
3. Researching new cooperative growth problems that concern agricultural cooperatives.

Data is gathered from a variety of sources, both primary and secondary.

There are three secondary sources mentioned:

1. National Federation of State Cooperative Banks Ltd. reports.
2. NABARD expert committee report on three-tiered short-term cooperative credit systems.
3. Indian Co-operative Movement Statistical Profile-2018, National Co-operative Union of India.

Interviews with the Chairman of selected PACS are used to gather primary data. A two-stage updated Delphi survey process and a face-to-face focus panel discussion were used to identify the problems and concerns facing cooperatives. A

Delphi survey is a multi-step expert survey in which the results of the first stage are used to refine the results of the second and subsequent stages. The efficiency of PACS is the criterion for selecting it. The top ten performing PACS in each study area strata are chosen. Data from the State of Maharashtra's Agri-business and Rural Transformation Program Project (SMART) is used to classify the top 10 PACS. One Chairman of each PACS was approached for this report.

In the research area, there are seven districts, and the top ten PACS represent a total of 70 PACS. As a result, a population of 70 people is approached. 28 participants, or 41%, agreed to take part in the study and gave up their time for a personal interview with researchers. Two respondents asked for their answers to be deleted. This means that the study's Sample Unit is 26 Chairpersons.

The research design refers to a 5-year time period for gathering secondary data, i.e. the accounting year beginning in 2015 and ending in 2020. Following a study of the literature, the researchers identified three important factors. These elements have been described as impact factors that cause inconsistency. A purposeful approach to study design is evident.

The results of each personal interview with a selected sample are documented in the study diary. The results are then categorized according to their homogeneity. This knowledge is displayed in the form of bar graphs based on the percentage of homogeneity.

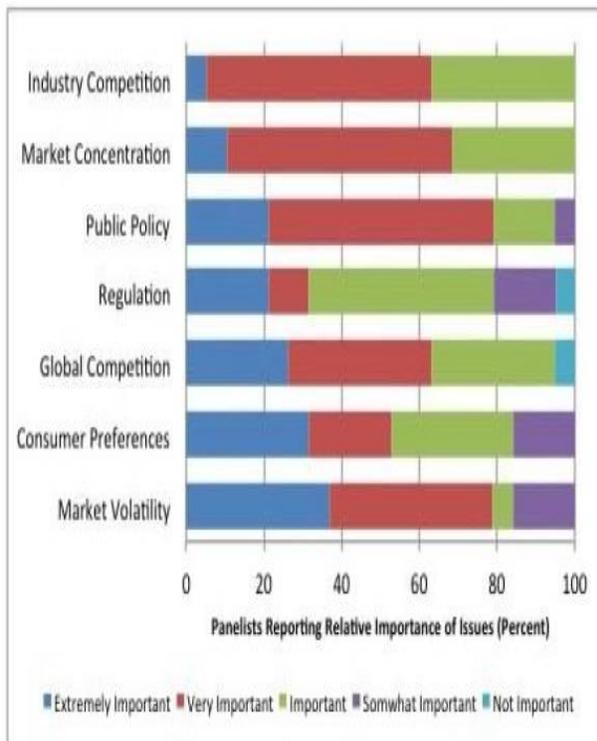
Limitations: Every analogy is a construction in the sense that it determines which elements or parts of social reality are to be compared and in which dimensions. Consequently, contrast assists in the development of an orderly view of this reality, i.e., an organized way of seeing it in one way rather than several different ways. Therefore, rather than being deployed as if it were an unproblematic and self-evident form of study, it should be commented on and brought into the realm of knowledge. Furthermore, since comparison organizes perception in one way or another, it is important to be aware of the kind of order it produces.

Scope: PACS systems are plagued by a plethora of issues. The current analysis is an effort to evaluate the financial results of PACSs in a systematic manner, considering both quantitative and qualitative variables.

Data Analysis and Interpretation:

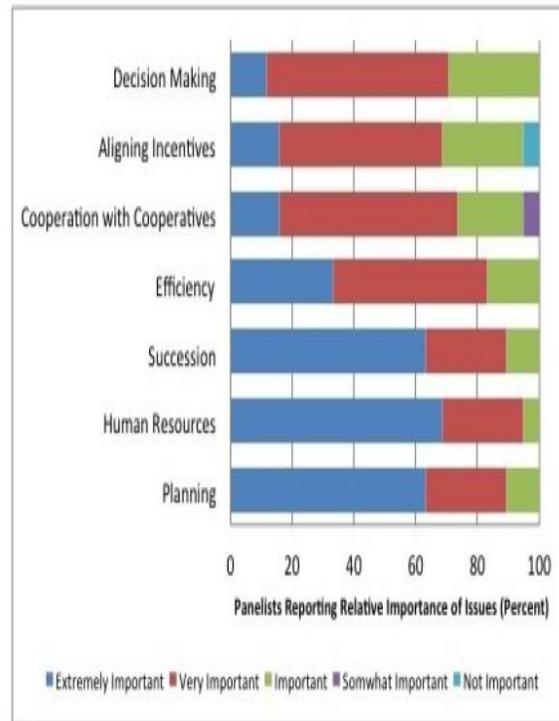
Objective 1 Studying external environmental and strategic problems that concern agricultural cooperatives is the first goal.

Figure 1: External Issues Affecting Agricultural Cooperatives



Interpretation and Findings: The respondents indicated that a number of issues outside of PACS are affecting them in Western Maharashtra (Figure 1). The most critical problem was considered to be the uncertainty of product and input markets. Recent market policies, global competition, industry competition, and market concentration were all rated as highly important or very important by the respondents. Nearly a third of the respondents classified consumer preferences as “extremely important.”

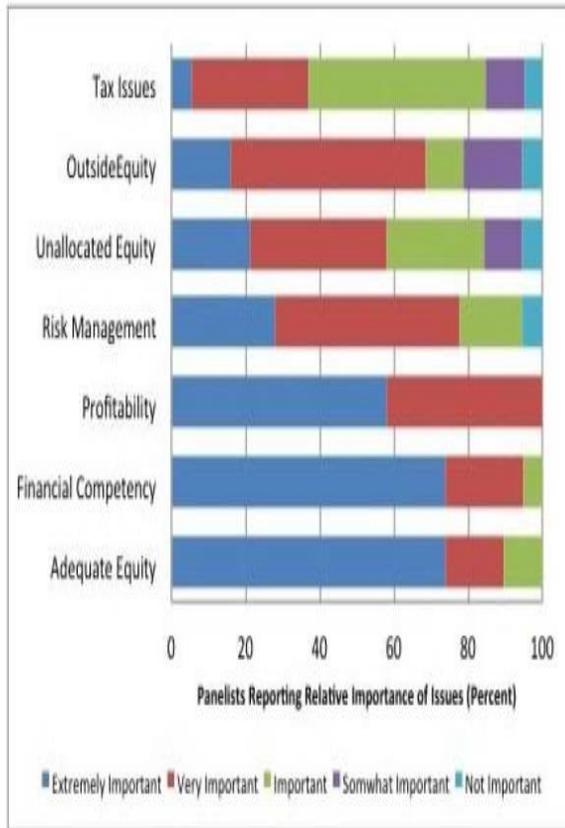
Figure 2: Strategy issues Affecting Agricultural Cooperatives



Interpretation and Findings: The respondents listed a range of concerns and problems that are fundamentally relevant to cooperatives and must be addressed in the light of the external world in which they work. The collective understanding of the strategic challenges confronting cooperatives was influenced by these external influences (Figure 2). Almost all cooperative leaders regarded the need for successful strategic planning as a very important or extremely important issue. Human resource concerns dominated the strategy field, aside from planning. The value of succession planning for management and key staff, recruiting and retaining high-quality personnel, and aligning manager and employee rewards with member interests all earned high marks. Gaining productivity and retaining profitability in their market segments was viewed as extremely important by a third of the respondents, while the cooperative's ability to make reliable, timely decisions was viewed as extremely important by 12%. It was also necessary for the cooperative to be able to establish partnerships with investor-owned companies or other cooperatives.

Objective 2: Research agricultural cooperatives' financial, governance, and communication issues.

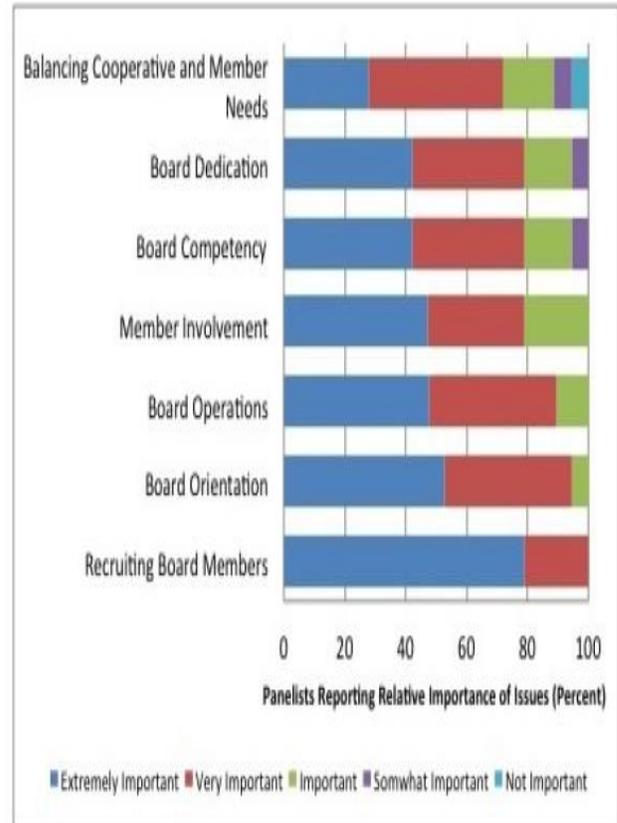
Figure 3: Finance Issues Affecting Agricultural Cooperatives



Interpretation and Findings: Respondents listed a variety of financial problems that are currently impacting cooperative performance. The most difficult task, they said, was securing and retaining sufficient equity. This problem is linked to the cooperative business model's characteristics, since cooperatives often generate equity from benefit streams while often managing processes to return—or redeem—that equity to members. As a result, it's not shocking that maintaining adequate and consistent profitability, as well as risk management, were identified as critical issues. Other financial difficulties related to equity acquisition were identified by the respondents. It was thought to be necessary to use outside, non-member equity. The majority of respondents regarded the recent pattern of generating unallocated equity (keeping earnings) rather than distributing stock to individual members as an extremely or

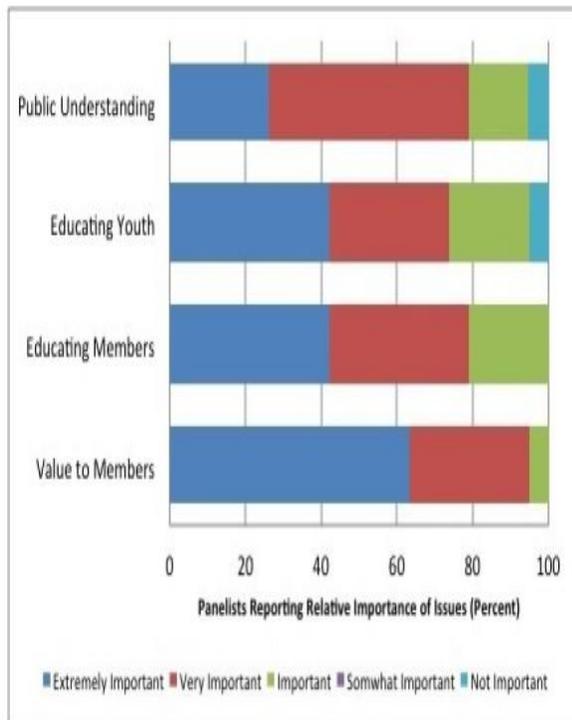
very significant question. The fact that the respondents found the financial competency of both managers and directors to be an extremely important concern shows the importance of these challenges.

Figure 4: Governance Issues Affecting Agricultural Cooperatives



Findings & Interpretation: The fact that producer-members rule agricultural cooperatives is both strength and an obstacle for cooperatives. The most significant governance challenge (Figure 4) is finding and hiring directors with the required skill set. Another significant factor of member participation in a cooperative is their proximity to board members or their ability to run for the board. Other governance concerns raised by the panel included the board of directors' effectiveness and efficiency. The addition of outside, non-member directors to agricultural cooperatives is a recent trend in the industry, and the panel believes it is an important issue facing modern cooperatives.

Figure 5: Communication Issues Affecting Agricultural Cooperatives

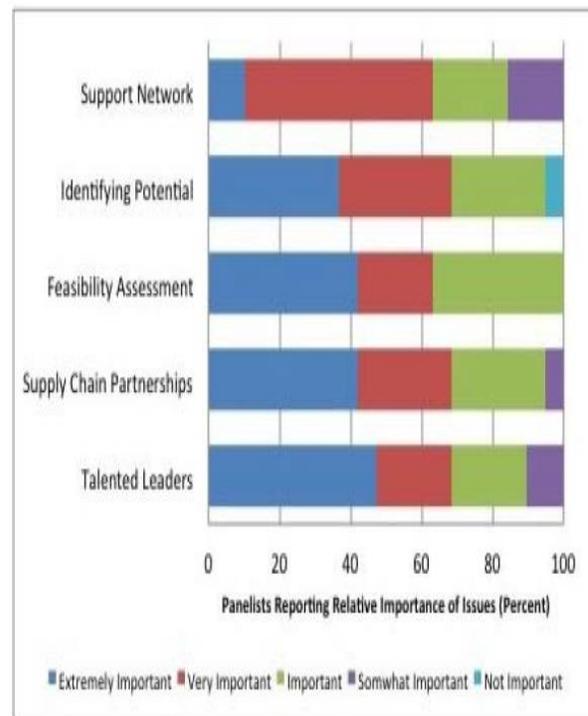


Interpretation and Findings: The respondents reported a variety of communication-related problems (Figure 5). Cooperatives, like all companies, exist to build and provide value to their consumers and owners. Since the cooperative member is both a consumer and a client, there is tension in the generation and distribution of economic benefits. This raises unique challenges in terms of communicating the cooperative's importance to both its members and the general public. The most significant communication problem found was communicating the cooperative's importance to its members. Cooperatives add value to members' lives through the rates they provide, their access to the market, the specific services they deliver, market force counterbalancing, and, of course, the financial return they generate. A key issue was identifying how to communicate this complex value package, particularly to large producer-members. The complexity of educating members so that they understand and engage in decisions about maintaining funds, managing equity, distributing profits, and rationalising business operations is linked to this problem.

Reaching out to young producers and future workers, as well as the public awareness of the cooperative business model, are also important issues. Cooperatives have struggled to create a clear, cohesive message that explains the cooperative business model's importance in all industries, according to the respondents.

Objective 3: Studying new cooperative growth problems concerning agricultural cooperatives is the third aim.

Figure 6: New Cooperative Development Issues



Findings and Recommendations: Newly formed agricultural cooperatives face problems that are distinct from those faced by existing companies. Cooperative membership—and therefore ownership—is fluid and restricted to the company's existing customers. In contrast to future generations, founding members of a cooperative may have a somewhat different understanding of the firm's worth. Surprisingly, many of the issues faced by new cooperatives are similar to those faced by existing cooperatives, according to the respondents (Figure 6). The acquisition of substantial equity, as well as the identification and recruitment of knowledgeable leadership, are seen as

major roadblocks to the growth of effective cooperatives. Other major challenges for new cooperatives include forming supply-chain relationships and accurately predicting demand and market viability. Managers and board members of new cooperatives, according to the respondents, need connections with their counterparts in existing, active firms.

Conclusion: While many of the researchers' crucial problems and concerns are not specific to agricultural cooperatives, the majority of them have unique consequences. In contrast to investor-owned companies, the cooperative business model has different mechanisms for equity formation, profit sharing, and governance. A cooperative's economic relationship with its members and users differs from that of an investor-owned company. For cooperative leaders, this presents obstacles and opportunities, as well as study questions for agricultural economists. These problems are summarized and discussed in the article. The paper addresses topics such as policy, economics, governance, communication, and the creation of new cooperatives.

It offers insight into how agricultural cooperatives' specific business structure affects the supply chain, as well as reliable demand forecasting and business viability.

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Impact of COVID-19 on Adoption of Digital Payments in India

Ms. Vedashree Mali

Research Scholar,
Kavyaitri Bahinabai Chaudhari North Maharashtra University,
Jalgaon.
vedashree.mali3@gmail.com

Dr. Vinod Sayankar

Professor,
Anekant Institute of Management Studies,
Baramati.
vn_sayankar@yahoo.com

Abstract: *The pandemic of COVID-19 has impacted entire world in all aspects may it be mentally, physically or financially, but at the same time it has a positive side of the same. The article discusses the impact of COVID-19 pandemic on the adoption of digital payment systems in India. The Indian economy is mostly centred on cash based trades. Especially when it comes to tiny businesses, they were not at all open to either make or receive payments through digital payment platforms. In Spite of substantial efforts to promote digital payments has been taken during last 5-6 years, rates of using digital payment systems remained limited in most of the population in India. After demonetization digital payment system got little bit of response but still there was no substantial amount of use of the same was not there. But due to this COVID-19 pandemic the scenario changed significantly. Through this paper the researchers tried to explore analyze the same.*

Keywords- Digital payment, COVID-19 pandemic, cash transactions, demonetization.

Introduction: In today's era we talk about and trade in crypto currency, but still in India there is a enormous proportion of cash based transactions. India is slowly moving ahead on the path of digital revolution. Digital payment system would be considered as landmark in the process of achieving cashless economy. During last decade, there have been a lot of efforts taken by concerned policymakers and regulators to improve the quantum of cashless economy over cash economy. But it didn't result into incremental use of digital payment system. The digital payment system got its importance after demonetization happened in the year of 2016 and during that period people have started exploring the options of digital payment system as there was unavailability of hard cash, difficulty in getting cash from ATMs and bank branches. So people had started finding the option of cashless transactions.

In contradiction of the pessimism created by the Covid-19 pandemic and the lockdown imposed across the world, the digital payment platforms and fintech was one of the sectors, which observed sudden high growth in 2020 as a most of the people chosen to stay at home, making transaction online and paying through digital payment systems. The growth of the Indian digital payments took considerable pace after COVID-19 pandemic. The simple reason behind that is people are still reluctant for exchanging cash as it may lead to infection. Right from

Unified Payments Interface(UPI) to the Aadhar-enabled Payment System (AePS) registering glamorous growth.

Cumulative Payment Transactions in the last 12 months

	No of transactions (in crore)	% growth (month on month)
Jan '20	436.43	
Feb '20	847.44	94.17
March '20	1,262.84	49.02
April '20	1,566.22	24.02
May '20	1,890.23	20.69
June '20	2,298.85	21.62
July '20	2,699.06	17.41
Aug '20	3,132.43	16.06
Sept '20	3,620.51	15.58
Oct '20	4,108.29	13.47
Nov '20	4,623.25	12.53
Dec '20	4,764.28	03.05



Growing popularity of digital payments:

	No. of transactions (in crore)
Target for 2020-21	4,630
Actuals (24/12)	3,502
Achieved 2019-20	4,580

Source: digipay.gov.in

Figures of Debit Card, Credit Card, PPI, RTGS and NEFT for last two months is provisional and based on pro-rata of figures of previous months.

Source: The Hindu

People are using different modes of digital payment ranging from NEFT, RTGS, IMPS to UPIs to prevent use of cash possibly which may require them to go to crowded places. The concerned entities and authorities also promoted digital payment systems and encouraged people to use the same and tried to create more conducive digital environment for the better and smoother use of digital payment platforms. The RBI Governor, Mr. Shaktikanta Das, advised Indian people to use the digital transaction structure developed in the country so that it will lead to control the consequence of the Coronavirus Pandemic. The Government of India and fintech sector together are reforming the digital payment industry in India to

encourage a cashless economy. As per the Research and Markets' study which studied around 800 million Indians who use mobile payment system, the Indian digital payments industry rose at INR 2,153 trillion in the year of 2020 and it will further grow at 27% CAGR and will reach INR 7,092 trillion by Financial Year 2025. This growth will be dependent on the following factors-

- Ease of making payments online or digitally.
- The initiatives taken by Government of India
- Considerably low diffusion of economic and financial services in rural areas
- Increasing proportions of millennials
- Easy availability of smartphones at affordable costs

Due to the abovementioned reasons and opportunities there a lot of fintech start-ups are attracting good amount of valuation, funding and foreign investments also.

Type of Digital Payment System

1. Bank Cards

These consist of Debit cards, credit cards and other cards like travel cards and so on. These cards generally offer more security, accessibility, and control over other mode of digital payment as they provide 2 factor security check in the form of PIN and OTP which the user gets on his registered mobile number.

2. Unstructured Supplementary Service Data (USSD)

This mode of digital payment allows mobile banking transactions with the help of basic feature mobile phone. To use this facility there is no need of internet data facility. It is intended to offer financial strengthening and most importantly inclusion of financially excluded class of the society into the formal banking system.

3. Aadhaar Enabled Payment System (AEPS)

This is a service managed by banks which enables online exchange of business transaction at Point of Sale or Micro ATMs through the Business Correspondents and through bank mitra of any bank using the system of Aadhaar validation.

4. Unified Payments Interface (UPI)

This is considered as most popular and widely used digital payment platform. It enables numerous bank accounts into one mobile application of the contributing bank, combining a number of banking services like bank transfer & payments. It offers the Peer-to-Peer money assortment request which can be arranged and compensated according to the necessity and accessibility. All the banks provide their own UPI Application for all types of operating systems like Android, Windows and iOS.

5. Mobile Wallets

Using a cell phone wallet is like carrying hard cash in digital structure. The user will be able to either connect his/her credit card or debit card to mobile phone wallet application or he/she can transmit cash online to the mobile wallet he/she is using. This gives the user an easy of operating as they don't have carry their cards physically and they will be able to pay with their smartphone, tablet, or even through their smart watch. To use the mobile wallets, the person's bank account needs to be connected to the mobile wallet. Generally most of the banks have their own digital wallets and there are a few of private companies also like Paytm, Freecharge, Mobikwik, Airtel Money, Jio Money, SBI Buddy and so on.

6. Point of Sale (PoS)

A point of sale generally known as PoS is the spot where transaction takes place at a macro level. A PoS may be shopping centres, a marketplace or a city. Vendors consider a PoS as facility using which a purchaser conducts a transaction on a micro level,.

7. Internet Banking

This is also considered as one of the most secured platforms but if used wisely only. It is well-known as electronic banking, virtual banking as well. This is an electronic disbursement structure that enables the consumer of a bank or other financial institution to offer a range of financial transactions through the financial institution's website.

8. Mobile Banking

Through this mode of digital payment, the user has to use the respective bank's mobile application. Now days every

bank offers its own mobile banking Application for Android OS, Windows OS and iOS.

9. Micro ATMs

Micro ATM is a gadget generally is used by Business Correspondents (BC) to offer fundamental financial transactions. This option facilitates the Business Correspondents to perform immediate operations. This platform facilitates functions through low cost machines which will be linked to the financial institutions all over the country. This facilitates the user to immediately deposit or withdraw funds. This is built on a mobile phone connection to make it available with each BC. The beneficiary needs to get his/her identity verified and withdraw or deposit money into their bank accounts. Basically, BCs act out as good as a financial institution for the users and all they have to do is to authenticate himself/herself using UID.

Though there are so many platforms available for making payments digitally, still there are many issues and concerns people are facing. Major concern about digital payment is safety and security. That's why majority of the people are reluctant to use digital payment system and they still use cash only to complete their transactions.

To overcome those limitations or obstacles following factors need to be critically implemented and the respective developments has to be taken place.

- The users many times face a lot of issues while transferring funds online but there is less amount of the system of complaint mechanism. So now it is the high time that this complaint mechanism and settlement channels have to be developed.
- The complaints and issues should be resolved on real-time basis.
- There is need that financial literacy and digital literacy has to be improved and there should be great efforts taken by both the regulators and the users as well.
- The required infrastructure has to be developed at great pace because most of the transactions can't be completed due to poor connectivity.
- There is always concern about the safety and security while performing transactions digitally. So there should be great amount of vigilance and security measurements implemented by the regulators.
- There is one more concern amongst the users that sometimes while making transactions through selected platforms, they have to bear the charges and sometimes those charge are too high. So this issue has to be addressed so that people won't be hesitant to use the digital platform for their financial transactions.

If the abovementioned issues are addressed effectively then there would definitely be positive response towards the use of digital payment platforms and the objective of cashless economy would be achieved soon. This will possibly be lead to full financial inclusion.

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A Study on Digital Marketing and its Impact

V. S. Kurkure

Assistant Professor,
Matoshri College of Management and Research Centre Eklahare, Nashik.
vskurkure@gmail.com

Abstract: Digital marketing is play vital role in marketing process. Digital marketing in which advertising delivered through the digital channel such as Search engine, Website, social media, Email and mobile apps. Digital marketing is method which helpful for product, brand development through the online media. Consumer has given priority to the online shopping due to the digital marketing process. The study of consumer behavior allows to them understands the expectations of consumers in the markets. It also helps them make changes that will empower consumer to make better purchasing decision.

Keywords: Digital marketing, Advertising, Consumer behavior

Introduction: Digital marketing is also called as online marketing. The digital marketing process customers are connected using the online mode or digital communication. It will be easier to develop the brand, promotion of product in the market. The different electronic gadgets such as laptop, smart phone, and computer are use in digital business. Many other organizations are developing strategy and it will implement through various platform in digital marketing process. The different forms are utilized in digital system like that media post, video, advertisement are responsible for the product and brand development in digital marketing.

Objectives:

1. Improve awareness about the product and its demand.
2. To know about the consumer behavior.
3. Study of consumer purchase on digital marketing.

Research Methodology:

Primary Data: The research is done through observation and collection of data through questionnaires.

Sample Size: The sample size is determined as 50 respondents

Analysis and Discussion:

Traditional marketing

Traditional marketing it included many items like print advertisement, magazine, news paper, business cards. In Traditional marketing system people are utilize the

different network or sources for buying the product. In Traditional marketing organization are refer different tools which is important for marketing process of goods and services. It consists of Newspaper, Radio, television etc. The consumer also aware about the many other advertisement, information data through the Traditional marketing tools. Traditional marketing is offline mode for organization through they can reach to the customer for product advertisement.

Digital marketing:

In 21th century digital marketing is one of the technologies which are continuously developed. The various tools are helpful for Digital marketing development like that advertisement, online site, you tube etc. In Digital marketing we use the electronic device for online shopping, of any product. The major important of Digital marketing system are to reduce time for marketing process and it beneficial for organization reaching to the customer. In Digital marketing system we can post different article, messages video or communication are also post on social media website. It is great communication tool for development of marketing for any other organization.

Why Digital marketing:

- It is fast process in marketing system.
- We can reach to the more people for advertisement.
- It under direct contact from producer to the customer.

Analysis and Discussion:**Awareness about consumer**

Particulars	Number of Respondents	Percentage of Respondents
Awareness about online shopping	50	100%
Not awareness about the online shopping	-----	-----
Total	50	100%

Consumer priority to the online shopping

Particulars	Number of Respondents	Percentage of Respondents
products variation	21	42%
Lower price	18	36%
Modes of payment	11	22%
Total	50	100%

Digital marketing helpful for product information

Particulars	Number of Respondents	Percentage of Respondents
Excellent	22	44%
good	18	36%
Average	10	20%
Total	50	100%

Marketing channel for brand awareness

Particular	Number of Respondents	Percentage of Respondents
Public advertising	12	24%
Social media	20	40%
You tube video	18	36%
Total	50	100%

Impact of Digital Marketing

Particulars	Number of Respondents	Percentage of Respondents
Consumer behavior	16	32%
Business	23	46%
Indian economy	11	22%
Total	50	100%

Findings-

- 1) In digital marketing system consumer are satisfied through digital marketing.
- 2) More information is obtained from the Digital marketing.
- 3) Social media is helpful for the brand awareness in digital marketing system.
- 4) Impact of digital marketing is maximum on business sector in different way.
- 5) Consumer has priority to the online shopping due to the more variety of products.

Conclusion:

Digital marketing is very crucial for any business Development. The product development advertisement and selling process of product. Digital marketing is helpful for brand awareness, Product information Online shopping its play important role. The digital marketing is important key for development of business.

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Impact of COVID-19 on the Adoption of Mobile Wallet

Ms. Alka Arora

Assistant Professor
Symbiosis College of Arts and Commerce, Pune
alkaarora1202@gmail.com

Dr. V. N. Sayankar

Professor
Anekant Institute of Management Studies, Baramati
vnsayasnkar@gmail.com

Abstract: *With the onset of 2020, a deadly novel Corona virus hit India, due to which thousands of people lost their lives. According to the World Health Organisation, one of the transmission mechanism of COVID-19 is the coins and paper money passed between buyers and sellers. Due to the danger of contaminated surfaces, contactless payments are viewed as the most hygienic mode of payment. As such mobile wallet which were previously viewed as mode of convenience are now becoming the necessity in the light of pandemic. This study is an attempt to understand the impact of COVID-19 on adoption of mobile wallet. Even the monthly usage of mobile wallet pre and post COVID-19 is taken in to account to get better understanding in this study.*

Keywords: *COVID-19, Mobile wallet, Adoption*

Introduction: Indian economy was dominated by cash transactions till the announcement of demonetization policy on 9th November 2016. This policy was initiated by government of India in order to cope with the threats like corruption, currency duplication and black money. With rapidly changing technology, transactions in digital mode have been developed over the years but did not get momentum as expected. This was because of the convenience of using hard cash for transactions by people. This convenience is posing threats to economy in form of corruption, currency duplication and black money. Various studies and analysts have suggested that every economy to move towards the cashless economy because cashless transactions are done either through the online mode or bank service channels which makes the transactions more transparent, and each transaction can be traced in future for any information. Thus, implementation of cashless transactions can reduce these threats to minimal level. So in order to boost the cashless transactions RBI have promoted and licensed various payment options from early 1980s. One of such method is Mobile wallet which was licensed from RBI under Payment and Settlement Act 2007. Initially mobile wallet did not got momentum due to psychological barrier, but it gained momentum after demonetization policy. As this policy banned high denomination of currency i.e., Rs 1000 and Rs 500 from market circulation. This leads to the shortage of currency and led to the increase in the momentum of cashless transactions. Until demonetization,

mobile wallet only account for 1% of total cashless transactions. Besides demonetization, the other two major contributors to the rise in adoption of mobile wallet were penetration of smart phones and high internet speed.

With the onset of 2020, a deadly novel Corona virus hit the world, due to which thousands of people lost their life in India. According to the World Health Organisation, one of the transmission mechanisms of COVID -19 is the coins and paper money passed between buyers and sellers. Due to the danger of contaminated surfaces, contactless payments are viewed as the most hygienic mode of payment. As such mobile wallet which were previously viewed as mode of convenience are now becoming the necessity in the light of pandemic. This study is an attempt to understand the impact of COVID-19 on consumer adoption of mobile wallet as well as to develop the model to get insight on the perceived risk of corona virus on the adoption of mobile wallet. Even the adoption factors among gender are analyzed during coronavirus as it will give more insight in the study.

Literature Review

(Patel, 2020) found that the digital payment adoption rate is dropping in 2019. But COVID-19 disease has increased the adoption of digital payment solutions. Although various economic disputes around the world are at different stages of development, the outbreak has forced

people to change their shopping habits and they are started shifting to digital payments rather than cash.

(Gera, 2020) concluded that the government has introduced ban on movement to control spread of corona virus, allowing only essential services to operate, but the operation of these services will require some form of human interaction, which can be best avoided at these times. Although the government has been pushing digital payments now. So a great way to achieve this is the use UPI and wallet apps.

(Agarwal, 2020) concluded that the digital payment system has shown great resilience in fighting disease. The general public continues to rely on payment systems and providers and there is little reporting of critical infrastructure.

(Vincenzo Gringoli, 2020) found that the spending of people has dropped, and many payment companies are focusing first on improving their business. They now face the challenges and opportunities of the medium term, namely the rapid transition of digital payments.

(Khosla, 2020) concluded that the corona virus has emerged as one of the biggest threats to the economy and financial markets worldwide. Industries in all sectors are carrying the negative impact of COVID19. Countries and governments are taking several steps to respond to the effects of the global epidemic. The COVID-19 underscored the need for digital payments to eliminate payment issues during those difficult times. At such an important time when community is facing pandemic crisis, digital payments seem like a good idea. Even RBI has emphasized digital transactions and urged customers to use online banking facilities,

RBI is presently pressing the Bank's Digital Cover against the Covid-19 Virus

(Government News on Digital Payments, 2020) To fight the deadly Covid-19 virus, the Reserve Bank of India has issued a recommendation and urged consumers to use digital banking facilities. To fight back corona virus by

avoiding social gathering and visiting public places, the public can use digital payments from their homes such as mobile banking. The governor of the Reserve Bank of India (RBI), Shaktikanta Das, requested customers to use the digital banking facilities as much as possible. In the context of COVID 19, the RBI and the government are simultaneously focused on promoting digital payments. The digital banking services including NEFT, IMPS, UPI and mobile wallet are available night and day to facilitate fund transfer, procurement, services and debt repayment etc as an effort to fight against Covid-19 virus.

Objectives

1. To understand the adoption factors of mobile wallet during COVID-19 pandemic.
2. To study the impact of perceived risk of COVID-19 on the adoption of mobile wallet.

Hypothesis

H1: Perceived risk of COVID-19 significantly affects adoption of mobile wallet.

H0: Perceived risk of COVID-19 has no significant affect on the adoption of mobile wallet.

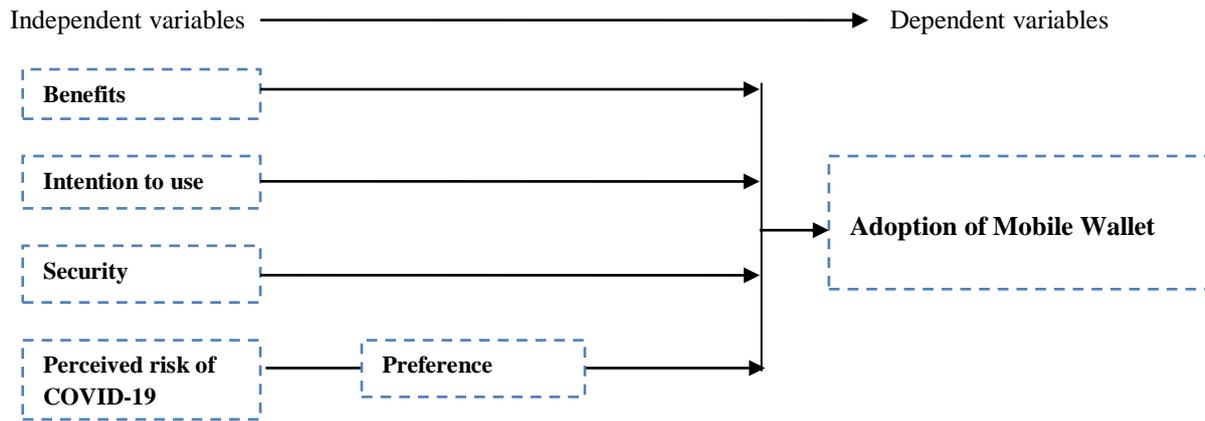
H2: Mobile wallet adoption factors differ among gender during COVID-19 pandemic.

H0: Mobile wallet adoption factors does not differ among gender during COVID-19 pandemic.

Research Methodology

There are several theories and models which depict relationship among various variables which leads to the adoption of mobile wallet. Some of the such models are TAM, IDT and UTAUT. Based on literature under study, following model is identified in understanding various factors leading to the adoption of mobile wallet during COVID-19. The Independent variables for adoption that is 'Benefits, 'Intention to Use', 'Security' and Perceived risk of COVID-19.

Research model



Data collection and Analysis:

Primary data is collected from 370 respondents who are the mobile wallet users. The data is analyzed by using Mann-Whitney and Percentage.

Comparison between Male and Female through Mann-Whitney on adoption factors in COVID-19

Factors U Test	Gender	Description statistics			Mann-Whitney	
		N	Mean \neq SE	Mean Rank	U	Sing
Benefits	Male	180	3.31 \neq .070	239.31		
	Female	190	3.32 \neq .081	237.36		
					27072	0.867
Intention to Use	Male	180	3.47 \neq .075	236.31		
	Female	190	3.54 \neq .081	240.82		
					26666.4	0.643
Security	Male	180	3.31 \neq .072	227.89		
	Female	190	3.54 \neq .081	240.82		
					24305	0.034
Perceived risk of Covid-19	Male	180	3.49 \neq .076	236.39		
	Female	190	3.56 \neq .082	241.36		
					26936	0.791

(Source: Primary data)

From the above table it can be concluded that regarding Benefits, the female mean score 3.32 is slightly higher than male 3.31. the standard error of mean for female is .081 and for male is .070. The mean rank of female is 237.36 and while for male is 239.31 at $U = 27072$. So, Mann-Whitney test is conducted at 5% to know whether the difference is significant or not. Here the $p = .867 > .05$ which shows it is statistically insignificant. Thus, we can conclude that Benefits is a factor of adoption and have same effect in adopting mobile wallet among gender during COVID-19.

With respect to above table, it can be concluded that regarding Intention to use, the female mean score 3.354 is slightly higher than male 3.47. the standard error of mean for female is .081 and for male is .075. The mean rank of female is 240.82 and while for male is 236.31 at $U = 24305$. So Mann-Whitney test is conducted at 5% to know whether the difference is significant or not. Here the $p = .643 > .05$ which shows it is statistically insignificant. Thus, we can conclude that Intention to use is a factor of adoption and have same effect in adopting mobile wallet among gender during COVID-19.

Looking at above table it can be concluded that regarding Security, the female mean score 3.54 is slightly higher than male 3.31. the standard error of mean for female is .081 and for male is .072. The mean rank of female is 240.82 and while for male is 227.89 at $U = 27072$. So, Mann-Whitney test is conducted at 5% to know whether the difference is significant or not. Here the $p = .034 > .05$ which shows it is statistically significant. Thus, we can conclude that Security is a factor of adoption and have different effect in adopting mobile wallet among gender during COVID-19.

In case of Perceived risk, the female mean score 3.56 is slightly higher than male 3.49. the standard error of mean for female is .082 and for male is .076. The mean rank of female is 241.36 and while for male is 236.39 at $U = 26936$. So Mann-Whitney test is conducted at 5% to know whether the difference is significant or not. Here the $p = .791 > .05$ which shows it is statistically insignificant. Thus, we can conclude that perceived risk is a factor of adoption and have same effect in adopting mobile wallet among gender during COVID-19.

Thus, it can be concluded that male and female are insignificant or does not differ on factors such as benefits and intention to use and perceived risk of COVID-19. Male and female are differing towards the factor security. Perceived risk of COVID-19 is leading to the adoption of mobile wallet among the male and female.

Average number of monthly transactions using mobile wallet Pre COVID-19

Average Number of Monthly transactions Pre Covid-19	Frequency	Percentage
1-5	135	36.49
6-10	95	25.67
11-15	56	15.13
16-20	39	10.54
Above 20	45	12.17
Total	370	100

Source: Primary data

Above table shows that highest percentage is of 1-5 transactions through mobile wallet.

Average number of monthly transactions using mobile wallet Post COVID-19

Average Number of Monthly transactions Post Covid-19	Frequency	Percentage
1-5	102	27.57
6-10	95	25.79
11-15	64	17.39
16-20	59	15.69
Above 20	50	13.56
Total	370	100

Source: Primary data

From the above tables it can be seen that post COVID-19 the number of transactions on mobile wallet increased which clearly shows that post COVID-19 the usage of mobile wallet increased. The percentage increased of the

transactions 11-15, 16-20 and above 20. Even the percentage of 1-5 transactions reduced. Thus, Post COVID-19 the adoption of mobile wallet increased.

Findings & Conclusion:

1. The benefits is one of the adoption factor of mobile wallet and there is no significant difference for this factor among gender. During COVID-19 benefits of mobile wallet is increasing its adoption among people.
2. The intention to use is one of the factors of mobile wallet and during pandemic intention to use is increasing its adoption. Even female and male are giving equal importance to intention to use.
3. Security as the adoption factor is a matter of concern, male as well as female feels that security is needed to be worked on by the providers. During pandemic number of cyber crimes increased and sometimes malware issues encountered which needs to be focused on.
4. The number of transactions monthly by using mobile wallet has increased post COVID-19 as compared to Pre COVID-19. This shows that adoption of mobile wallet increased during pandemic.
5. The perceived risk of COVID-A9 is leading to adoption of mobile wallet among female and male. Mobile wallet has shown great resilience in fighting disease.

The pandemic has also caused people to follow social distancing norms along with reducing physical contact. This has also caused cashless transactions to boom in India. The COVID-19 pandemic has completely changed

the shopping behavior of people. This situation is here to stay for longer than we are anticipating. And it might have wide-reaching impacts on the payment industry. There is mass adoption of mobile wallet services in the wake of COVID-19 and even an increase in the person-to-person (P2P) transfers in the country.

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Impact of Social Media on HRM

Bhupendra Chandrashekhar Tope

Research Scholar,
Neville Wadia Institute of Management Studies & Research, Pune.
bhupendratope1974@gmail.com

Dr. Mrs. Anita Khatke

Director
JSPM's Institute of Management & Research, Pune.
anitakhatke7@gmail.com

Abstract: Human Resource Management (HRM) has always been considered the backbone of an organization. A “systematic process of managing people working in the organization”. For any organization, the most important asset is its employees. Therefore, the key responsibility of management is to manage its human resource effectively. The basic function of management is to bring its human capital, i.e., the employees and organization, on the same platform to meet the individual goals and organizational goals at the same time. Employees working for the organization provide skills, capabilities, practices, systems, language, bonding and behaviors, which help accomplish the firm’s strategies. Strategy implementation cannot be done alone by physical resources such as – machines, technology, and materials. It is the “people” who can design strategies and execute them effectively. ⁽ⁱ⁾ “You can get capital and erect buildings, but it takes people to build a business”. -- Thomas J. Watson, the founder of IBM. (Error! Reference source not found. Without HRM, an organization won’t survive long because this arm of the management has always played a crucial role in achieving its success. Organizations with strong HRM and who manage their human resources well have always proved to be one of the industry's best organizations. Social media plays a vital role in strengthening the HRM function. Most of the organisations, today, are using “Social Media” as one of their weapons to gain victory in the battle of this competitive world. It gives an additional support to the management in an organisation to build a productive image. In this article we would be highlighting few of the factors of social media that would have an impact on the HRM function. Through this article, we would be able to understand the meaning and selective functions of HRM as well as the impact of social media on the HRM.

Keywords – Human Resource Management, Social Media, Employee Engagement, Employer branding.

Introduction:

Human Resource Management is the strategic approach of effectively managing people in an organization in such a manner that it helps the business gain a significant competitive advantage. It can be defined as a system of activities and strategies that focus on successfully managing employees at all levels of an organization to achieve organizational goals (Byars & Rue, 2006).

Human resource management is the process of employing the right people, providing them with required training, compensating them for their efforts and job did, developing existing policies, defining new policies relating to the working area, and developing important strategies to retain employees.

Getting the best people in the organization, using their talent and obtaining their assurance and commitment,

motivating them constantly is most crucial for any organization’s success.

Human resource management may be defined as planning, organizing, leading, directing, coordinating and governing human resource activities of an organization, that helps creating awareness of the defined objectives of an organization. By making use of its human resources in the most productive manner emphasizing majorly on human development and welfare, the human resource management acts as an important element in the success of the organization. (Error! Reference source not found.

Today, social media is helping the HRM to reach its goals. It has become an important factor and hence, it needs to be studied thoroughly.

Social Media:

Currently, the use of social media has become a necessity and an inseparable part of our lives.

It is typically and mainly used for social interaction and access to past and current news and information. It is considered a valuable communication tool with others, locally and worldwide. Also, a tool to share, create and spread information. It plays a vital role in connecting people, developing and nurturing associations, relationships internally and externally for an organization. Over the past decade, the rapid evolution of social media has impacted the field of human resource management in numerous ways.⁽ⁱⁱ⁾ Social media provides new opportunities and help the HRM perform its functions well. Since few decades, it has gained a lot of importance in our lives.

Literature Review:

I carried out a thorough review of the literature on the topic with various research articles published on the internet. In the last few decades, the term “Social Media” has gained significant momentum, and there is a lot of literature available on the internet on the said topic. However, I have used only a few references in this research paper.

eBooks on Human Resource Management by the Open University of Hong Kong, and Social Media Use in HRM by Donald Herbert Kluemper (the University of Illinois at Chicago), Arjun Mitra (California State University, Los Angeles), Siting Wang (the University of Illinois at Chicago) gives an insight of the term HRM in a very significant manner. These books support us to understand the importance of HRM in a broader spectrum.

Research Questions:

- a) What is Human Resource Management?
- b) How does Social Media impact HRM?

Objectives:

1. To understand the term HRM.
2. To identify Social Media elements which impact HRM in an organization.

Data Collection:

The corresponding data has been collected from various eBooks, articles, and research papers/journals on the internet.

Data Analysis and Interpretation:

Human Resource Management:

In simple words, Human Resource Management means a system that focuses on the management of employees of all level of an organization who come together to achieve organizational goals. With the help of the activities and strategies defined by the management, this system works towards achieving the objectives.

HRM is useful not only to organization, but the employees working therein, and also the society at large find it useful. Few of the main objectives can be stated as below:

Organizational Objectives:

HRM is a means to attain efficacy and success. It helps other functional areas help them accomplish efficiency in their operations and fulfil goals on an organizational level.

The organizational objectives of HRM are to hire the right man for the right job at the right time in the right quantity, providing the right kind of training, and mentoring and developing through the right resources available, utilisation of selected workforce well as maintaining a balanced number of workforces.

Succession planning is also considered an important aspect of the organizational perspective.

Functional Objectives:

Functions of other departments are also performed by the HRM. However, HRM must see that the benefits rendered should always be more than the simplification cost.

Personal Objectives:

In today's world, there is a shortage of essential talent. Employees are always encouraged by competitive firms to change their current jobs. HRM has the responsibility to engage employees in multiple activities and makes sure they are satisfied. Monetary benefits also matter but keeping an employee satisfied on both fronts, professionally and personally, is a challenging job. This would be possible only when the HRM helps employees to achieve their personal goals by supporting them in every aspect to get their commitment fulfilled. Creating a work-life balance for the employees is a personal objective, and HRM plays an important role. HRM works as a key

element in acquiring, developing, utilizing, and maintaining an organization's employees.

Societal Objectives:

Issues can be classified into three parts: Legal, Ethical and Social Environmental. Creating equal opportunity, equal compensation and equal work are the legal issues that cannot be violated. Doing good deeds for society e.g., providing support for the farmers through CSR whose land has been acquired for the factory and tribal's who are displaced by industries and mining companies are the ethical issues.

The results are clear when these issues are not taken care of. To help society by generating employment opportunity, helping women empowerment, creating schools and dispensaries, are the social responsibility issues. ⁽ⁱⁱⁱ⁾

Since employees are considered an asset of an organization, their involvement in various campaigning activities proves to be beneficial for the organization. Using social media in HRM is an important element in the achievement of the organization's objectives.

Social Media in HRM.

Keeping every employee bonded is an important task for Human Resource Management in every organization. Providing indefinite support to the organization in every fold is what HRM does. The HRM spectrum shelters its essential functions like staffing, recruitment, training, and development, defining various policies for the benefit of employees and organization, promotions, etc.

The use of Social Media, in its strategy, has now become an important aspect of every organization. It is not only used for promoting the organization's brand image but also in HRM for various functions. It has found rapid momentum in today's era. Nowadays, organizations are using Social Media as an essential tool to gain more popularity in society and industry.

Social media in HRM is used for:

Branding Organizational image,
Attracting new talent
Selection of the prospective candidate
Measuring employee productivity

Activities for employee engagement and teamwork
Providing training to employees
Activities related to Knowledge management
Introduction of Social capital
Studying Organizational culture
Innovating ideas for Leadership
Cyber loafing (activities which are not work related)
Understanding Disciplinary action

Impact of Social Media on HRM:

It is important for any organization first to figure out how social media will be helpful and its impact on the organization. Accordingly, a detailed and extensive study of the media should be carried out to understand how it shall prove beneficial from the organization's perspective.

Providing information about an organization on its website is always one of the best things to do. It enhances the organization's brand image in the industry. Compensation paid to the employees, the organization's culture, and developmental information are commonly communicated through organizational web sites. Advertising job requirements and organization information to potential job applicants is the right place for the applicants to search for.

Online rating applications and online forums, such as Yelp and Glassdoor, help people easily gather information, share their experiences, and provide opinions about an organization. The publishing of information on such websites is done by a third party not approved by the organization. Hence one cannot rely on the same. The HRM in such organizations access this shared information from time to time and take precautionary measures to avoid negative feedback or comments from their employees working or separated ones. ^(iv)

Using social media for brandings like Facebook, LinkedIn, Twitter, Glassdoor, and Yelp has great relevance to the six social media categories, i.e., blogs, mobile applications, content communities, and social network websites. Apart from all the above and generally beyond the scope of HRM, one significant organizational stakeholder is the perspective job applicant. Organizational image is an important factor related to social media.

While traditional recruitment methods often only target individuals who are actively looking for a new job, social media sites such as LinkedIn give the recruiter access to connect and communicate with a far larger, more diverse set of people who potentially fit the description of the ideal candidate.^(v)

Conclusion - The take away

There are two types of impacts; positive and negative. It takes time to build a positive reputation but a very less amount of time to spoil and create a negative image. Quickly spreading negative information on a massive scale can impact an organization's reputation (McFarland & Ployhart, 2015).^{(Error! Reference source not found.} It may affect the brand image to a greater extent.

The use of social media can hamper the privacy of employees. Since the information is available on the social network, privacy is compromised unknowingly. Apart from this, people with access to social media tend to be more distracted and less productive.

There are also positive sides to the use of social media. It becomes easier to reach out to the employees with the use of social media. It also helps in communicating important information and maintain transparency between employees and the organization. The HRM uses this tool to get all the employees on a single platform.

Many organizations also prefer online employee engagement activities. With the help of Facebook, LinkedIn, etc., the hiring advertisement gives a helping hand to the HRM.

Thus, it can be stated that the use of social media is not just a tool to improve an organization's brand from its marketing perspective but is a significant element to enhance its HRM function. Thus, organizations can use social media very efficiently to decrease attrition, make the best talent stay back in the organization and increase the organization's face value in terms of one of the finest HRM function. All clubbed together, the application of social media in various forms can definitely be used to promote the organization from the HRM perspective. HRM, in the past, has been and shall always remain one of the important functions in the organization. However, with social media,

it will reach new heights for sure in the market and gain popularity for a longer time.

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Occupational Stress Issues Associated with Women Entrepreneurs

Prof. Kalpana V. Sayankar

Assistant Professor

SKN Sinhgad School of Business Management, Pune

Email: klmalankar1@yahoo.com

Abstract: *These stressed-out women entrepreneurs are losing inspiration and are under a lot of pressure in their day-to-day activities. This would have an impact on individual performance as well as the profitability of the company. Stress can have a negative effect on one's health and disrupt one's life balance. There are tools that can be used to decrease stress levels. The techniques can be implemented at the structural level to reduce stress.*

Keywords: *Stress, Motivation, Life balance, Strategies, Health.*

Introduction:

The term "entrepreneur" comes from the French word "entrepreneur." It was used to describe those who were on military expeditions in the early 16th century. The term "entrepreneur" was first used in the 17th century to refer to civil engineering operations such as building and fortification. It was first used in business in the 18th century to describe a dealer who buys and sells goods at fluctuating prices.

At all levels of society, women have become equal contributors in many esteems. Women are active participants in all aspects of the economy. It can be seen that a large number of women workers and entrepreneurs contribute to the country's national income. Women's self-employment and entrepreneurship are also promoted by the government and non-governmental organizations. Women entrepreneurs are defined as individuals or groups of individuals who start, organize, and operate a business. Women are expected to invent, start, or embrace a business to be labelled as "women entrepreneurs." The purpose of this research is to report on the factors that lead women entrepreneurs to become self-employed and to assess their occupational stress problems.

Objectives of the Study:

Following objectives are delineated for the study:

1. To know different types of stresses.
2. To understand the stress of women entrepreneurs generated through multirole.
3. To study the social issues of society.

Research Methodology:

This is undeniably a practical oriented paper, Occupational Stress Issues Associated with Women Entrepreneurs. Hence author of this paper has endured an extensive study of literature and is rational with issues associated with women entrepreneur. The main source of primary information is knowhow of women entrepreneurs. The secondary data and basic primary pragmatic information have been collected from appropriate primary sources and farsightedly used to arrive at meaningful findings and prolific conclusion.

Significance of Study:

Historically, Indian women had only secondary role in the family and their role was limited to unpaid domestic duties and childcare. They were denied opportunities of development on par with males. Female child had always been neglected right from feeding to education and employment opportunities. This situation is gradually improving since independence. Educational enrolment of women has considerably improved. Women are also seen in the institutes of higher learning, medical and engineering colleges. Entrepreneurship is an indispensable quality that at least a minimum number of people in a country must possess. A small number of women are now coming up as successful entrepreneurs. In India, the number of women entrepreneurs is insignificant. In addition, the percentage of women entrepreneurs varies greatly from one state to the next. The study will be carrying out of the stress issues of women entrepreneurs.

Research Problem:

Frustration is thought to be both a cause and an effect of stress. Frustration occurs when one's motivation is stifled, preventing one from achieving a desired goal. Women entrepreneurs' performance is directly linked to their stress levels. As a result, an effort has been made to investigate the effect of professional stress on the performance of female entrepreneurs. This is extremely beneficial to female entrepreneurs in terms of developing coping methods and strategies that will assist them in reducing their stress levels to a manageable and optimal level.

Literature Review:

Since just the last four decades, the literature on women's entrepreneurship has become a global research agenda (Pellegrino & Reece, 1982; Hisrich & O'Brien, 1981; Sexton & Kent, 1981; DeCarlo & Lyons, 1979, 1976). Businesses have overlooked it for a variety of reasons, including gender bias. (Allen, Langowitz, & Minniti, 2006; Bird & Brush, 2002; Brush & Hisrich, 1999; Starr & Yudkin, 1996), modest size (Baker, Aldrich, & Liou, 1997; Rosa & Hamilton, 1994), poor financials (Baker, Aldrich, & Liou, 1997; Rosa & Hamilton, 1994), and poor financials (Baker, Aldrich, & Liou (Morris, Miyasaki, Watters & Coombes, 2006), returns (Clark & James, 1995; Allen & Truman, 1991) or capital investments (Clark & James, 1995; Allen & Truman, 1991) (Blake, 2006; Cliff, 1998). The entrepreneur was first characterized by the French economist Cantillon, who defined it as "an agent who bought the means of production for combination into marketable goods." Furthermore, at the time of the factor purchases, the entrepreneur had no idea what the final price for his or her product would be." Schumpeter (1934) played with the term innovation, emphasizing it as an entrepreneur's function. Entrepreneurship is a highly specialized concern for Schumpeter. In Schumpeter's theory, the entrepreneur sees potential, lucrative opportunities, and takes advantage of them. Profit motivation for the entrepreneur is based not only on his desire to raise consumption norms, but also on non-hedonistic goals such as the desire to establish a private dynasty. The desire to win in a competitive battle, as well as the work of producing, in which he strives to maximise his profits through inventions. His distinguishing

feature is that he derives pleasure from applying his skills to solving problems.

The entrepreneur, according to Kimbi8 (1971), performs the following four main tasks: 1) Communication, 2) Administration, 3) Management Control, and 4) Technology. All of these fields of activity require entrepreneurs to make decisions in the face of uncertainty. Thus, in Kimby's proposed framework, an entrepreneur would have i) Determination of the types and degrees of uncertainty facing the performance of a particular operation, and ii) The ability to make the appropriate decisions required for goal attainment.

Amuthalaxmi P., Kamalanabhan T. J in their study was initiated with the objectives of identify the individual characteristics, family environment and external variables that determine women entrepreneurs and working in a below poverty line community.

The research by Amuthalaxmi P. and Kamalanabhan T. J. had the goal of identifying the individual traits, family environment, and external factors that influence women entrepreneurs and working in a low-income community.

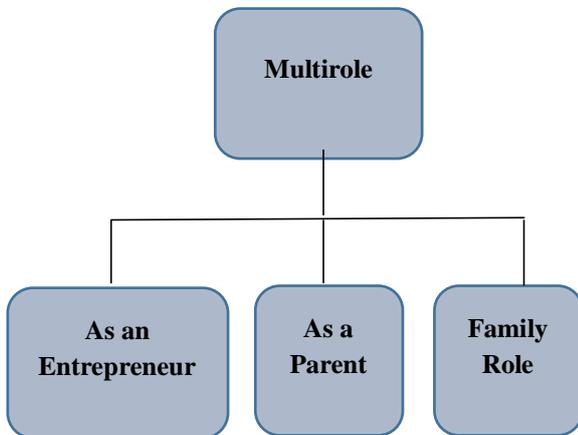
Bais, Santosh and Singh Jagannath Kukkudi B have carried out an exploratory study of seven leading women entrepreneurs. As per the study of these women entrepreneurs, about 28 percent of the women entrepreneurs cited interest to do business, as the main reason for their entry into the entrepreneurial world.

Beena C. and Sushama B. focused their study on self-employed women in an arranged sector. Objectives of their study were (1) To study the motivational factors responsible to start the enterprise. (2) To study the association between motivational and their perception of success. The study is conducted of 30 women entrepreneurs who were financing their own small business without the help of any formal agencies like banks govt.

Types of stresses.

Stress is a person's reaction to a troubling factor in their environment, as well as the result of that reaction. Obviously, stress includes a person's interaction with their surroundings. Constraints and demands are linked to stress. Stress is unavoidable, and it manifests itself in a variety of

ways. It's important to understand that stress is an inevitable part of life that can't be avoided. The body's response capacity is limited. The biological reaction mechanism of the body is stress. However, the body's ability to respond to stressors is limited. The following four types of stress can be identified.

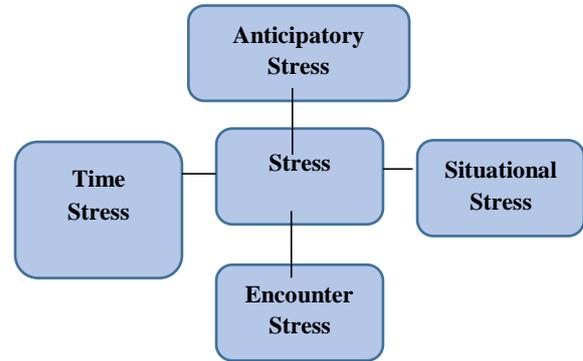


1. Time stress is caused by a real or fictitious deadline.
2. **Anticipatory stress:** This type of stress occurs when a person anticipates an unpleasant event.
3. **Situational stress:** This occurs when a person is in an unfavorable situation and is worried about what will happen next.
4. Interaction stress: This type of stress is caused by interactions with other people (both satisfying and not satisfying).
Personal problems are a common source of anxiety. These include work-related issues such as job security and advancement, as well as financial and family concerns.

Stress of women entrepreneurs generated through multirole

Today's business scenario is very complex. The stiff competition there in the market. The customer tastes are changing day by day. The technology advancement and awareness of social media the business competitions becomes very tough. The customer satisfaction is becoming an important part of any business. The satisfied customer always shared an increase the business growth.

Women in the Indian society plays vital role. Despite handling an entrepreneur responsibility, she has to handle and take care of the other responsibilities. Today's world is fast changing world. Following are some of the important roles of women entrepreneur.



- I. **As an Entrepreneur:** She has to handle the business activities very efficiently. Managing the fund resources, work allocation, training and development, customer satisfaction, human capital issues and challenges. Her role is to enhance the business.
- II. **As a Parent:** The women entrepreneur must play a major role in the parenting. She takes care of her child. Her role is very vital in her family.
- III. **Family Role:** Though handling the entrepreneurship she has to take care of her family. Elders in the family needs to handle diligently and precautions related to health issues.

Women entrepreneur must go through the various role while doing the business. By doing so stress related issues generated.

Social Issues

As the person living in the society and as a part of society, it needs to take an attention what is happening in surroundings. The persons are taking part in various activities carried out in the society. There are different types of people living in the society. The persons from different states, religions, background etc., hence handling of issues and there are challenges to cope up in the society. It is very difficult for women to handle some critical social issues. The societal role of women in the society is crucial. Need to contribute in the societal activities, functions,

gathering. Family functions needs to attend as a part of society. Sometime additional financial burden has to face. Some issues are very delicate and has to handle it very carefully. Because of some critical and complex issues, the stress related issues became in incremental mode.

Discussion

The women entrepreneur is playing in multirole and the situation of women in society and the role of entrepreneurship in a similar society are combined. The female entrepreneurs tackled a variety of issues. She has to face difficulties regarding marketing of products, other area problems as well as tending to their family's needs. As she is part of society and takes part in the societal activities. Women also have access to the same opportunities as male entrepreneurs. Women's increased participation in the labour force is a prerequisite for increasing women's status in society and as self-employed women. 'The' occupational stress related issues associated with women entrepreneur is a complex phenomenon.

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Impact of Digitalization; Learn-It-All A School Perspective

Dr. M. A. Lahori

Director

Anekant Institute of Management Studies (AIMS) Baramati -Pune
drmalahori@yahoo.com

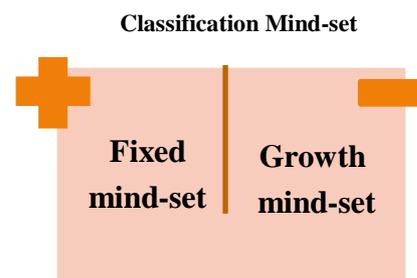
Abstract: *The pandemic indeed it was a blessing in disguise, in the sense that, it has created and cultivated a digital culture and environment among the general public in their walks of life and more particularly among young schooling wards (students). Otherwise, the process of Digitalization would have taken considerable time and high voltage awareness campaign. Prior to earlier time of pandemic of course we were using our digital gadgets without mindful thoughts, but now (after pandemic) very much inextricably tied up with our daily routines. As a matter of fact, school tutorials and teaching have been on the platform of 'Digitalization'. This paper is totally empirical with the demarcation of Private primary schools (predominantly English medium schools) and Public primary schools (predominantly Govt. local language schools). The central respondents of the research will be the private and public schools. The research question is all about how to 'learn-it-all' of Digitalization fundamentals rather than thump upon (figure riddles) on the existing system of application without knowing the principles of the usage. When we take a pragmatic view the concept of learn-it-all is mostly applied in the organization / industry for growth and to comply with greater level of satisfaction and high-quality outcome of the work. Yes, study really needs to ascertain the knowledge and application of Digitalization by using the electronic gadgets with learn it all process.*

Key words: *digital environment and culture, considerable time, without mindful thoughts, thump upon, and inextricably tied up with our daily routines.*

Introduction: We have a greater number of electronic planforms and gadgets to use for our digital work, to name the few among them are, google meet, WebEx, zoom etc. But this study pertains exclusively for the school perspective. No matter whatever kind and type of E-platform is being used, the foremost requirement is knowing the application of the dashboard and its extended functionality.

In the year 2000 Microsoft was really on existential crisis because of head-to-head competition in the innovation. In the year 2014 Satya Nadella chosen as the new CEO of Microsoft. He was on the game of 'learn-it-all' mantra rather than routine knowing the things. With the mantra of 'learn-it-all' every single day was really a new day, with learning, exploring and experimenting new construct at workplace. The further led studies reveals that, Carol Dweck a Stanford psychologist said 'mind-set' really is a 'Dictate Power' on what to do, how to learn, is it useful etc. Thus, mind-set is classified into two, namely.

Figure / Diagram No.1



Source: Secondary data

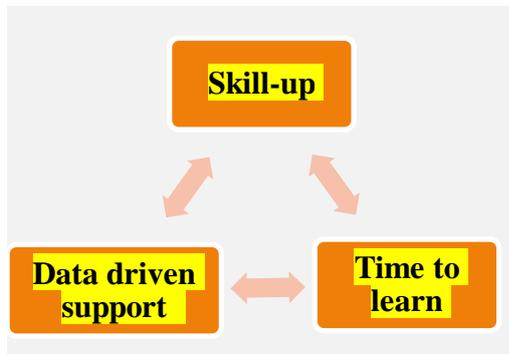
Fixed mind-set: It known fact that, fixed mind-set static in nature and not adept to the changes and challenges rather avoids the risking factor and it is more of perfunctory in nature, and least bother for the market information and reviews.

Growth mind-set: It is believed that growth mind-set is always dynamic and has quest to develop intellectual level. Further it takes feedback in positive sense, urge to learn new skills, handle the risk and challenges.

Thus, a growth mind-set indeed is a central push button for the development of employees and organization as well. In the total process of learn-it-all in the schooling scenario, study depicts three major principles to nail up the learning and development namely.

Figure / Diagram No.11

Basic Principles of Learning & Development



Source: Secondary data

Skill-up: The functionality and role of growth mind-set a pivotal source for scaling up the present skill set and learning new one as expected in the domain. In this study, the proper and optimum usage of E-platform with its extension should be well acquainted by the students (wards), parents and teachers. If possible, an exclusively training can be organized to educate said stakeholders on usage and application of E-platform along with its gadgets. In precise they should skill up through know-it-all process, which is embedded with learning and development.

Time to learn: Generally, in the working environment it is always difficult to have space of learning (time) because of nature of work etc., and lot more hassles of workplace. Thus, every month one or two days should be a learning day for all stakeholders to get along with the feedback and innovative happenings in the sector.

Data Driven Support: Whoever may be the stakeholders (teachers, parents and students) two-way learning based on data driven of the connected domain and support is essential. In the study the data is from the students, parents, teachers and school governing authorities. Such kind of practice really makes learning culture and focuses on learn-it-all with central point of learn and develop.

Objectives of The Study: The study objectives are correlated with the research problem also, they are.

1. To analyze the hiccups of Digitalization in schools and its E-platform.
2. To examine the benefits of learn-it-all among all stakeholders.
3. To study the impact of learning and development.

Crux of The Study: The whole education sector as a matter of fact very badly affected sector during the outbreak of pandemic times. The schooling team started using the digital platform as and where is basis without learn-it all mantra. Because of this all the tutorials and teachings were had lots of pilferages and spills. This leads to lack of students' engagement and quality of teaching being deteriorated. Hence to improve the teaching quality this study was conceived 'learn-it-all in school perspective.

Exploration Methodology: This paper is basically empirical in nature on the hands-on-approach of the author. Since author is part and partial of the on-line teaching platform. Thus, author has fetched all first-hand information personally. The collection of data either primary or secondary was not an issue in the study. The study being an experiential conceptual off-shoot, the analysis of data and information was presented in figure and chart etc., wherever required.

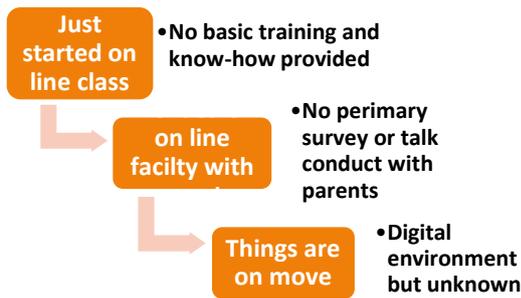
The study confined to the Public and Private school of Baramati taluka of Pune Dist. Hence it has wider scope of further study in the distinctive segment-wise as per the need base.

The core respondents are private and public schools. Private primary schools (predominantly English medium schools) and Public primary schools (predominantly Govt. local language schools). In the pilot study it was found that public government schools were not responsive and had negative attitude. It was observed that, the entire chain of public school was dereliction in their duty and lackadaisical in their approach (none is responsible for none culture). Hence author has taken a view to drop the public schools from the study and instead focus on private schools for comprehensive study.

Study Construct: The study done in the private English medium school on the following construct.

Figure / Diagram No. III

Digitalization Study Blueprint

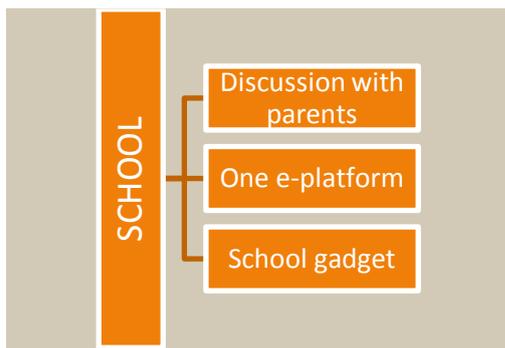


Source: Primary survey

In the study it was revealed on haphazard way the digital platform being used. No training either to students/wards or teacher have been provided. The school authorities were not assessing the on-line facilities of the students and even no parents’ awareness program was organized in connection with digital platform and teaching mode. It was observed that, a coercion digital live-in environment was on parent, wards and some extend on the teacher too, since no basic training and input was provided.

Figure / Diagram No. IV

Expected Derive on Digitalization



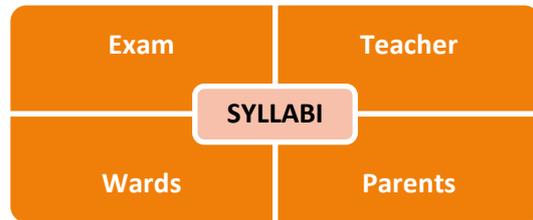
Source: Primary survey

The expected drive from the schools were, initially to have discussion with the parents of the wards on the continuation of classes in pandemic on virtual mode. Even timetable may have been customized as per the need of the parent since wards needs the mobile set for their study / class and may be the same set would have required for parent for their work. Based on the discussion and magnitude of work a specific e-platform should have recognized instead of adopting the free platform. And a basic training on the extension and its usage may be given to the wards and parents as to have optimum results of the applications. Of

late it has been experienced that, due to pandemic or otherwise the education and learning is likely to be on virtual mode platform only. Hence it is advisable to have own determined school gadgets and App, for the wards and students. This will be helpful to all learners at their fingertips.

Figure / Diagram No. V

Activation Practices



Source: Primary survey

Teacher: Teacher in the Digitalization process required to assess the student and help of parents to their ward in the learning process. Teacher should categorize students in slow, medium and fast learners in the mode of virtual platform. Teachers then start focussing on the students who are slow and medium learner. Keep the students engaged and in connect for their progression. A periodical review and evaluation of the digital learning should be made available to the students and parent as well.

Parents: Learning on digital at the school level parents plays very important role and are instrumental. Thus, a frequent parents meeting (eye to eye) on the wards performance also a great help in progress of the student. This meeting should be called as per the parent convenience or customize it on need basis.

Wards: As a matter of fact students are being the mainstay in the whole process, should be given importance. And a mentor-mentee model should develop to keep student in grip and for strong bondage as well. A fortnight mentor-mentee session is advisable to discuss and exchange the problems, hardship in learning etc., and possible solution thereto. The proceeding of this session should bring to the notice of the parents. The teacher and parents should ensure the wards are fully prepared for the examination.

Exam: The examination should be on qualitative platform without any laxity. Even the exam evaluation and entire

process has to be very strict, so that student should get knowledge and earn confidence to handle the situation.

Learn it All: In schools every month two days should be dedicated for learning new things (technology in the learning platform etc.) and updating the students and parents. The teacher being the frontier, understanding the need of the students and parent in tune with the learning process and better quality is required. Based on the need and availability teacher may customize the digital platform and use of its extensions.

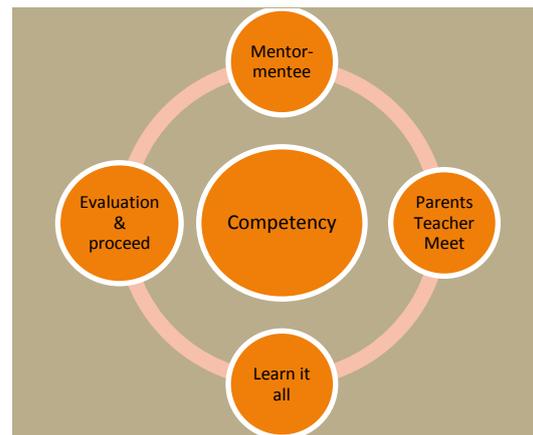
Study Findings: The study of 'Impact of Digitalization; Learn it All- A School Perspective' was made in various dimensions as shown in the above and it can be concluded by following listed findings.

- a. It is found that, the Digitalization in the school during pandemic was started in very haphazard way and rather hotchpotch manner. Thus, it has numerous hassles and hiccups during its initial phase of learning by wards.
- b. Basically, Baramati being a rural place the internet connectivity and availability of mobile phones among students (wards) was really an issue. Hence in this situation school's own gadget and App would have a great help.
- c. The innovation and technology are always rapidly on move the mantra of learn it all certainly fetch better results. Better to earmark two days in a month for learning. Beside inputs from the expert trainer and consultancy can be welcome. Such practice indeed makes applicability of e-platform perfect and faster to learn by all stakeholder more particularly students and parents.
- d. It is understood in the study that, certainly the impact of learning (learn it all) leads to the development of all stakeholders, in real sense the students.
- e. It was observed in the study that, learn it all has very constructive engagement with great joy of learning.

Recommendations: In precise the consensus of the study gives the following few recommendations.

Figure / Diagram No. VI

Implementation Pathway



The prima facia tool in the, learn it all is the assessing the data of the students on their requirement and possession of the digital tool. Hence the mentor-mentee has greater role to play to get the real and exact information from the students. Thus, the practice and implementation of mentor-mentee is essential in the schools.

In the schools it is observed that, parents are equally accountable in Digitalization process. Hence a frequent meet with the parents are highly desirable. As we know that, learn it all is very much essential for greater competency and a consistent retrofit process. The evaluation tool on the students' performance and proceed is really a guiding principle to get the work-satisfaction and move on the achievement for the planned goals.

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Design of MIS in Line with the Requirement of Criterion Faculty Attributes and Contributions of NBA Process

Dr. Vinod N. Sayankar

Professor,

Anekant Institute of Management Studies, Baramati
vnsayankar@gmail.com

Abstract: *This Criterion seeks information on the faculty attributes and contribution for the institution in academic curriculum. Faculty members and their contributions are the backbone of any higher educational institution. The institute, a teaching division has the roles and responsibilities. Institute has its engagement with curriculum delivery, outcome based education is predominantly in its implementation. This article broadly examines the study of design of MIS in line with requirement of Faculty Attributes and Contributions criterion number six. The objective of this paper is how an Institution can improve its faculty contribution for the advancement of students and improves the quality of management education. This paper will give comprehensive study about Faculty Attributes and Contributions its requirement for the design of MIS.*

Keywords: *Faculty attributes, MIS, Curriculum Delivery, Outcome Based Education, Faculty Contribution*

Introduction:

Faculty members are the important elements of any educational institute and their contributions plays a major role in providing quality education to the learners. To strengthen academic performance, the government launched the National Board of Accreditation (NBA), which accredits educational institutions basis on infrastructure, educational facilities, educational tools used for imparting knowledge, teacher quality, and other factors.. This paper tries to get comprehension into Criterion 6 of NBA process in educational institutes and design of MIS in which requirement of data, information for the said criteria. Design of MIS as per the requirement of criteria where the data collection will get ease and helpful in fetching the desired results. A Management Information System (MIS) provides companies with the data they need to run their businesses efficiently and effectively.

Objectives

- 1.To get a general understanding of Criterion 6
- 2.To comprehend the types of sub criterion's and distribution of weightages
- 3.To know the requirement for design of MIS for Criterion
4. To analyse the Data Templates/Documents of Criterion

Research Methodology

The research paper is a conceptual study that draws on secondary data from a variety of research journals and articles.

Theoretical background

An Overview of Criterion 6 Faculty Attributes and Contributions

The colleges/institutes are affiliated to the universities. And it follows the guide lines given by the universities, Directorate of Technical Education of respective states, University Grants Commission All India Council for Technical. The appointments of faculties carried out by the procedures of the concerned authorities. The role of faculties are very vital in the institute. Teaching and learning innovations by the faculty , hence their contribution has utmost importance.

Criterion 6 pertains to the faculty attributes and their contribution in respect of research. The faculty is encourage to take initiatives in teaching and learning processes to improve student learning. The highest weightage of 220 marks is given for the criterion 6 consisting of 10 sub criterion's

Types of Sub Criterion's

The focus of Criterion 6 with Distribution of Weightages is captured in the following sub criterion's:

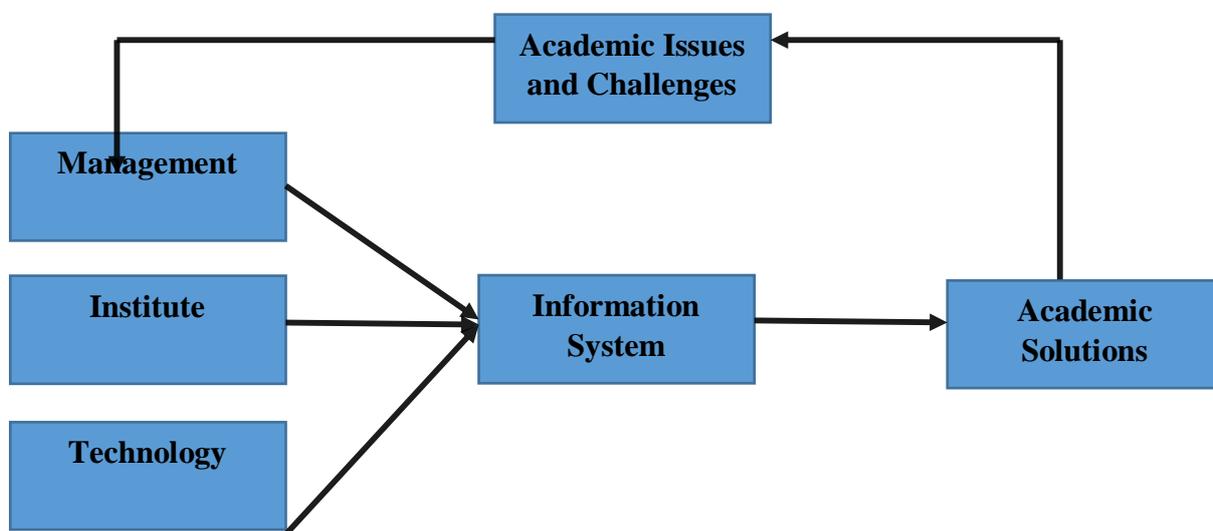
Sub Criteria's

Sub. Cr.	Sub Criterion	Marks
6.1	'Student-Faculty Ratio'	10
6.2	'Faculty Cadre'	20
6.3	'Faculty Qualification'	15
6.4	'Faculty Retention'	15
6.5	'Faculty Initiatives on Teaching and Learning'	10
6.6	'Faculty Performance, Appraisal and Development System'	10
6.7	'Visiting / Adjunct Faculty'	10
6.8	'Academic Research'	75
6.9	'Sponsored Research'	25

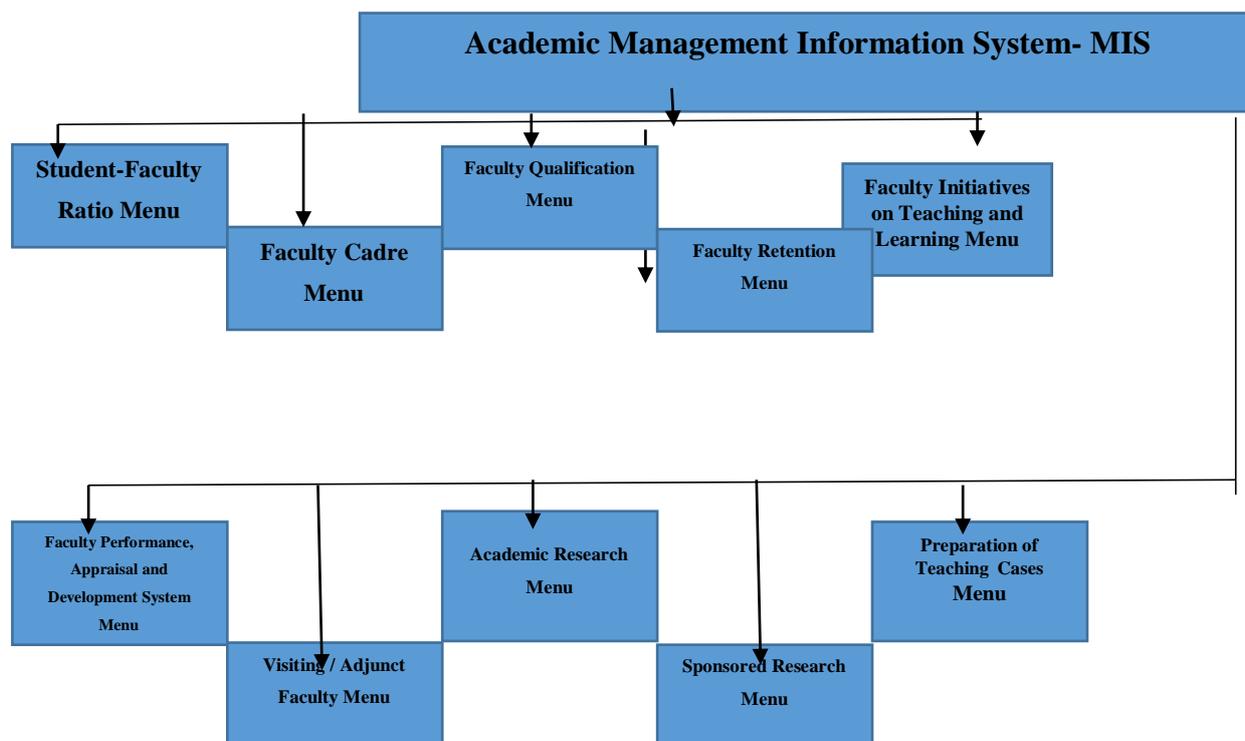
6.10	'Preparation of Teaching Cases'	30
	Total	220

Requirement for Design of MIS

A Management Information System (MIS) is a type of management information system that is used to develop for an explicit if you have a goal, it is developed following meticulous planning and design. It's a product that needs to be reviewed and modified on a regular basis to stay current. The academic and administrative information requirements. Management information systems differ from other types of data systems, as its uses are to analyze and facilitate strategic as well as operational activities



An analysis is the heart of any system; the same is the case for Management System. Information getting from data analysis will help the institution for taking decisions.



The effective implementation of Management Information System for criteria 6 will fetches numerous advantages. The user friendly options will ease in addition and updation of data. Even the retrieval of data is becoming easier task. Gap or non-filling of data can be easily tracked. The report generation system will be benefited in taking decisions.

Data Templates/Documents - Criterion 6

The data templates/documents of **Criterion 6** is as follows.

6.1. Student-Faculty Ratio –

Programme	Faculty Student on the basis Approved Intake	Total

6.2. Faculty Cadre

Year	Professors		Associate Professors		Assistant Professors	
	A requirement F1	Obtainable	A requirement F2	Obtainable	A requirement F3	Obtainable
The current year is (A)						
A - 1						
A - 2						
Average Numbers						

6.3. Faculty Qualification

Year	X	Y	F	FQ=1.5 x [(10X +4Y)/F]
The current year is (A)				
A - 1				
A - 2				

6.4. Faculty Retention

(item) (percent of faculty retained during the period of assessment keeping CAYm2 as base year)	Marks
>=ninety percent of faculty	15
>=seventy five percent of faculty	10
>=sixty percent of faculty	8
>=fifty percent of faculty	5
< fifty percent of faculty	0

6.5. Faculty Initiatives on Teaching and Learning

Sr. No.	Item	Marks
1	The work must be posted on the Institute's website.	2
2	The work must be open to peer review and criticism.	2
3	The job must be repeatable and expandable by other scholars.	2

6.8. Academic Research**Faculty Paper Publication**

Year	Sr.No	Name of the Author	Title	Journal Information	National	Category as per ABDC list	Indexing

Books published by Faculty

Academic Year	Sr. No.	Title	Authors	Publisher

Cases published by Faculty

Year	Sr. No.	Name of Faculty	Title of Case	Journal Information

Book Chapters written by Faculty

S.N.	Author	the title of Book Chapter	the title of Book	Publisher	Publication Year:

6.9. Sponsored Research**Details of Sponsored Research Projects**

Financial Year	Name of the Funding agency	Title of the Project	Sanctioned date	Amount Received (In Rupees) during the year

6.6. Faculty Performance, Appraisal and Development System

Sr. No.	Item	Marks
1	For all of the evaluation years, a well-defined performance appraisal and enhancement system was implemented.	3
2	Its effectiveness and implementation	7

6.7. Visiting/Adjunct/Faculty etc.

Sr.NO	Item	Marks
1	Provision of Visiting /Adjunct/Emeritus faculty etc.(2)	2
2	A minimum of 50 hours of interaction per year (per year to receive four marks) is required.: 4 * 2 = 8)	8

6.10. Preparation of Teaching Cases

The faculty of the institute regularly develops cases, get them published and uses them for teaching purposes. The faculty along with the cases also develops teaching notes.

Cases published by Faculty

Year	Sr. No.	Name of Faculty	Title of Case	Journal Information

Discussion:

NBA accreditation is playing a foremost role in ensuring quality in higher educational institutions and colleges. NBA accreditation should not aim at just getting qualified, however should aim at quality education in actual sense. NBA's It necessitates a great deal of effort, but with the help of management and its principles, it becomes simple and efficient.

The purpose of curriculum what the student learns in institute however it should be focused towards overall personality development of students and enriching the learning process.

The design of Management Information System will help in implementation ease in utilizing the benefits in implementation of NBA process. User friendly MIS will assist end users and institute to get accurate and up keeping the data bank.

References:

- i. *Management Information System By Waman S Jawadekar Tata McGraw Hill Education Private Limited*
- ii. *Management Information System By Ken Laudon , Jane Laudon,*
- iii. *Rajanish Dass Dorling Kindersley (India) Private Limited*
- iv. http://en.wikipedia.org/wiki/Management_information_system
- v. <https://www.nbaind.org/>

A Study on Impact of Covid-19 on Cash Management of Lower and Middle Class Families of Societies at Barad.

Kashid Durga Chandrakant

Anekant Institute of Management Studies Baramati (AIMS), Pune.
durgakashid15@gmail.com

Abstract: "COVID-19 has spread around the world, killing thousands of people. Uncertainty in the markets, a deteriorating economy, and increasing unemployment have sparked public unrest. COVID-19 has an effect on the agricultural supply chain in the rural sector. Due to lockdown all over the India transport facilities are also closed that's why farmers have incurring the losses in perishable foods. They faced the problems related to cash management for household finances. This research paper focuses on impact of covid 19 on cash management of lower and middle class families at societies of Barad. Researcher has taken the survey of 50 lower and middle class families, according to this survey researcher conclude that more than 40% families faced the problem of cash management. also observes a dramatic decline in employment. Most of the people's loss their income sources due to COVID-19 that's why they are spends their savings for cash management for household finances."

Keywords: Declining economy, unemployment, problems of cash management, uncertainty in market, declining economy, loss of income sources, spending of future savings.

Introduction:

In today's scenario there has been a major change of economic prosperity all over the world because of the corona virus disease. The Covid-19 pandemic has put entire countries on lockdown, shattered value chains, and put household finances under strain.

Agriculture, as we all know, is the backbone of our Indian economy. It is a primary sector that creates jobs, allowing the entire economic cycle to continue. With the ongoing pandemic, the livelihoods of all farmers and people involved in this industry are in jeopardy. Border closures, quarantine measures, and market supply chain disruptions, as well as trade disruptions, are limiting people's access to nutritious food sources.

Some peoples are working in the hotels, shopes, malls etc.; this all sources of incomes are closed in the lockdown and they are jobless that's why they have a big problem of cash management for household finances. In our Indian country most of the families are purchase the goods in daily or weekly basis because of lockdown they faces lots of problems related to their daily needs.

Objectives of The Study:

1. To investigate the daily cash needs of lower and middle-income families.
2. Determine the sources of income for lower and middle-class families. To investigate the problems faced by the families of lower and middle class.
3. To analyze the financial position of lower and middle class families during COVID – 19 situations.

Research Methodology:

A research approach is a method for solving a research problem in a systematic manner. The current study's research approach covers research design, data collection techniques, sampling procedures, a survey, analysis, and interpretations.

Research Design:

A research design is an arrangement of conditions for data collection and analysis that aims to combine relevance to the research goal with procedural economy. Here for this study, researcher has collected data in structured Questionnaire format at societies of Barad. Exploratory and descriptive research design is adopted.

Descriptive Research:

This is a more in-depth research that answered the question what and how. It is used to answer questions of who, what, when, where, and how associated with a particular research question or problem.

Exploratory Research:

Exploratory research is a type of research that is done to solve a problem that isn't well defined. It aids in the selection of the best research design, data collection method, and subjects.

Data Collection and Execution:

The search for an answer to a research question is referred to as data gathering. Data are facts, as well as other related materials from the past and present, that serve as the foundation for research and analysis. Primary data collection and secondary data collection are the two types of data collection.

Primary Data:

The primary data would be collected first hand for research purpose is primary data. For this study researcher has collected the data of lower and middle class families at Barad using questionnaire. So Researcher collects information from discussion.

Sources:

1. Structured questionnaire.
2. Discussions with individuals.

Secondary Data:

Secondary data will be gathered from published literature on the subject or related to the study area, as well as from Internet web pages. Censuses and large surveys are common secondary data sources.

Sampling and Sample Size:**Population:**

Definition by Will Kenton, The entire pool from which a statistical sample is drawn is referred to as a population. A population should refer to a large number of individuals, objects, or events. As a result, a population can be defined as an observation of subjects that have been grouped together by a common feature.

Selected society of Barad has a total 120 lower and middle class families. Therefore total population for this study was 120 families.

Representative Sample:

A sample of few respondents will be selected from different age group, qualification and income groups of societies at Barad.

Simple Random Sampling Method is used as a sampling method.

Researcher has taken sample of 50 families. Therefore, **Sample size is 50 families.**

Data Presentation:

Questionnaires were used as a method of data collection. Microsoft Excel was used to code and enter the collected data. Because the study was quantitative, the results were presented using simple descriptive statistics.

Data Analysis Tools:

1. Tables
2. Pie Chart.

Significance of Study:

This study help to find out what are the problems faces the lower and middle class families. Also analyses impact on their income sources due to covid -19. Some peoples losses their income source and they have problems, how to manage cash for household finances. Due to this study I also analyses that some peoples broke their FD's for management of household finances. This study is limited to lower and middle class families of societies at Barad.

Statement of Problem:

A research problem is one which requires finding out the best solution. It was observed that they are facing the problems of job loss. During COVID- 19 situation many lower and middle class families faces problems of cash management for household finances of societies at Barad.

Literature Review:

Mike Brewer and Laura Gardiner¹ will publish "A study on the initial impact of COVID-19 and policy responses on household incomes" on August 5, 2020.

Mike Brewer and Laura Gardiner¹ conducted a study on the initial effect of COVID-19 and policy responses on household incomes.

This paper analyses the design and beneficiaries of these policies and, given the distributional pattern of the labour market shock, considers the emerging overall impact on living standards, particularly of low-income households. And They conclude that living standards reveal a more worrisome picture, with those in (pre-crisis) lower-income families being much more likely to have taken on new debt, borrowed from friends or relatives, or cut back on saving; this reflects not that income falls have been greater than among higher-income households, but that they have been less likely to have suffered a (probably enforcing) squeeze on their savings.

A. Gupta^{1*}, H. Zhu¹, M. K. Doan¹, A. Michuda¹, B. Majumder², International Development Research Associates, and Kagin's Consulting, "A study on the Economic Burden of COVID-19 Lockdown on the Poor." On the 2nd of May, 2020, a new issue will be published.

A. Gupta^{1*}, H. Zhu¹, M. K. Doan¹, A. Michuda¹, and B. Majumder² conducted a study on the Economic Burden of COVID-19 Lockdown on the Poor. . The COVID-19 pandemic sparked the most lockdowns around the world, affecting nearly half of the world's population by the first week of April 2020, according to this research paper. The most severe curfew was imposed by the Indian government. Overnight, all economic activity was halted, affecting the lives of the nation's 1.3 billion people. Poor households lost INR 1,022 (US\$ 13.5) in the first four weeks after India's lockdown announcement, which is about 88 percent of their average weekly income from the previous year.

Indira Gandhi Institute of Development Research, Mumbai, will publish "Covid-19: Impact on the Indian Economy" by S. Mahendra Dev and Rajeswari Sengupta in April 2020.

A study the impact of COVID-19 on Indian Economy was undertaken by **S. Mahendra Dev and Rajeswari Sengupta**. They studied that the outbreak of the Covid-19 pandemic is an unprecedented shock to the Indian economy. The economy was already in a parlous state before Covid-19 struck. With the prolonged country-wide lockdown, global economic downturn and associated disruption of demand and supply chains, the economy is

likely to face a protracted period of slowdown. In this paper they are describe the state of the Indian economy in the pre-Assess the shock's potential effect on different segments of the economy over the Covid-19 period, evaluate the policies announced so far by the central government and the Reserve Bank of India to mitigate the economic shock, and make policy recommendations for specific sectors. **Peter Ranscombe's "A Study on Rural Areas at Risk During the COVID-19 Pandemic"** was published online on April 17, 2020.

Peter Ranscombe conducted a study on rural areas at risk during the COVID-19 pandemic. "One of the concerns about rural areas is that if the virus strikes, they will be less able to treat it because they have fewer hospitals and other statutory healthcare facilities," they explained. They also learn that national governments were responsible for ensuring that resources were allocated to meet the basic needs of rural communities, such as water for hand washing.

"Is there a study on how household spending reacts to epidemics? Scott R. Baker, R.A. Farrokhnia, Steffen Meyer, Michaela Pagel, and Constantine Yannelis published "Consumption during the 2020 COVID-19 pandemic" in April 2020.

How does household spending respond to an epidemic, according to a study? Scott R. Baker, R.A. Farrokhnia, Steffen Meyer, Michaela Pagel, and Constantine Yannelis were in charge of consumption during the 2020 COVID-19 pandemic. They use transaction level household financial data to analyse the effect of the COVID-19 virus on household consumption in response to epidemics.

Data Analysis and Interpretation:

ANALYSIS NO- #01 Analysis of Monthly Income:

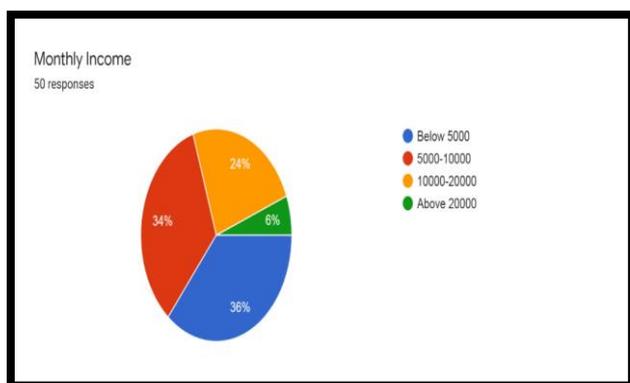
Monthly Income	Frequency	Percentage
Below 5000	18	36
5000-10000	17	34
10000-20000	12	24
Above 20000	3	6
Total	50	100

(Primary data source)

Table No: 1.1 Analysis of Monthly Income:

Monthly Income	Frequency	Percentage
Below 5000	18	36
5000-10000	17	34
10000-20000	12	24
Above 20000	3	6
Total	50	100

Graphical representation of data is as follows:



Interpretation:

From the above analysis it is interpreted that in the societies of barad 36% respondents have below 5000 income, 34% have a 5000-10000, 24% have a 10000-20000 income and remaining only 6% respondents have a above 20000 rupees monthly income.

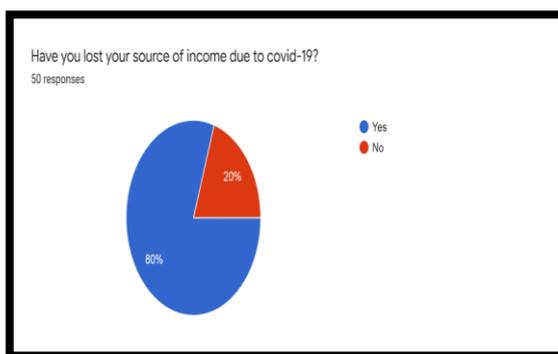
ANALYSIS NO-# 2 Analysis of Lost of Income Source:

Data collected from respondent and tabulated as follows:

Lost of Income Source	Frequency	% of total
Yes	40	80
No	10	20
Total	50	100

(Primary data source)

Graphical representation of data is as follows:



Interpretation:

According to the results of the above analysis, 80 percent of respondents have lost their source of revenue as a result of the COVID-19 lockdown. The remaining 20% of people are able to keep their jobs.

ANALYSIS NO- #3 Analysis of Use of Savings during Lockdown:

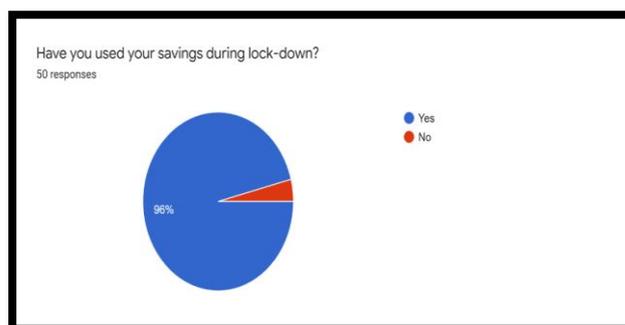
Data collected from respondent and tabulated as follows:

Use of Savings	Frequency	% of total
Yes	48	96
No	2	4
Total	50	100

(Primary data source)

Table No. 3.1 Analysis of Use of Savings during Lockdown

Graphical representation of data is as follows:



Interpretation:

According to the results of the above analysis, 96 percent of respondents use their savings to handle household finances during lockdown.

Findings:

1. In this survey the researcher have To begin, determine the respondents' income group, which reveals that the higher the percentage, the better of respondents has below 5000 monthly income. And only 6% respondents are from the above 20000 income group.
2. According to the survey 42% respondents have a private source of income, 32% farmers are there, 24% have other source of income and only 2% are govt. servants.
3. 40.9% respondents have a conjugal family type, 27.3% have a matrifocal, 22.7% have extended and remaining 9.1% respondents have Patrifocal type of family.
4. 44% respondents requires Rs. 500-1000 for groceries, 34% have a below 500, 16% requires Rs. 1000-2000 for the groceries.
5. 50% requires Rs. 300 for fruits and vegetables, 22% requires Rs. 400, and remaining 28% respondents requires 500 and above 500 rupees for the fruits and vegetables.
6. 44% respondents have Rs. 10000-20000 are required for the monthly bills, 30% requires Rs. below 1000, 24% requires Rs.2000-3000 for their monthly bills like water, electricity and telephone.
7. 46.9% peoples do not receive their salary, 24.5% peoples bear the loss of 50% deductions and 18.4% respondents have a loss of 40% salary due to deductions.
8. 96% respondents use their future savings for the management of household finances
9. 82% peoples are aware about the free scheme provided by govt. and take benefits of the above schemes.

Conclusion:

It is interesting to conclude research topic that is impact of COVID-19 on cash management of societies at BaradThe

arrival of the COVID-19 pandemic triggered major economic downturns all over the world, with significant reductions in jobs and personal income. Many countries imposed restrictions on movement to slow the spread of the pandemic. To investigate the effects of local lockdowns on actual and planned spending, income and wealth losses, macroeconomic expectations, and political institution approval ratings. A dramatic drop in jobs and consumer spending, as well as a gloomy outlook for the next few years, was observed by the researcher.

References:

- i. "A study on the initial impact of COVID-19 and policy responses on household incomes", by Mike Brewer and Laura Gardiner¹, issue on 05 August 2020.
- ii. "A study on Economic Burden of COVID-19 Lockdown on the Poor", by A. Gupta^{1*}, H. Zhu¹, M. K. Doan¹, A. Michuda¹, B. Majumder², International Development Research Associates and Kagin's Consulting. Issue on 02 May 2020.
- iii. "Covid-19: Impact on the Indian Economy", by S. Mahendra Dev and Rajeswari Sengupta, Indira Gandhi Institute of Development Research, Mumbai, issue on April 2020.
- iv. "A study on rural areas at risk during COVID-19 pandemic", by Peter Ranscombe, Published Online on April 17, 2020.
- v. "A study on how does household spending respond to an epidemic? Consumption during the 2020 COVID-19 pandemic", by Scott R. Baker, R.A. Farrokhnia, Steffen Meyer, Michaela Pagel, and Constantine Yannelis, published on April 2020.
- vi. *Economics in The Time of COVID-19*, Edited by Richard Baldwin and Beatrice Weder di Mauro.

Impact of Cyber Attacks (Debit cards Data breach) on ATM's of Indian Financial Institutions

Shriram S. Badave

Assistant professor
Anekant Institute of Management Studies, Baramati
shrirambadave@aimsaramati.org

Abstract: India's biggest internet banking security breach occurred after the government announced its demonetization drive, urging Indians to move to a cashless economy focused on the internet and plastic cards. Hackers stole over 3 million debit cards and pin numbers, including those issued by Mastercard and Visa. According to the Ministry of Finance, Rs 2.5 lakh was looted from Indian bank accounts. A number of public and private banks have been impacted. In the last three months, several financial companies have also been attacked by cyber-attacks. In recent years, many banks have seen a spike in cyber-attacks or security breaches. In India, the degree of cybercrime preparedness is very poor. Companies must develop their detection and response capabilities. After "some unexplained and suspicious" transactions spiked at third-party ATM machines, the State Bank of India and its subsidiary banks recently blocked around 6.25 lakh debit cards of their customers. This occurred about a month ago, and some consumer data was compromised. Since there were so many cards involved, Bank decided it was best to replace them all. The majority of the cards were magnetic.

Keywords: Mastercard, Demonetization, Cybercrime, Customers

Introduction:

The majority of information in today's E-Commerce world of internet processing is online and vulnerable to cyber threats. There are a large number of cyber-attacks, and their activity is difficult to predict early on, making them difficult to prevent in the early stages. Attacks that are carried out intentionally are known as cybercrime, and they have significant implications for the country's culture and economy in the form of economic damage, psychological instability, and a danger to the national defense system, among other items. As a consequence, the current manuscript addresses sympathetic cyber-crime and its impact on financial institutions, as well as future developments. When did this modern and insidious form of crime first appear on the scene? One may argue that the concept of the computer began with the invention of the first abacus, and thus "cybercrime" has existed since people began using calculating machines for improper purposes. Cybercrime, on the other hand, has only been a significant threat to society for less than a decade.

- This is not surprising given that the abacus, which is believed to be the earliest type of a device, has been used in India, Japan, and China since 3500 B.C. The

period of modern computers, on the other hand, started with Charles Babbage's analytical engine.

- The first cyber-crime was registered in the year 1820!
 - The loom was invented by Joseph-Marie Jacquard, a French textile designer, in 1820. This system required a series of steps in the weaving of special fabrics to be repeated. Employees at Jacquard were concerned that their traditional jobs and livelihoods would be jeopardized as a result of this. They carried out acts of sabotage in order to prevent Jacquard from using the latest technology in the future. This is the first recorded cyber-crime!
1. 1960s & 1970s: SABOTAGE: Direct Damage to Computer Centers 1970-1972: Albert the Saboteur
 2. IMPERSONATION
1970: Jerry Neal Schneider
1980-2003: Kevin Mitnick
Credit Card Fraud Identity Theft Rises
 3. PHONE PHREAKING :2600 Hz
1982-1991: Kevin Poulsen
 4. DATA DIDDLE: The Equity Funding Fraud (1964-1973)
1994: Vladimir Levin and the Citibank Heist
 5. SALAMI FRAUD

6. LOGIC BOMBS
7. EXTORTION
8. TROJAN HORSES : The 1988 Flu-Shot Hoax, Scrambler, 12-Tricks and PC Cyborg, 1994: Datacomp Hardware Trojan, Keylogger Trojans, The Haephtrati Trojan, Hardware Trojans and Information Warfare
9. NOTORIOUS WORMS AND VIRUSES
1970-1990: Early Malware Outbreaks
November 2, 1988: The Morris Worm
Malware in the 1990s
March 1999: Melissa
May 2000: I LOVE YOU
10. SPAM
1994: The Green Card Lottery Spam
Spam Goes Global
11. DENIAL OF SERVICE
1996: The Unemailer
2000: Mafia Boy
12. THE HACKER UNDERGROUND OF THE 1980s & 1990s
1981: Chaos Computer Club
1982: The 414s
1984: Cult of the Dead Cow
1984: 2600: The Hacker Quarterly
1984: Legion of Doom
1985: Phrack
1989: Masters of Deception (MOD)
1990: Operation Sundevil
1990: Steve Jackson Games
1992: L0pht Heavy Industries
2004: Shadowcrew
And many more cases in these decades
13. Cyber terrorism
14. Cyber extortion
15. Cyber warfare
16. ATM attacks

Banks are becoming increasingly aware of the pervasiveness and complexity of fraud. Legacy fraud management schemes, on the other hand, have not kept up with the increasing sophistication of fraud across all networks.

Any criminal or other offence enabled or involving the use of electronic communications or information systems, including any computer or the Internet, or any one or more of them, is referred to as "cybercrime." The use of the Internet, a computer device, or computer technology in criminal activity or a crime.

- Hacking
- Computer "Pirates"
- Copyright violations have civil and criminal remedies.
- Financial crimes
- Cyber pornography
- Sale of illegal articles
- Intellectual Property crimes
- Forgery
- Cyber Defamation

Fraud and Financial Crimes

Any fraudulent misrepresentation of fact intended to encourage another to do or refrain from doing anything that causes loss is referred to as computer fraud. In this case, the fraud will result in the following benefits:

- Making illegal changes - Employees modifying data before entry or entering false data, as well as entering unauthorized instructions or using unauthorized procedures, are popular forms of fraud that involve little technological skill.
- Changing, deleting, suppressing, or stealing data, usually in order to hide illegal transactions. It's difficult to notice.
- Altering or deleting stored data.

Some of the attacks include the use of skimming machines, which secretly record account data from a credit or debit card's magnetic stripe. The computer has a card reader as well as a concealed camera that records the PINs of cardholders. Physical assaults, such as a smash-and-grab raid, in which criminals break into a store and snatch an ATM. They could also steal money by physically attacking the ATM's safe.

Stealing Pin Codes, Cash Trapping, Gas Attacks, Malware, Backdoor ATMs, Cyber Attacks, and other strategies will also be discussed.

Various types of security enhancements and compliances are being used by the ATM industry to try to deter these attacks. EMV Migration is the first line of protection, followed by PCI DSS and Windows 7. Aside from that, ATM vendors offer a variety of fraud prevention technologies. Wincor Nixdorf, one of the world's three largest ATM vendors, offers a fraud mitigation programme that includes the following features: access safety, intrusion protection, hard disc encryption, Optical Security Guard, ProView video monitoring, fraud prevention, and other security features.

We will also discuss various guidelines for physical and logical ATM protection during this presentation. We may expect significant progress, customer loyalty, and overall improved performance in this area of protection as a result of the Bank's efforts and vendor solutions.

Card data is saved in a range of formats. Card numbers, formally known as the Primary Account Number (PAN), are often embossed or imprinted on the card, and the data is stored in machine-readable format on a magnetic stripe on the back. The following are some of the most common fields:

- Name of card holder
- Card number
- Expiration date
- Verification/CVV code

Cybercriminals have created and deployed malware that allows users to withdraw cash from ATMs without risking their debit cards. Criminals may use ATM malware to figure out how much money is in each cash cassette and hack the computer to disburse it.

Danger to ATMs

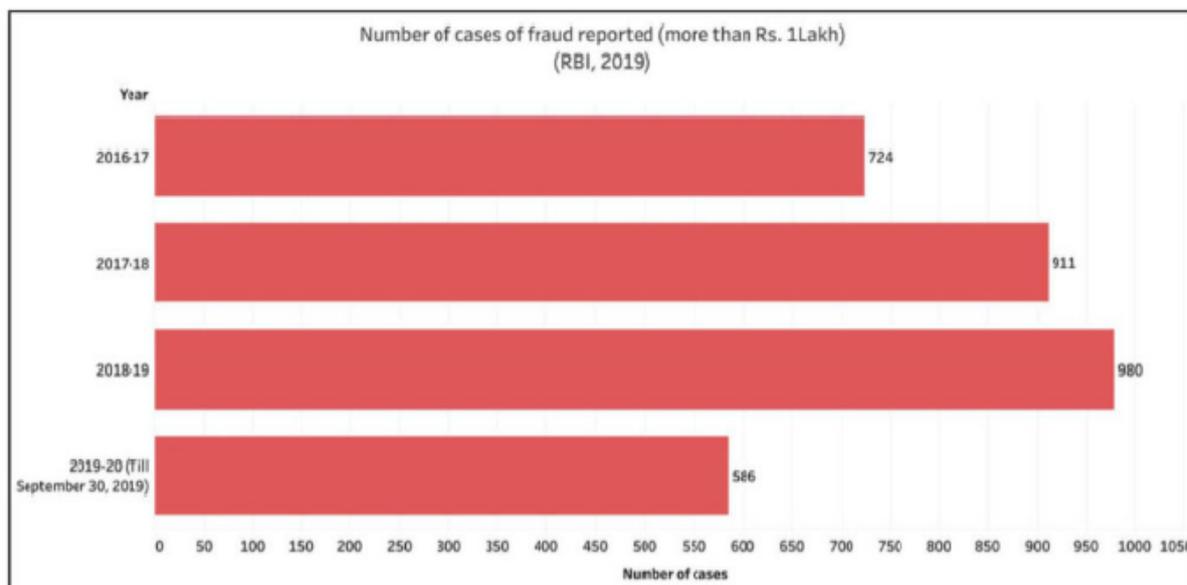
According to Secure List, a forensic analysis by Kaspersky Lab discovered a piece of ATM malware that enables criminals to directly target ATMs. Criminals will clear the

cash cassettes of ATMs made by a particular manufacturer running Microsoft Windows 32-bit using these direct attacks. Malware, Phishing, Password Attacks, DoS Attacks, “Man in the Middle” (MITM), Drive-By Downloads, Malvertising, and Rogue Software are all examples of ATM attacks.

Typing, the ATM malware, has a number of features that help it escape detection:

- It only operates at certain hours of the night on particular days of the week, usually Sunday and Monday.
- It necessitates the use of a random seed to generate a key. To enter the correct key based on the randomly displayed seed, the criminal must understand the algorithm.
- Tyupkin implements anti-debug and anti-emulation techniques
- This is a higher-level assault since it targets the bank directly, removing the need for skimming devices to collect customer debit card data. Unlike skimming attacks, which only involve access to the public area around an ATM, the malware attack necessitates access to the ATM's back end. Only ATMs with no active safe alarm were found to be compromised, according to the investigation. As a result, installing alarms and removing master keys are two simple mitigating controls that can be enforced.
- Cybercriminals can look for a willing insider at the bank, ATM vendor, or security service vendor to instal malware at ATMs with security alarms. Additionally, bank employees may be socially programmed to allow anyone posing as a vendor to gain access to the computer.

Meanwhile, in the last three years, data on cases of fraud involving ATM cards and online banking worth at least one lakh rupees each has increased.



In the fiscal year 2016-17, 724 cases of ATM card and online banking fraud (totaling more than a lakh rupees) were registered. In 2017-18, there were 911 cases, and in 2018-19, there were 980 cases. Despite a rise of 7.5 percent in the number of cases, people lost Rs. 65.26 crores in 2017-18 and only Rs. 21.36 crores in 2018-19, suggesting a decrease in the amount involved. There have already been 586 cases registered in the first six months of the current fiscal year 2019-20.

The number of fraud cases has increased by 50%, but the overall sum has decreased.

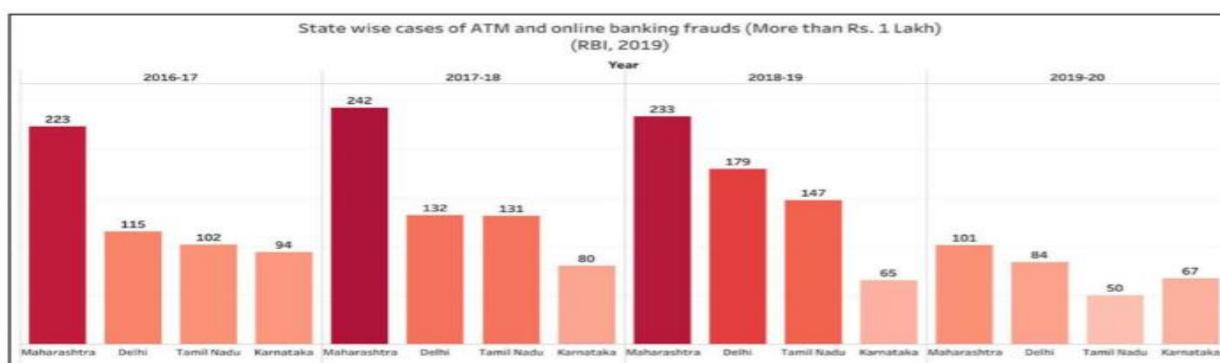
The number of cases of fraud involving ATMs, cards, and online banking has increased in recent years as the number of digital transactions has increased. The overall amount involved in such fraud cases, on the other hand, has decreased.

According to the Reserve Bank of India, a total of 34,791 fraud cases involving Rs. 168.99 crores and 52,304 cases

involving Rs.149.42 crores were registered in 2017-18 and 2018-19, respectively (card related & online banking). Despite the fact that the number of cases has risen by nearly 50%, the amount involved has decreased.

Year	Number of Frauds	Amount of Frauds (In Rs. Crores)
2017-18	34791	168.99
2018-19	52304	149.42

Maharashtra has registered the highest number of cases of fraud involving ATM cards and online banking in each of the last three years. Along with Maharashtra, Delhi, Tamil Nadu, and Karnataka have continued to record large numbers of cases over the years. Only data for the 2019-20 fiscal year is available until September 30, 2019.



In 2019-20, there were the most fraud cases recorded in SBI.

Almost a third of the cases were registered to the State Bank of India in 2019-20. ICICI Bank was responsible for more than 11% of the incidents. In the current and previous financial years, bank frauds affected HDFC and Kotak Mahindra significantly.

ATM's in India as per Bank wise Atm / Pos / Card Statistics

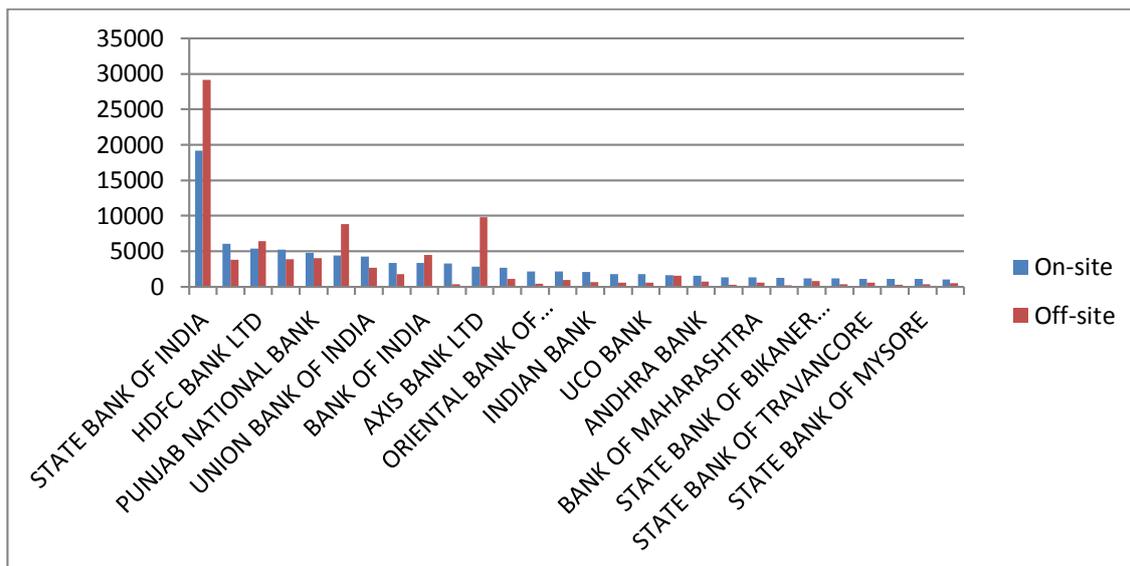
In India, ATMs are still uncommon, despite the fact that more are being built. They are often not geographically

uniformly distributed, so you may have difficulty locating ATMs in rural areas.

Any card that is linked to a global payment system, such as Maestro, MasterCard, American Express, and Visa, can normally be used. On ATM withdrawals, some Indian banks charge a foreign exchange fee.

While ATMs are the most convenient way to withdraw money in India, the amount you may withdraw is likely to be restricted. This is particularly inconvenient if you must make daily cash payments (i.e. your rent). You have no choice but to withdraw money from a bank counter if your withdrawal exceeds the ATM cap.

Sr. No	Bank	On-site	Off-site
1	STATE BANK OF INDIA	19151	29129
2	BANK OF BARODA	6013	3760
3	HDFC BANK LTD	5357	6436
4	CANARA BANK	5243	3909
5	PUNJAB NATIONAL BANK	4761	4043
6	ICICI BANK LTD	4408	8840
7	UNION BANK OF INDIA	4244	2667
8	CENTRAL BANK OF INDIA	3355	1746
9	BANK OF INDIA	3327	4439
10	SYNDICATE BANK	3291	355
11	AXIS BANK LTD	2806	9774
12	INDIAN OVERSEAS BANK	2701	1074
13	ORIENTAL BANK OF COMMERCE CORPORATION BANK	2175	395
14		2112	915
15	INDIAN BANK	2079	641
16	STATE BANK OF HYDERABAD	1781	569
17	UCO BANK	1775	542
18	IDBI LTD	1652	1558
19	ANDHRA BANK	1509	739
20	VIJAYA BANK	1300	262
21	BANK OF MAHARASHTRA	1299	560
22	DENA BANK	1266	200
23	STATE BANK OF BIKANER AND JAIPUR	1153	781
24	STATE BANK OF PATIALA	1149	339
25	STATE BANK OF TRAVANCORE	1093	565
26	PUNJAB AND SIND BANK	1070	261
27	STATE BANK OF MYSORE	1068	313
28	FEDERAL BANK LTD	1034	511
29	UNITED BANK OF INDIA	887	1128
30	KOTAK MAHINDRA BANK LTD	856	1112



Precautionary measures

RBI keeps issuing instructions to prevent such frauds

In 2015, the Reserve Bank of India (RBI) provided instructions to banks to report cases of fraud to law enforcement agencies and to take effective measures to recover the money lost as a result of the fraud. Customers would have zero responsibility if they inform the bank within three working days of unauthorised transactions due to contributory fraud, negligence, or third-party violation, according to the RBI. Banks should also take immediate measures to ensure ATM security and include customer platforms such as toll-free numbers, SMS, e-mail, and others that are available 24 hours a day for customers to report unauthorised transactions. For security purposes, the RBI mandated that debit and credit cards be converted to EMV cards with PIN in December 2018.

In addition to these initiatives, the RBI runs awareness campaigns called "RBI Kehta hai" to raise awareness about the importance of secure digital banking. As a result of ATM fraud, most banks have implemented preventative measures such as reminding customers to update their debit card PIN or password on a regular basis (every month or in 3-6 months). Banks have also told customers not to share their passwords with anyone else in

order to prevent security breaches such as card skimming and cloning. Banks have also advised customers not to share their passwords with anyone else in order to prevent security breaches such as card skimming and cloning, which could result in data theft.

All banks have been asked by the Reserve Bank of India to upgrade their debit cards to chip-based EMV cards, which add layers of protection. Bank servers do not validate information on a chip-based card until the correct PIN is entered, whereas information on a magnetic strip is readily available.

Conclusion:

This research paper casts a keen eye not only on the definition of cyber-crime, but also on the implications at various levels of the ATM security system. This will assist the government in safeguarding all online information vital organizations that are vulnerable to cybercrime. Understanding the actions of cyber criminals and the consequences of cybercrime on society will assist in deciding the best means to resolve the situation. The Securities and Exchange Board of India (Sebi) has launched an urgent review of overall risk management and agreed to set up a high-level committee to ensure prudent response and swift, corrective steps in the event of a cyber threat to the Indian banking system. When an ATM is

hacked, not just the bank's customers' PIN numbers are at risk, but also the PIN numbers of anyone who uses the bank's ATM network. Using the card at an ATM, which is supervised by the bank, appears to most customers to be a secure transaction. However, this isn't always the case. Around 70% of ATMs in India are using obsolete operating systems, making it easier for fraudsters to take advantage of them. This lack of work necessitates either improving existing work or developing new paradigms for countering cyber-attacks.

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Application of IOT for Automated Irrigation System Based On Wireless Soil Moisture Sensor in Watershed

Mr. Chakradhar Borkute

PhD Research Scholar,
Neville Wadia Institute of Management Studies & Research,
chakradhar.cc@gmail.com

Dr. V N. Sayankar

Professor,
AIMS, Baramati,
vnsayankar@gmail.com

Abstract: Soil sensor is a unique sensor that provides precision irrigation leading to growth in yields of crops with minimum water. The whole system involves soil sensors which senses the soil moisture level, solenoid valve which automatically controls the irrigation, and Gateway which receives the data from the sensors and send it to the server through which valve are automatically controlled. The Project is implemented at Village Buchakewadi located in Taluka-Junnar of Pune district in Maharashtra. This project includes 22 acre of agricultural land out of which 16 acre is under cultivation. 9 farmers included in this project. In all Plots 40 sensors are installed. There are total 11 plots having different crops such as Onion, Marigold, Guava, Brinjal, Sweet potato, Chilli etc

Keyword: Soil sensor, Gateway, Server, Valve, Precision irrigation system

Introduction:

Soil sensor is a unique sensor that provides precision irrigation leading to growth in yields of crops with minimum water. It detects amount of water in soil, humidity and temperature and also control drip-sprinkler valves. The system helps farmers by displaying important parameters such as soil humidity, Temperature, Water level and weather forecast right on your mobile phone. It is very useful in dry and drought affected areas where we need to provide just enough water to crops. The system involves soil sensors which senses the soil moisture level, solenoid valve which automatically controls the irrigation, and Gateway which receives the data from the sensors and send it to the server through which valve are automatically controlled.

Objectives of the Study

1. Increasing crop production by using precision irrigation system using wireless soil moisture sensors without manual interventions.
2. To reduce soil erosion by providing sufficient irrigation as per crop requirement.
3. To maintain soil fertility as there is no excess water provided to the crop.

Research Methodology

Following methods are adopted while implementing the project

Data Collection

Area:

The area for the study was agricultural land at Village. Buchakewadi located in Taluka-Junnar of Pune district in Maharashtra. The latitude and longitude of that area are 19° 9'3.01"N & 73°49'18.00"E

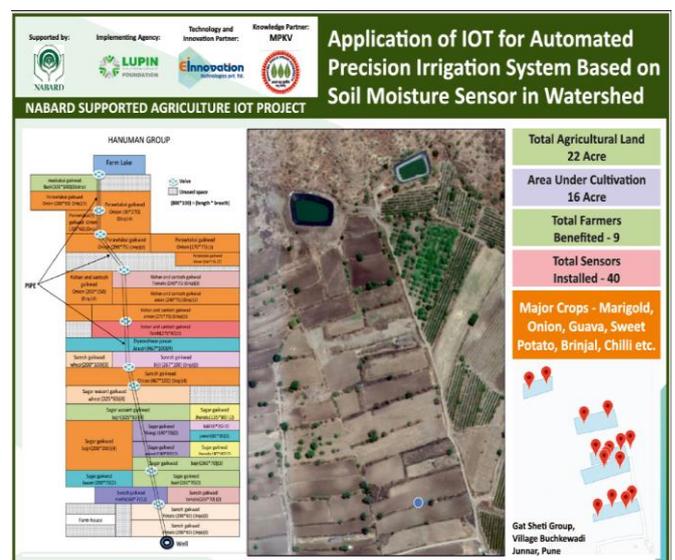


Fig.1 Location map of project area

Climate and Rainfall:

The climate of the district is one the whole is agreeable. The winter season is from November to about the middle of February with minimum temperature up to 12°C. The summer season last up to end May and maximum temperature reaches to 39°C. June to August is the south west monsoon season, wherein the major portion of the rainfall is recorded. September to early November constitute the post monsoon season wherein sporadic rainfall occurs. The annual average rainfall ranges between 50cm to 250cm. In the western region of the tehsil, rainfall ranges from 120 to 250 cm. In the middle region of the tehsil rainfall varies between 70 to 120 cm, the eastern part of the tehsils is the scarcity zone, having the rainfall 50 to 60 cm. Thus, the area gets rain most from the south west monsoon from June to September, proportion of which is about 87%.

Soil:

In this area, the factors such as geography, hilly landscape, climate, vegetation, human activities and elevation from river level, controls the soil type and status time to time. The basic rock in Junnar tehsil is basalt. The soils of the tehsil are formed from the same. In the most part of the tehsil reddish soil is found, which is useful for the groundnut, bajra cultivation.

Alluvial soils are the richest soil. Its colour ranges from pale yellow to dark brown. Soil has been one of the important asset & resources, of basic agriculture in this area.

Water resources:

In spite of moderate rainfall as compared to central Maharashtra, farmers often face water scarcity due to runoff of water due to sloppy lands and shallow water-retaining soil. This has become the main problem as the area under cultivation grew. The storage of water is done by wells near to river stream and farm-ponds constructed in the river by the PAANI-FOUNDATION. These make the main source for the irrigation purpose.

By taking into consideration all the above factors, a study was conducted and for each plot the soil moisture sensor are installed and with the help of data that was provided by the sensor, water is given to the crops and in the other plot

water is provided to crop by farmer seeing its external conditions like yellowing of leaves, drying of soil, etc.

Installation

For installation, firstly we did the survey of Buchkewadi site. Measurement of each plot is done. We find out the no. of sensors and no. of valves required for each plot. According to that installation has been done.

For installation, firstly soil is digged up to some depth. After that sensors are placed and cover up with soil. In each plots different no. of sensors are installed according to the plot size and crop. Solenoid valve is installed on the submain through which irrigation is done. To control that valve one valve sensor is placed within the solenoid valve. Gateway is installed at some height on electric pole. Solar panel is a lso placed on that pole.



Fig.2.

Working of Soil Sensor

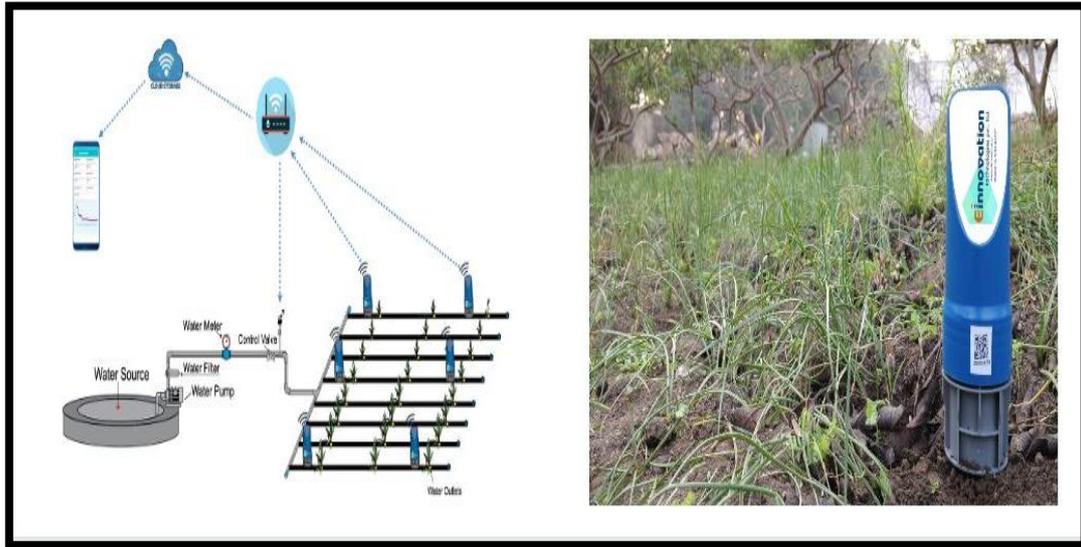


Fig.3.

- The sensor when installed in the field it checks the moisture percentage in the soil and send the moisture data to the gateway controller which is connected or located at farmer's house.
- The gateway/controller detects or find out the moisture is suitable for the crop or not.
- If it is not sufficient for the crop then it sends command to the automatic control valve which is connected to the pipeline.
- The control valve gets automatically open and remains open till the water need for the crop until it's fulfill.
- After that, the sensor in the field again sends the moisture percentage to the gateway/controller and the gateway finds the moisture or the water requirement in the field is fulfill and send the command to control valve to close the water discharge.
- However, the farmers get all the information on his mobile so, that how much water should be provided to the field is already known to farmer with the help of sensor.
- Due to this sensor mainly, there is savage of excess water. Also saving of light, electricity and also the time and labor cost

Significance of the Study

Einnovation portal and mobile app is made farmers friendly, so that each farmer should be able to use it. The

app available in both languages i.e. Marathi as well as English. Farmer doesn't need to go to the field to irrigate his farms as valves are operating automatically. The farmer knows the condition of the field staying at home.

Statement of the Problem

To design a system for overcoming all the problems at a time such as Water savings (sufficient irrigation as per crop requirement), electricity savings, labor requirement etc. by using wireless soil moisture sensors for precision irrigation.

Literature Review

The Project is implemented at Village Buchakewadi located in Taluka-Junnar of Pune district in Maharashtra. The latitude and longitude of that area are 19° 9'3.01"N & 73°49'18.00"E. This project includes 22 acre of agricultural land out of which 16 acre is under cultivation. 9 farmers included in this project. In all Plots 40 sensors are installed. There are total 11 plots having different crops such as Onion, Marigold, Guava, Brinjal, Sweet potato, Chilli etc. In all plots valves are installed and with the help of sensor, valves are controlled. Water requirement reference of each crop is determined with the help of **Phulejal app**. The sensors senses moisture and the optimized level of moisture is detected by the sensors. From the feedback of sensors irrigation has been maintained using automatic controllable valves.

Data Analysis & Interpretation

Data analysis from portal

Some data shown on portal is given below

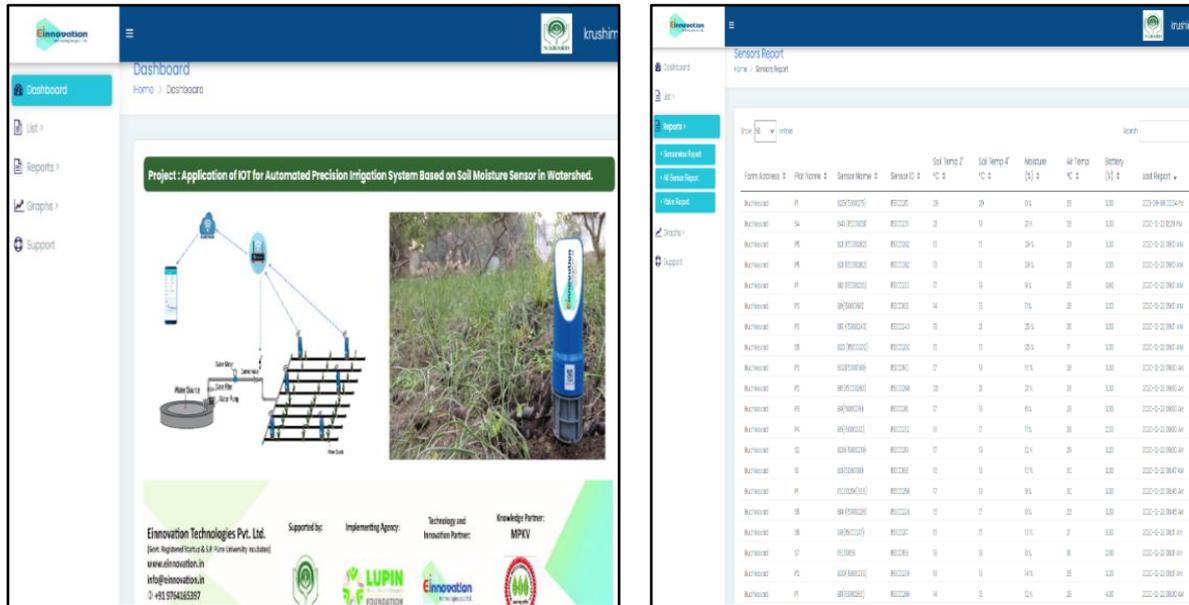


Fig.4

Moisture graph



Fig.5

Graph in fig 5 Shows the moisture level present in the soil at every 15 min. The graph rises when the water is given to the field and after that its starts showing the moisture level

present in the soil. So that, farmers knows the condition of the field by staying at home and doesn't need to go to the field and check about to giving the water to the field.

Air Temperature graph

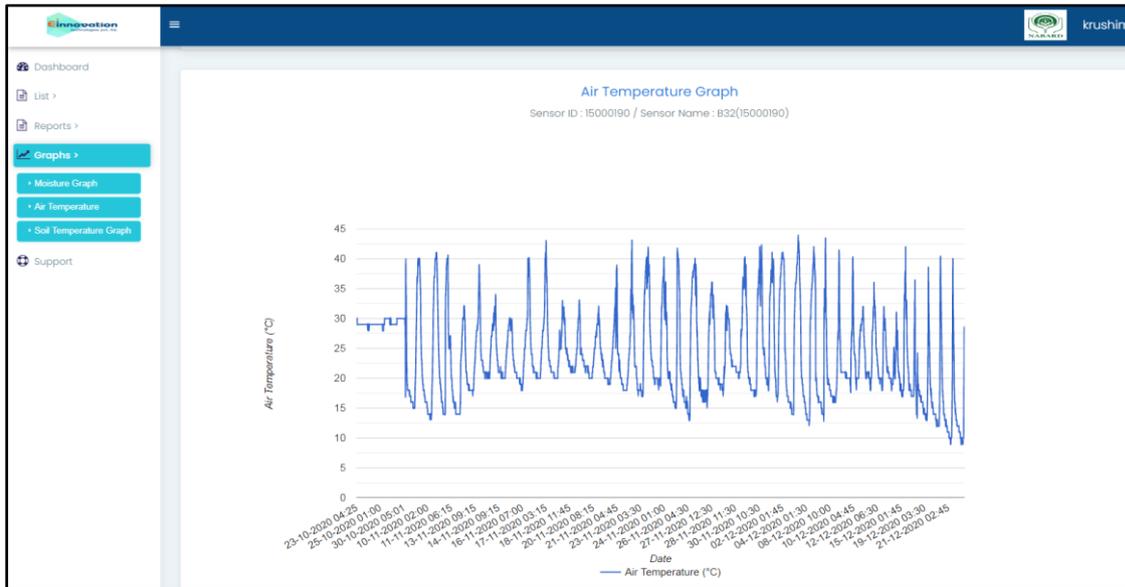


Fig.6

Graph in fig.6 shows the temperature of air at the field. It shows the fluctuation in air temperature whenever there are changes in that temperature. It also gives the readings at every 15 min.

Soil Temperature graph

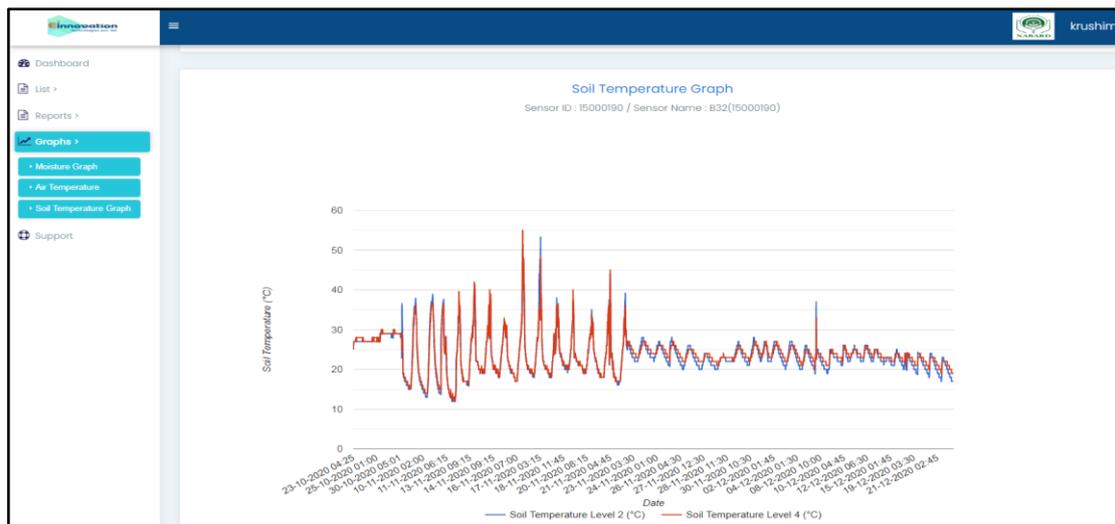


Fig.7

Graph in fig.7 shows the reading of soil temperature at two levels. Blue line indicates the graph of soil temperature at 2” and that of red lines indicates the soil temperature at 4” depth.

Data Analysis from Mobile App

Mobile app is developed to interact soil sensor with user.



Fig.8

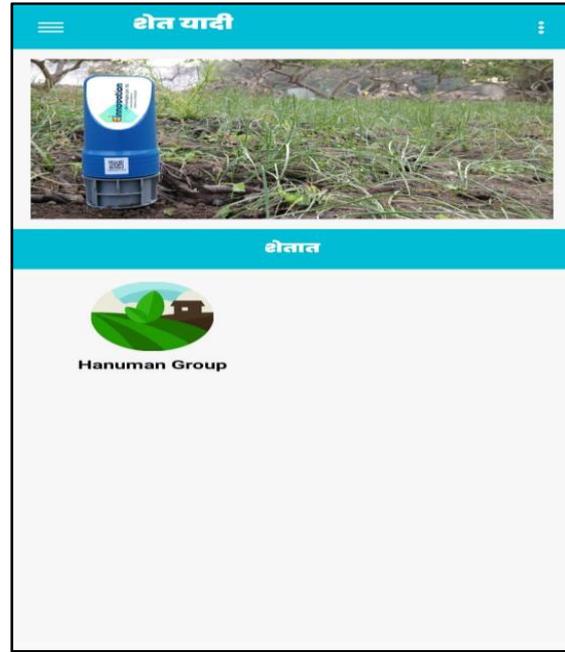


Fig 9

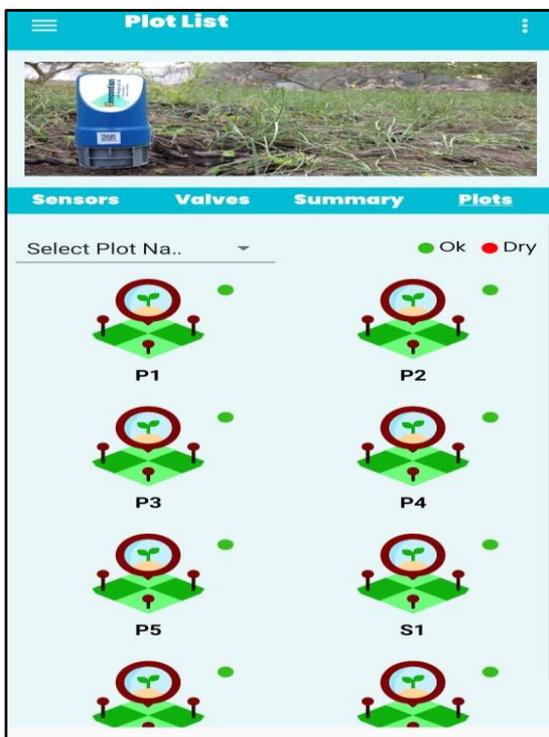


Fig.10

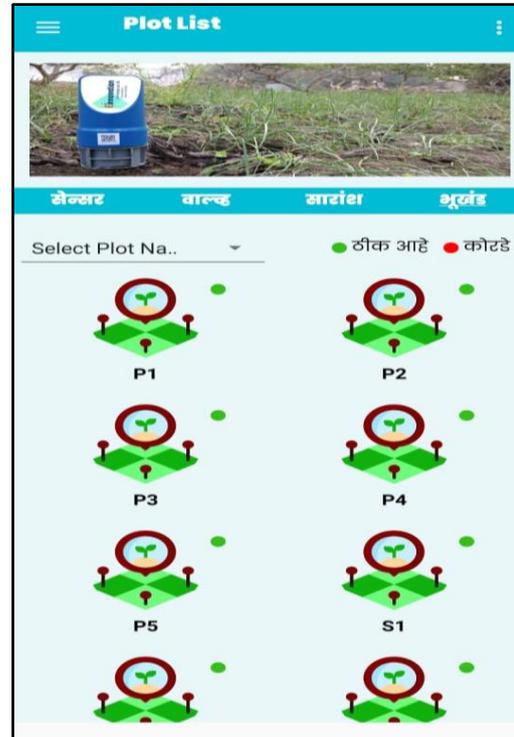


Fig.11

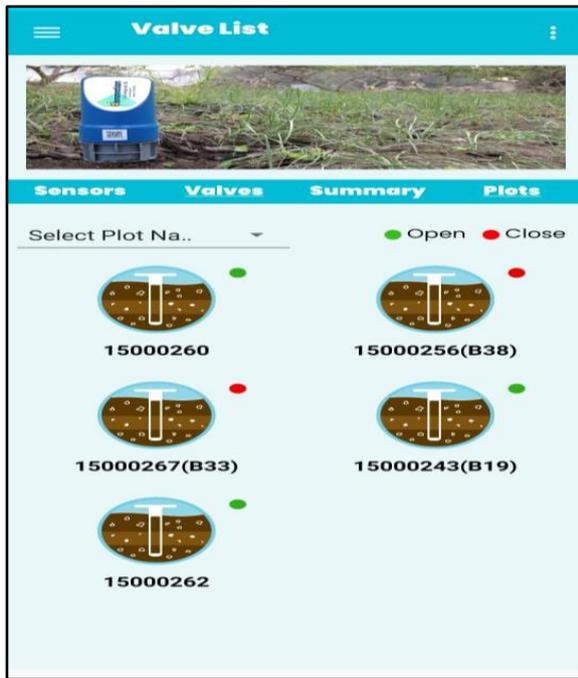


Fig.11

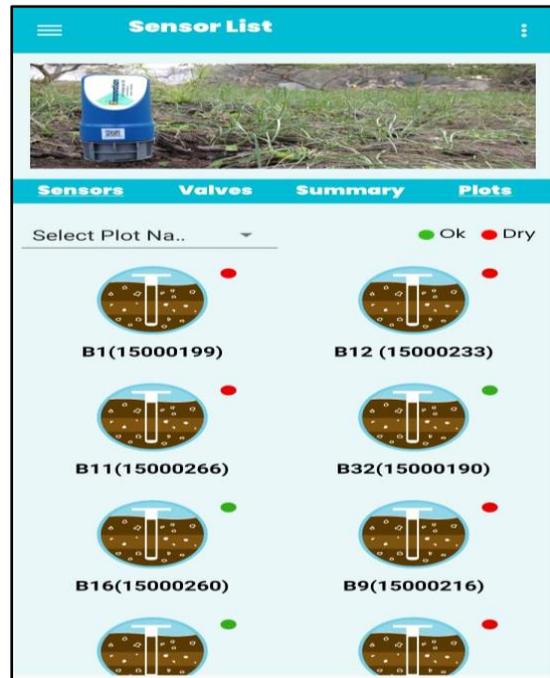


Fig.12

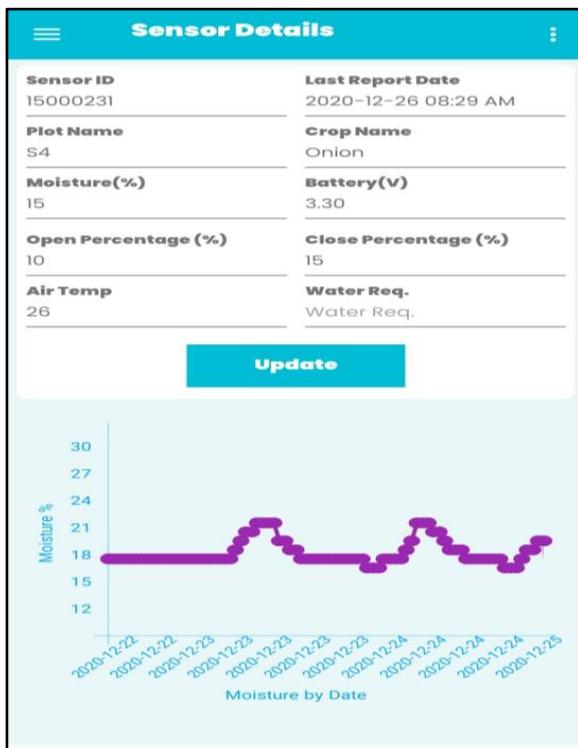


Fig.13

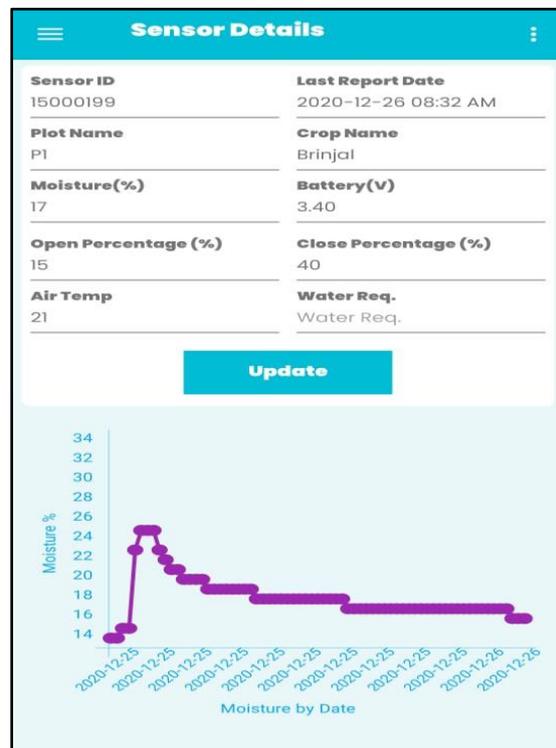


Fig.14

Graph in fig 13 and 14 shows the moisture level present in the field. Graph rises when the water is given to the field. It decreases when the moisture level changes i.e. moisture present in the soil starts decreasing. From this farmer knows the moisture level of the field.

Impact of IOT Project On Farmers

Before Installation

- Before the installation of sensors and valves, farmers used to irrigate the farm regardless of time.
- There is no fix time limit to irrigate the farm as he didn't know the quantity of water that needs to crops.
- He used to irrigate the farm over his experience or overview.
- He had to go to the field to irrigate his farm manually.
- He didn't know the condition of his farm by staying at home.
- As he didn't know the time of irrigation, there is a lot of wastage of water and also electricity.
- Due to excess water, bad effects were seen on the crop and soil.

After installation of sensors and automated valves, there is a lot of effects were seen are mentioned below:

- Farmer doesn't need to go to the field to irrigate his farms as valves are operating automatically
- The culture that the farmer should be present on the farm while, providing water to crops was mostly reduced
- Labors quantity that was required was mostly reduced
- As water given to the crop is at required quantity, the yield is increased
- Maximum water saving
- Farmer can irrigate his farm by staying at home so that there is lot of saving of time also

After Installation**Findings**

Impact (From Oct 2019 to April 2020)					
Sr. No.	Crop Name	Title	Before Installation	After Installation	Savings
1	Guava	Crop Period	1 year		
		Irrigation Interval	4		
		Total no. of irrigation	96		
		Amount of Water applied/irrigation	35000 lit	29100 lit	5900 lit/irrigation
		Total Water saved			566400 lit
		Irrigation time	60 min	49 min	11 min
		Production	4 tonnes	5.2 tonnes	1.2 tonnes
		Labour Required	1	0	1 labour
		Electricity Saved (Units) for 7 HP motor			205 unit
		Electricity saved @127 Rs/U			26075 Rs.
2	Pomegranate	Crop Period	3 year		
		Irrigation Interval	4		
		Total no. of irrigation	144		
		Amount of Water applied/irrigation	28000 lit	20800 lit	7200 lit/irrigation
		Total Water saved			1036800 lit
		Irrigation time	45min	38min	7 min
		Production	7.5 tonnes	9 tonnes	1.5 tonnes
		Labour Required	2	0	2 Labours

		Electricity Saved (Units) for 7 HP motor		376 units	
		Electricity saved @ 127 Rs/U		55272 Rs.	
3	Wheat	Crop Period	8 months		
		Irrigation Interval	3		
		Total no. of irrigation	24		
		Amount of Water applied/irrigation	156000 lit	104166 lit	51834lit/irrigation
		Total Water saved			1244016 lit
		Irrigation time	2hr	1.5hr	30 min
		Production	10 quintal	15 quintal	5 quintal
		Labour Required	3	0	3 Labours
		Electricity Saved (Units) for 7 HP motor			451 units
		Electricity saved @ 127 Rs/U			57277 Rs.
4	Onion	Crop Period	4 months		
		Irrigation Interval	5 days		
		Total no. of irrigation	24		
		Amount of Water applied/irrigation	80000 lit	75000 lit	5000 lit/irrigation
		Total Water saved			120000 lit
		Irrigation time	30min	20min	10 min
		Production	20 tonnes	25tonnes	5 tonnes
		Labour Required	2	0	2 Labours
		Electricity Saved (Units) for 7 HP motor			200 unit
		Electricity saved @ 127 Rs/U			25400 Rs.

Conclusion/Discussion

When this precision irrigation system installed in the field along with wireless soil moisture sensors, the effect of that system are there is by saving of water, labor and electric power supply, effecting reduction in input cost and increase in net income and also the quality products, also the water discharge for the crop was set by water requirement calculation from the app and is set to the control valve of sensor, so it irrigate the water to crop as per their need.

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Online Teaching-learning: A Boon or Bane for Rural Higher Education

Dr. Rahul Sadashiv Kharat

Assistant professor,
Department of Commerce, M. S. Kakade College, Someshwarnagar.
sgrass229@gmail.com

Abstract: *In today's dynamic era of technology and science, education cannot be set aside from technology in terms of teaching-learning-evaluation and research. Various Teaching-learning technologies plays very crucial role to make teaching-learning process easy and worth interesting & understanding. Most of the Higher education institutes especially professional educational institutes applying various teaching-learning technologies in their day today affair and found it fruitful for themselves, students, and corporate world also. But this picture is limited to Modern India only; Bharat (i.e., Rural India) is still deprived and far away from all these benefits in various terms and means by various reasons. Covid-19 pandemic make is necessary for educational institutes and government to think about it.*

This research paper focus on how online education and technologies related with the same are both effective and fruitful or not in higher education at rural India.

Keywords: *Online teaching-learning, Rural India, Technology.*

Introduction:

Education is the heart and backbone of Indian economy. Good and quality education to all sections of the society is the first and foremost condition of economic and social development of every nation. Now a days we are very near to achieve the target of literacy. But there is vast difference between literacy and quality education. Quality education implies quality in terms of teaching-learning-evaluation & research and application of the same to meet requirements of today's dynamic corporate world.

Till today India is lagged behind such targets of development at fails to meet the quality criteria of International educational standards and many more. None of our educational institutes is in world ranking of top 100 institutions and universities. Even premier institutions like IIM's & IIT's are also out of circle of quality stake and output. Statistics and reports released by government itself in last 20 years are not satisfactory and focus on worsen situation of Indian education system from K.G. to P.G.

Lack of practical and scientific approach in education system is the main and foremost obstacle for Indian education system. As per TATA trust report, less 5% pass out engineering students are ready to work on floor other

95% students still need practical training and additional courses to meet the job requirements of companies. Other fields like Medical, Commerce, Management and skill-based education fields are facing same problems.

After Covid-19 pandemic, Indian education system reached at the bottom of worseness. Lockdown shuts the doors of schools, colleges, Universities, and Institutes. There is no infrastructure available with rural schools, colleges, and educational institutes to provide online or digital education to rural stake. Being a faculty in higher education in rural India, researcher realize that digital education or online education could not contribute much more in teaching-learning process and students are not willing to go with it in future as a part of regular teaching.

So, researcher focused on causes behind failure of digital or online education between stakes in rural India.

Objectives:

1. To know and understand about the causes of failure of online education.

Significance:

Online teaching-learning process is playing very crucial role in today's dynamic era of technology. Use of technological aids and online teaching-learning apps makes teaching-learning process more flexible, practical,

liberal and popular. But at the same time, it is cost effective and not suitable to the all sections of society in developing countries like India. so this research paper is important to know the cause of such failure in India.

Limitations:

Time limit is one of the major limitations for this research paper. Due to limited time period, it could not be possible for the researcher to go in detail analysis on the basis of ordinal scale. So data collected is analyzed on the basis of nominal scale in which responses given by the respondent for failure of online teaching-learning.

Hypothesis:

Online teaching-learning process is effective in rural higher education.

Methodology:

This research paper is based on primary data sources in which researcher has opt questionnaire and telephonic interview method. The questions prepared for questionnaire are structured by using combination of nominal scale and ordinal scale. Secondary data sources like published and unpublished research papers, research articles and interviews of expert in the field are considered to find out causes of failure of online teaching.

Population & Sample:

For this research purpose, researcher has collected data by using questionnaire. Questionnaire is prepared in English as well as Marathi language, so that respondent can understand the questions and able to give meaningful answer. Questionnaire is prepared online by using Google form and link is sent to students through their whatsapp numbers, email ids and Google classrooms. Population for the research purpose is 364 students of researchers college, from class F.Y.B. Com, S.Y.Com & T.Y.b.com. Out of these 364 students' 252 students filled and responded. Out of these 252 respondents 100 responses with most genuine answers has been selected as a research sample and further analyzed by using nominal and ordinal scale. So sample is 39.68%

Collection and Analysis of data:

Data is collected by asking various question to respondent of age group 18-21 years and collected following information:

Table no. 1: What is your Annual Family Income?

Sr. No	Income (in Rupees)	Families
1	Below 50000	47%
2	50001 to 100000	32%
3	100001 to 200000	14%
4	200000 to 300000	05%
5	Above 300000	02%

Above table shows that about 47% families are below poverty line whereas 32% families are belonging to low income group. Collectively 79% families are financially weak to meet requirements of online teaching-learning and not able to provide infrastructure to their children.

Table No. 2: What is your income source?

Sr. No.	Income source	Families
1	Farming	43%
2	Labour	31%
3	Business	18%
4	Job	07%
5	Other	01%

Above table no. 2 shows that 43% students belong to farming community and 31% students belongs to labour (either farm or Industrial labour) community working on piece rate. So, 74% families with uncertain income source. Only 25% (Business & Job) families have certain or fix income.

Table No. 3: What kind of Teaching-learning tools you have?

Sr. No.	Teaching-learning tools	Students
1	Laptop/PC	03%
2	Own Smart phone	37%
3	Parents / relatives smart phone	31%
4	Friends or others Smart phone/PC	07%
5	No smart phone/PC	22%

Above table no.3 shows that only 3% students have their own laptop or PC. 37% students have their own smart phone whereas 58% students don't have their own

smartphone/laptop/PC but out of these 31% using their parents or relatives' smart phone and 7% using their friends smartphone for online teaching-learning. So 29% students don't have capacity to buy their own smartphone.

Table no. 4: Why you are not attending online lectures?

Sr.No.	Reasons of Absenteeism	Students
1	Internet facility is not effective	23%
2	No money to subscribe internet	27%
3	Working/Job	11%
4	Time is not suitable	14%
5	Non-availability of infrastructure.	25%

Above table no.4 shows that 23% students don't get proper range at the place they reside. 27% students' say that they have smart phone, but online learning requires data pack and their financial condition is not allowed them to subscribe the data pack regularly. 11% students are working hard to earn money for their family and not able to join during working hours. 14% students (mostly married girl students and students working in farm) says that they can join due to their family responsibilities like housewife, work in farm & its allied activities. Some girl students replied that they have parents mobile but lecture time clashes with their siblings so they could not attend the same. 25% students do not have any kind of infrastructure to join online classes. Some of them have smart phone not supportive to online teaching-learning apps.

Table no. 5: Whether online system is able to clear your doubt and queries?

Sr. No.	Responses	Students
1	Yes	12%
2	No	56%
3	Partly	14%
4	Can't say	18%

Above table no. 5 shows that only 12% says that online teaching-learning process can clear doubt and queries of

students whereas 12% say 'No'. About 18% students are not able to answer because most of them have not joined even a single online lecture.

Table no. 6: Do you feel that online teaching-learning process is effective?

Sr. No	Responses	Students
1	Yes	32%
2	No	61%
3	Can't say	07%

Above table no. 6 shows that only 32% students says that online teaching-learning process is effective whereas 61% students says that it is not effective.

Table no. 7: How do you rate online teaching-learning process?

Sr. No.	Responses	Students
1	Poor	13%
2	Below average	42%
3	Average	27%
4	Good	15%
5	Outstanding.	03%

Above table no. 7 shows that 13% students says that online-teaching process is a total failure whereas 42% says that it is below the average. 27% students say it is average and only 15% says that it is good

Testing of Hypothesis, Findings & Discussion:

H₀ : Online teaching-learning process is not effective in rural higher education.

H₁ : Online teaching-learning process is effective in rural higher education.

Considering the above data and analysis, researcher finds out following issues:

1. Most of the higher education pursuing students belongs to rural area are financially and socially backward communities. They cannot afford high-cost digital educational tools like laptop/PC/ Smart phone. Which costs more than Rs. 25000/-.
2. More than 50% families in rural area falls in weaker section of society (i.e., either below poverty line or lower income group. They cannot afford such high cost equipments and apps and not able to subscribe

high-cost internet packs which are minimum of Rs. 199/- per month.

1. Some families are there in which only one smart phone available with their parents (Most of the time father only) and preference is given to male child while questions come to education. Girl students facing gender bias also.
2. Most of the students coming from remote village (Wadis and Wastis) areas in which problems like lack of infrastructure facilities like electricity and mobile range network are a common issue. So, they are not able to join online classes even though they are willing to join and having smart phone or laptops.
3. Most of the students are working for family earning either of piece rate wages or nominal salaries. So, they can't lose their family earning because of survival. Due to their busy working schedule, they are not able to join online classes.
4. As per the reports of various studies, students' attentiveness is reduced to 40 minutes in under control face to face communication. There is no any kind of control or burden in online education to know the attentiveness and active participation of the students.
5. Due to distance teaching-learning process teachers are not able to understand whether students understand the topic he is teaching or not.
6. More than 60% students feels that online teaching-learning process in not effective for them. They are still believed in offline teaching.
7. Central as well as state government has not framed any policy for effective implement online teaching-learning process as a new era of digital world. In addition to these, government is not able to provide funds for the same. So that students in rural area can be benefited.
8. Higher education institutes in rural area are not financially capable to provide online education facility at free or reasonable cost.

Considering above analysis, findings, and discussion, it can be said that online teaching-learning process is not financially, socially and geographically suitable to higher education in rural area. So, H_1 is rejected and H_0 is accepted.

Conclusion:

Online teaching-learning process in not a boon to rural higher education. Forceful implementation of the same may be bane to rural education.

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A Literature Survey on Artificial Intelligence in Business Intelligence

Dr. Manisha A. Vhora

Assistant Professor,

AES's Anekant Institute of Management Studies, Baramati – 413102, Pune

manishvhora@aimsaramati.org

Abstract: *At the point when organizations make interests in new advances, they normally do as such with the goal of making an incentive for clients and partners and making savvy long haul speculations. This isn't generally something simple to do when executing bleeding edge advancements like man-made reasoning and AI. Man-made consciousness and AI have positively expanded in capacity during recent years. Prescient investigation can help gather significant business bits of knowledge utilizing both sensor-based and organized information, just as unstructured information, as unlabeled content and video, for mining client assumption. Expanded information access, considering propels continuously learning and decreased organization costs. This new move has made a variety of cutting-edge investigation and AI-fueled business insight benefits more available to associations. The utilization of man-made consciousness (AI) programs has gotten inescapable in business measures. There is some disarray with respect to what innovation is viewed as AI. There are a few levels or kinds of AI. When alluding to man-made brainpower, it is important to characterize the abilities of the innovation. Organizations utilize a principal type of AI, with restricted learning capacities.*

Keywords: *Business intelligence, Artificial intelligence*

Introduction

Business intelligence (BI) is the study of the application of human intellectual capacities in the business world. Artificial intelligence (AI) is used to solve business issues such as automating work processes, detecting fraud, improving customer service, the revenue, and performing predictive analysis. It lets management make decisions on how to relate intelligence as existing and appropriate knowledge. Business intelligence is a wide category of applications and technology used to collect, view, and analyze data in order to assist corporate users in making informed business decisions. Competitive intelligence is a specific branch of market intelligence that focuses exclusively on the external competitive climate. Information about competitors' behavior is collected, and decisions are taken based on this data.

Business Intelligence:

Business intelligence is a collection of technologies, procedures, and applications that allow us to turn unstructured data into actionable information. It entails the use of statistical methods to analyze data. To extract more data-driven knowledge, it combines data mining, data warehousing techniques, and various tools. It

requires the collection of data and then the implementation of that data for decision making.

Artificial Intelligence:

Artificial intelligence (AI) is a branch of computer science concerned with programming computers to think and solve problems in the same way as the human brain does. These computers can perform human-like activities and, like humans, can learn from their past experiences. Computer science algorithms and hypotheses are used to build artificial intelligence. It is used in the fields of robotics and gaming extensively.

Research Objectives:

Following are the objectives of the study -

1. To study the importance of Artificial Intelligence in Business Intelligence.
2. To study the different Artificial Intelligence techniques used in Business process.
3. To analyse the impact of Artificial Intelligence in Business processes.

Significance of the Study

Business intelligence's main goal is to improve the accuracy and timeliness of data. The most important source

of information for any company is its employees, who are its most asset. As a result, a company's efficiency will improve when it can make decisions based on timely and reliable data. In competing business BI dashes decision-making, correctly and quickly on information. This can often result in competitively superior performance. The primary factors that impact business knowledge are colleagues and providers, clients, contenders and rivalry, business climate and inward factors like proficiency, framework and so on.

Business intelligence includes intelligent decision making. The main purpose of Artificial intelligence is to develop the machines which can work like the human brain. AI involves human like computer intelligence with machine learning and deep learning algorithms. It is used in data extraction and data warehousing techniques. BI and AI integrates OLAP, enterprise reporting and data analysis.

Importance of Artificial Intelligence in Business Processes

AI provides Insights and predict trends of Big data

Man-made brainpower improves the usefulness of BI applications. Raising the usefulness of business knowledge applications naturally improving its worth to associations. With AI, business knowledge is breakdown enormous volumes of huge information into grainy experiences, permitting associations to more likely comprehend the estimation of more modest parts into a bigger picture. Computer based intelligence coordinates the most up to date innovation, like AI to convey constant experiences about patterns that will occur later. It accommodating to BI for handling and envisioning enormous information likewise to create continuous bits of knowledge and anticipate patterns.

1. To make complex process Easier

BI enables gathered information quickly so that timely and constantly respond to changes. BI cycles may utilize various advancements and application programming to accumulate, store, dissect and give admittance to information, and present that information in a basic, advantageous way. Analyzing big data is a composite process. With the utilization of AI innovation, it works on the cycle like AI-based NLP and AI advancements, permit

machines to more readily comprehend human language and the other way around. This making it simpler for information experts to discover associations and knowledge. Man-made intelligence advancements give - organized and unstructured information into more definite, coordinated and exhaustive experiences.

AI-powered to close the gap

Instrument of AI can examine new information and recognize any patterns pertinent to the association. It is a significant device in BI applications to form basic bits of knowledge into information which isn't analyzed previously. It serves to shutting the hole between visual portrayal and significant experiences of associations.

Solve issues identified with talent storage

Business Intelligence is an expansive field of specific variables to settle on great choices. These elements incorporate colleagues, contenders, financial climate, inner activities and clients and it assists organizations with settling on quality choices. Simulated intelligence innovations having the information arrangement arrangements that will want to figure out where information ought to be put away and how much execution to give it. Simulated intelligence machines are equipped for information handling dependent on data like telemetry information and metadata. To produce applicable answers in the business, AI-driven arrangements will progressively be utilized to settle on wise choices about the authoritative and manual exercises for scope organization.

AI is the is the fate of business knowledge applications

As indicated by the most recent 2019 business insight measurements, more than 60% of business chiefs accept that an all-around arranged AI methodology can make more information driven business openings. 72% of business pioneers consider AI as a significant business advantage. Simulated intelligence permits associations to breakdown huge information into granular levels, so it is simpler for associations to settle on more intelligent choices. To more readily see enormous information BI applications have been an unbelievable resource for associations, AI strategies that can interaction and present information into visual discoveries, additionally foresee patterns, expect significant

bits of knowledge progressively and measure an assortment of information.

Artificial Intelligence techniques used in Business process

Man-made intelligence has acquired force, unmistakable application suppliers have gone past making conventional programming to growing more all-encompassing stages and arrangements that better computerize business insight and examination measures. Significant sellers—including General Electric, SAP, and Siemens—offer such programming suites and working frameworks, however there are a developing number of arising suppliers in the market also. Coming up next are a portion of the utilizations and use of man-made reasoning in business today:

Predicting Consumer Behavior and Making Product Recommendations.

This is one of the fields that is developing progressively. Organizations need to showcase and publicize. Be that as it may, simply going through a great deal of cash won't ensure more leads and deals. Organizations should have the option to recognize, comprehend and know their objective buyers and understand what sort of item they will require at a point on schedule. Utilizing huge information and computerized reasoning, organizations would now be able to figure shopper conduct and run information-based missions that yield exceptional outcomes.

Automated Customer Service through Telephone and Online Chabot

To keep up and keep customers, customer care ought to be a fundamental limit of a business. Regardless, this does that mean a business ought to use a gigantic customer help staff to manage all customer enquiries and offer assistance With the help of customer chatbots, all customer enquiries can be dealt with on time and fittingly, considering the necessities of the customer.

Automating Workloads and Managing Processes

Some administrative obligations can simply be exhausting to do. Your kin may even be disregarding these errands or committing errors while completing them. Through mechanical interaction computerization, a significant number of these unremarkable assignments can be

robotized and moved to robots with the goal that your human staff can zero in on what should be finished. This has current applications in banking, protection, medical care, producing and numerous different types of businesses.

Data Management

Each business depends on information to settle on basic business choices. In the first place, information is gathered, put away, prepared and afterward moved to the significant division of the association for use. Man-made brainpower, for this situation, can be conveyed fill structures, update records, move and cross-reference documents as the need emerges. With this usefulness, numerous organizations can utilize AI-engaged information the board framework to distinguish extortion, forestall digital protection dangers and improve their general business activities.

Business Intelligence Tools

With the huge expansion in business information, organizations can at this point don't rely upon customary business examination or business knowledge apparatuses to dissect information and determine significant business experiences for better dynamic and business procedures. To handle its high number of days by day exchanges very quickly. AI devices in business knowledge is relied upon to decrease the client's foundation costs and improve operational productivity. By joining BI capacities in AI, AI, and prescient investigation, clients can separate and dissect information from an assortment of sources including Salesforce, Facebook, and Shopify that furnishes them with experiences on clients, deals volumes, and stock levels.

Data Robot tool

As AI-driven business investigation turns out to be more normal, it will change the pretended by the business investigator. As AI innovation controls the constant investigation of information, business examiners will be needed to zero in additional on the key abilities of information examination with no programming abilities. For instance, the AI empowered Data Robot apparatus is robotizing prescient demonstrating and is available to clients without any abilities or involvement with AI. The development of AI will empower business examiners to designate the greater part of their monotonous undertakings to the PCs, while they center more around giving business

ventures progressed scientific abilities that are more important.

Impact of Artificial Intelligence on Businesses

The appropriation of AI is bringing about a world which is more intelligent and inventive. Course and traffic arranging by Google maps, esteem appraisal of rides by Uber and Lyft, friends' name thoughts at Facebook, spam directs in our email, proposition for web shopping and harm recognizable proof several occurrences of AI mechanical headways enhancing our lives. The mind-blowing speed with which AI is entering in each area of driving organizations to get into the competition to make their organization an AI organization. This is likewise affecting business, tacticians, pioneers, business visionaries and specialists to utilize AI to plan new systems and make new wellsprings of business esteem. Consequently, it is important to focus on the wide-going ramifications of AI on governments, networks, organizations, and people.

Assessment accepts an obviously huge part in the progression of improvements and advancement. Assessment and progression measure achieve monetary advancement by engaging the improvement of new business areas and improving existing business areas. There are three significant powers which drive the monetary elements: information, business and advancement. Mechanical advancement is the principal significant main impetus of monetary elements. Logical information is viewed as the subsequent significant main thrust of monetary elements. A business visionary; a monetary entertainer who commences financial improvement by presenting oddities.

The main element of a three-dimensional model is exploration and advancement in AI. It investigates the achievement of AI calculations and research their sending by means of monetarily accessible canny machines and administrations. The subsequent measurement, impact of robotization and AI examines the top AI associations and their essential activities to convey AI-based administrations in existing and new ventures. The measurement molding of business settings with AI, investigates how the AI is changing/upsetting the normal progression of business exercises.

The reformist development of mechanization and AI somewhat recently is credited to two main considerations:

the expanding accessibility of huge information and equipment gas pedals. These components are making AI the center innovation answerable for extraordinary mechanization and network. Hence, taking the world towards the beginning of the fourth modern transformation. This will significantly affect governments, networks, organizations, and people.

The limit high capacity of keen specialists (IA) in different games, acknowledgment and arrangement undertakings offer freedoms for measure advancement just as item development. the contribution of the independent innovation in pretty much every area and dispatch of countless AI-based machines and administrations would improve wellbeing, instructive freedoms, security, transportation, wellbeing, exchange and each part of living. Nonetheless, there are some security, protection and moral concerns related with the utilization of AI innovation which needs a ton of consideration.

It has furthermore given a predominant understanding of how AI can reshape the business areas, change the headway gauges, the relationship of investigation and improvement, business measures and the overall economy. The data practically all of these spaces will make the performers careful about the new development and assignment of AI in not so far off future. This will similarly help the policymakers in perceiving challenges and exploring the legal and good corners in the field of AI. Convincingly, AI will earnestly influence tutoring, assumptions for ordinary solaces, prosperity and associations yet, exercises ought to be developed towards the examination of good issues and reducing the AI split between countries.

Business Process Optimization using AI Techniques

A vital job for any IT chief is to guarantee the innovation supporting business measures runs as easily as could be expected. At every possible opportunity, the CIO and a group of big business designers and business examiners and experts likewise try to utilize IT to smooth out wasteful or manual cycles through business measure the executives (BPM).

Business measure the executives is the act of reengineering existing frameworks in your firm for better profitability and productivity. It adopts a proactive strategy towards distinguishing business issues and the means expected to redress them. The Gartner paper Move past RPA to convey

hyper automation recognizes various regions where computerized reasoning and AI (ML) can be utilized for measure computerization. The first is to perform persistent learning with information gathered in robotization measures, which is then used to refresh models powerfully. The AI changes improve the nature of mechanization.

The second territory where AI can be conveyed is to re-use learning models that have effectively been prepared on comparative datasets. As indicated by Gartner, such models can be repurposed into another client's model, which limits the time and information needed to construct and convey a model.

The consequence of a computerization practice is a decrease in the volume of manual or wasteful advances needed to get ready machine-comprehensible information. Man-made brainpower is energizing since it vows to acquaint a new path with business tasks.

Conclusion

Artificial intelligence is a complex entity. Man-made reasoning is a perplexing element. The upsides of man-caused awareness to surpass the perils, especially in business applications. PC based insight applications are currently being utilized by associations and are needed to continue creating. Computerized reasoning will turn out to be more common in business measures which will require changes by society. An organization can do to get ready for the time of AI by three things – first and foremost, digitize business: get online with a business site and mechanize as numerous manual cycles besides focus on the client experience that item or administration conveys. In the period of advanced mechanics, human contact will

probably turn out to be more important and Broaden the business organization. Make connections and associations that will empower you to interface even more unequivocally with individuals. The advantages of AI keep on developing, which will guarantee that the innovation is digging in for the long haul. Organizations and society should figure out how to utilize the innovation and adapt. Organizations should fuse AI to stay serious, and laborers may have to change their range of abilities to hold work.

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Supply Chains amid the Covid 19 Pandemic: A Theoretical Review

Dr. Abhishek Dikshit

Associate Professor

Anekant Institute of Management Studies (AIMS), Baramati

abhishek.y.dikshit@aimsaramati.org

Abstract: Supply Chain is witnessing unique set of issues and problems during this Pandemic period. Competency towards home delivery service has now become the new buzz. Supply chain managers are now considering supply renewal process and order achievement processes as one the most pivotal concerns. Training teams are in place to train new hires on order pick-ups and home delivery etiquettes. The scenarios of Health risks and partial shutdowns are slowing down the economy parallel. These events have now caused huge disorders in the international and national supply chains. The supply chains during the Pandemic are crumbling for products that are transportable for large range of distances before ending up on the venue of the seller. This research paper gives inputs on blending the online data with other on the field sales datasets which can be used for supply chain strategy planning. This is a conceptual study aimed at examining the impact of this pandemic on supply chain disorder and strategy as a response.

Keywords: Supply Chain disorder, Strategy and Response

Introduction: India is experiencing Covid 19 – A Pandemic since December 2019. The infectious virus has now turned into a natural calamity. It has affected not only human health but the economic health of our nation. Each and every sector of our economy is now “infected” and one business process which is worst hit is Supply Chain [1]. Whether it any kind of national/international transport, travel or tourism, all are now postponed or grounded due to lockdown. The only industry which is keeping up with its survival is the essential services industry [2]. India is experiencing inflation, unemployment and as this situation worsens it is obvious that there will be enormous cost on people, firms and government economy [1]. The author opines that economic inability to respond lies in supply chains – the transport of goods, groceries, masks, ventilators, other health related items or even its services.

Review of Literature: The World Economic Forum (WEF), the World Bank and the International Monetary Fund (IMF) have predicted that the world will experience economic recession and financial crisis as the complex network of global Supply Chains and logistics are put on a hold by various countries [4]. Lockdown has severely

crippled our economy. The labour migration and scarcity has disrupted logistics [3]. The food supply chains are in a shock. We see reports of food hoarding behaviour and panic buying [5]. In India’s food industry manufacturing activities have slowed down. The packaged goods scarcity along with transportation inconsistency has led to loss of revenue and unevenness in demand & supply needs [3]. It is observed that, to reduce this impact, innovative approaches in supply chain management is the need of time. This pandemic teaches the researches of supply chain an important lesson of adopting resilient and robust supply chain. Hence this study.

The Pandemic and Health Care Supply Chain:

Ever increasing demand for Ventilators, PPE kits, Sanitizers, Masks, Gloves and its shortage have emphasized need for supply chain planning for Covid 19 Pandemic [5]. In India we observe that Central government has a monopoly in purchasing, storing and transporting of medical equipment, medicines, PPEs etc. WHO has also emphasized on better supply chain coordination and minimal waste on the part of Government [6].

The Pandemic and Supply chain in Food

Industry: India is experiencing severe effect of pandemic

on availability and transport of food grains, fresh vegetables, fruits, baking items, perishable goods [1]. There exists scarcity because of lack of logistic support. Food inventories and contamination is also a serious concern. The real and anticipated food shortage has led to hoarding of goods [4]. Consumers have now adjusted their buying behaviour by opting for online purchase and delivery options. This shift has affected supply chain's immediate ability to cope [5]. The pandemic has shown its effects as data shows a severe drop in food service and restaurant business, reduction in productivity of food processing plants and farm workers have not been able to harvest crops due to lack of effective supply chain [6].

The Pandemic and Strategic Response of Supply Chain: The author prescribes that innovativeness in supply chain is the key for strategic success and long term survival [5]. Innovativeness is viewed as a daunting task. It is a procedure for dealing with environmental and social issues. Due to technical complexity, organizations are more likely to search out and embrace new technologies [7].

This pandemic needs a strategic response. Disruption of the supply chain is a result of this. To respond to the crisis, modifying service processes is needed [1]. Also careful attention must be given to improvements in the supply chain environment that favor everyone involved. Moreover, to ensure the protection and health of staff and consumers, this should become a top priority [6]. Important barriers must be addressed in the supply chain to keep workers at a safe distance from one another in order to prevent disease transmission. [4] Although some work is done in conventional manufacturing environments like meat processing plants, most of the work in the food supply chain is done in service operations like distribution centers or call centers [7].

Modified work schedules, flexible hours and work locations (work-from-home options), and protective barriers between workers, to name a few organisational improvements, have been adopted by some organizations so far [8].

Retail operational processes, or retail logistics, have attempted to respond to the pandemic by shifting from an emphasis on store image, satisfaction, and loyalty

intentions to reducing exposure risk, such as by shifting shelf-restocking to off-hours [6]. Additionally, retail stores control the flow or amount of customers at any given moment, as well as directional movement inside the store, by enforcing safety measures such as floor markings, in-store signage, and sanitation stations [8]. They also separate employees from customers, provide contactless payment options, create store operating procedures such as opening hours and specified shopping hours for disadvantaged customers, and protect both employees and other customers [9].

Customers may now shop online and pick up their pre-packed orders with limited interaction (either in designated locker locations or at the curb), resulting in improvements in worker roles and customer involvement in the food shopping experience [9]. Mask-wearing, contact-less payment processes, and store navigation have all changed shoppers' behaviour. To safeguard their wellbeing during the shopping experience, both shoppers and store workers are taking on co-creation roles [8].

Home delivery logistics services have expanded steadily in the last decade as e-commerce has grown. For years, food retailers have been building an online presence with home delivery, but the pandemic has resulted in a surge in demand that has proven difficult to meet. Since the early days of e-commerce, researchers have been recording consumer perceptions of last-mile logistics systems, as well as organisational service issues that progressively involve handling crowd-sourced delivery services [10].

The pandemic has thrown up a new collection of issues for supply chain administrators to contend with. Supply chain companies have had to change their supply replenishment systems, order fulfillment processes, and recruit new workers to be trained in the nuances of order picking and home deliveries as demand for home delivery services has grown [8]. Although retailers have borne the brunt of this demand, other supply chain organizations further upstream, such as wholesalers or even farmers, are now offering home delivery services as well [7]. Some retailers have responded quickly to the increased demand by creating "dark-warehouses," which are critical fulfillment centers with retail store layouts catering exclusively to online customers with no physical customers present [9].

Employee and consumer safety and wellness have been critical components of providing last-mile services. Customer service standards have evolved to include the need to remain safe and secure when shopping [6]. As a result, in addition to conventional metrics of timeliness and order accuracy, contactless delivery becomes an essential service attribute. Systems that have concentrated on conventional metrics of order fulfillment performance and quality would need to integrate work conditions that promote healthier and more protective circumstances for both staff and customers [10].

Conclusion: According to existing studies, supply chains for goods that move long distances before reaching their final point of sale are more vulnerable during the pandemic. This research paper gives inputs on blending the online data with other on the field sales datasets which can be used for supply chain strategy planning. This is a conceptual study aimed at examining the impact of this pandemic on supply chain disorder and strategy as a response.

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Human Resource Management; Insight of Migrant Workers

Alok Babelay

Chief General Manager

Co-optex Corporate Office, Pantheon Road, Egmore. Chennai – Tamil Nadu

E-mail: alokanushka@yahoo.co.in

Abstract: *Let us understand the very first-hand meaning of the ‘Migrant Worker’. The migrant workers are those workers who are relocated from their origin place (native town) to other place for their lives and livelihoods (earn and live) and they are mostly illiterate, unskilled, and daily wage earners. This study focuses on the migrant workers in general and more particularly interstate migrant workers in urban cities. This paper basically leads into the insight of the ‘Human Management of Migrant Worker’ like the issues and challenges pertaining to their employment in natural calamities/disasters such as lockdown, strikes, storms, plant accidents, fire at work place and lot more happenings because of nature or manmade, resulting in the migrant workers being without work and no-money.*

Consequent to the outbreak of pandemic, a planned lockdown has been executed since 24th March 2020 onwards. This lockdown situation due to Covid-19 has given a very big platform to learn and gain experience for handling n-number of issues and challenges with proper solution, .if possible. Managing unorganized workers that too migrant workers is really a herculean and crucial task, particularly dealing with their employment and livelihood. It is vital to avoid their migration and as well as to prevent untoward incidents in course of migration process. During one such kind of natural disaster (lockdown due to Covid-19 pandemic) the heat of job loss and no work for the migrant was felt more particularly among the interstate workers. Study shows that most of migrant workers belong to the states of Odisha, West Bengal, Bihar and UP, who contribute large chunk of migrant workers. Nonetheless, in general the movement of migrant worker is from North and East India to the West and South. Now the crux of challenge is to deal and apply the insight of HRM for such kind of calamities in near future and for the current one as well.

Key words: *relocation, illiterate and unskilled, hand-to-mouth, disasters, calamities, fringe and contingency fund.*

Introduction: The study reveals that the total of India’s population as per 2011 census stands at 1.21 billion and of them 37% were the internal migrants (454 million) and it was expected to cross 550 million by 2021. According to the Economic Survey of India 2017, on an average 9 million people are migrating between States every year either for education or work. Further, it states that Delhi, Maharashtra, Tamil Nadu, and Gujarat attracts migrant from Uttar Pradesh, Bihar and Madhya Pradesh etc.

The Working Group on Migrants was formed by the Ministry of Housing & Urban Poverty Alleviation in 2015 with the specific protection and legislation for the migrant workers like, Social Protection, Health Care, Food Security, Education, Financial Inclusion, Skilling and

Employment. Even the Inter-state Migrant Workmen (Regulation of Employment and Conditions of Service)

Act, 1979, which *inter alia* payment of minimum wage, journey allowance, displacement allowance, residential accommodation, medical facilities and protecting clothing. The follow-through action is taking place sporadically to address the current PANDEMIC situation.

Study Problem, Issues and Challenges:

- a) Due to lockdown the industrial activity was suspended to stop the spread of the pandemic Corona, meaning thereby the loss of job to the unskilled migrants more particularly in the construction and manufacturing sectors.
- b) The migrant workers are mostly on temporary basis not on the record, they are not considered by their

- employer for the wage payment in the times of lockdown.
- c) No work in hand and no money to live the life and meet the necessary expenses, hence migrant worker started plying to their native places.
 - d) The pertinent issues were 'No Work: No Pay' that made all the unskilled and illiterate workers become jobless.
 - e) The major challenges were to handle the big mob of the migrant workers, who are illiterate and impatient to get the government facilities for migrating to their home state.
 - f) No cooling help from their employers by subsisting migrant worker during lockdown times. Even the 'housemaid' was asked not to come for work because of pandemic fear and social distancing.
 - g) Government both Central and State took earnest steps to overcome migrant workers employment issues by giving lot of financial and food supply support to them, but migrant worker has something different mindset and the response was not as expected.
 - h) The biggest challenge was their mindset that, they thought they were helpless, and things were not conducive.

Study Objectives:

- 1) To study migrant workers job profile.
- 2) To analyze migrant workers pattern of life.
- 3) What next for migrant worker.

Study Methodology: The study is based on the secondary data and a theoretical extension. Hence there is big jargon of statistical tools and its application in the study. It is purely a presentation of situation.

Study Insights:

The mind-boggling scenario was that the migrant workers were totally illiterate and unskilled. Just fit for the casual worker and nothing else and both husband and wife use to spend major hours of the day and energy in earning their bread to meet their day's requirement and need. Thus, whatever earned in a day was spent for that day without any kind of saving etc., since no surplus was earned.

They moved from their hometown to urban places for search of livelihood and whatever they earned being spent for their day-to-day life. Their children were almost like stray, no schools and not at all nourishing properly and on top of it they had good number of children. The study reveals that on occurrence of natural calamities they are victimized first and pull down the entire system to a standstill. Hence, in this study an earnest step has been taken to address the issue and to make their (migrant worker) life better and other supporting functions in its place.

In the study, it was seriously & sensibly observed and contemplated their feelings, thoughts, and behaviour. The migrant workers' expectations were beyond limit from following agencies.

- a) Employers
- b) Government
- c) Freelancers (NGO)

Despite of the remarkable help and assistance by above agencies to the migrant worker during lockdown, they say that the result was not normal rather worsened day-in-day-out and have noticed deaths and lot more casualties. And entire welfare efforts taken did not showcase the expected results during lockdown. The study outcome, working formulas and remedial steps are herein.

Remedial Steps:

- a. The employers need to create a 'Contingency Fund' for the migrant unskilled workers as an integral part of their wages and apart from the PF. The transfer of amount to this Fund will be from the profit of the organization and little percentage from the tax liability. The prime usage of this Fund shall be for natural calamities and happening of unforeseen situation.
- b. The insurance cover for the migrant workers is another important area. The insurance coverage needs to have job loss remedy because of pandemic situations.
- c. Employers need to provide the skill development and multi job approach talent training to the migrant worker as 'on job training module'. This initiative will certainly improve migrant workers employability.

- d. Government has been taking lots of measures for the migrant workers. But consistency and continuity in properly reaching to the needy and beneficiary is big thought-ware solution.
- e. Government need to assure them for the continuity of employment even in the worst natural calamities and situation.
- f. The freelancers so called as NGOs have a done wonderful work in few pockets. They should be encouraged and if possible, government may provide the fund for welfare activities of migrant worker during such situation.
- g. Governments have to initiate steps to provide education and learning places to the migrant worker children and female members in a larger way.

Conclusion:

In precise migrant workers are illiterate, without job and unskilled even have no adult education. They are main victims in the happenings of natural calamities, and they shake entire economy.

The remedial move expected was from government, employer and NGO front for their upliftment by virtue of financial corpus and continuity of their employment.

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Critical Review of Literature on Impact of Labour Welfare Measures (LWM) on Satisfaction of Labours at Workplace: A Research Agenda

Dr. Pravin Vitthal Yadav,

Assistant Professor,
Anekant Education Society's,
Anekant Institute of Management Studies (AIMS), Baramati
pravin.yadav@aimsaramati.org

Abstract: *The term Labour Welfare Measures (LWM), including far-reaching distinct administrations, merits and provided the employer with facilities for workers. The enhancement of health and employment by LWM is for the protection and all-purpose prosperity and effectiveness of the specialists beyond the basic requirements laid down by work enactment. The definition of LWM is adaptable and flexible and varies widely with the social characteristics and the degree of customs and traditions of industrialization and general social monetary development of people in the region of time to local industry. The current research aims to identify the various determinants of Labor Welfare Measures (LWM) adopted and practised by various industries, as well as their relationship with labour satisfaction. Based on references gathered from various sources, this paper presented a critical review of various studies conducted by experts and researchers from all over the world on Labour Welfare Measures (LWM), their determinants, and their relationship with labour satisfaction. The purpose of this paper was to present a summary of work done by various researchers in the field of Labor Welfare Measures (LWM) and labour satisfaction.*

Keywords: *Labour Welfare Measures (LWM), Labour Satisfaction*

Introduction:

“Welfare is comfortable living and working conditions”. Employee welfare means the efforts to make life worth living for workman. Anything done for the comfort and improvement of the workers over and above the wages paid. The factories act 1948 made provision of welfare measures includes a variety of facilities, services, and amenities offered to employees in order to improve their health, productivity, economic well-being, and social standing. The very reason for delivering welfare programmes is to ensure that the organization's workforce is effective, healthy, faithful, and satisfied. The aim of providing such amenities is to improve their working lives as well as their standard of living.

Research Design and Methodology:

Data Collection: The paper is structure on literature review of different use and application in industry and business problems. The review conducted through systematic search on journal articles ‘open sourced’ from

‘Science direct’, ‘Google Scholar’, and ‘Google search’, with prime focus

on the keywords for; labour welfare measures, satisfaction, productivity improvement, etc. Explorative search in the articles is used to cover as many as possible the ways in which the model is applied to various fields of business within the industry.

Data Analysis: Total 38 articles are scanned in their titles, abstracts, and keywords for how it originated and where, Job satisfaction, performance improvement, productivity improvement and healthy workplace environment, and how it is applied and integrated with other variables. Categorization analysis performed individually by the author and later compared to reach a shared understanding. In the attempt to gain insights, the origin and methodology used as primary mode of analysis. Further synthesized to be enabling to discuss knowledge and share understanding of the concept.

Impact of Labour Welfare Measures (LWM) on Satisfaction of Labors:

(Ulle & Kumar, 2018) The study aims to find out the various labour welfare facility to know the significant influence on the employee's satisfaction level. To assess rapport between labour welfare measures and employee satisfaction. The study used primary and secondary data collection method. The study based on descriptive research design is used for the existing problem in the organization. From this survey, the GO-GO international Pvt Ltd is giving good labor welfare facilities to their employees. The study reveals that most of the labor welfare facilities are satisfactory at GO-GO international Pvt Ltd, Hassan. Employee satisfaction and statutory facilities have a substantial positive relationship. Employee satisfaction and non-statutory facilities have a notable positive relationship.

(Edison & Julius, 2018) The study's goal was to look at labour welfare measures and their relationship with employee commitment. Jyothy Laboratories Limited provided a sample of 76 respondents (84.2 percent male and 15.8 percent female) for the study, which used the census method to collect data from individual respondents. According to the results of the study, labour welfare measures such as health insurance, housing, sanitary toilet facilities, transportation, rest and lunchroom facilities, death compensation, and recreational facilities have a positive impact on employee dedication, while other variables have a negative impact with employee's commitment. The employee's commitment, such as affective and normative commitment, has a significant impact on the factors of labour welfare measures, such as statutory and non-statutory welfare measures. However, in the case of continued commitment, only the social security measure has an effect; the remaining variables have no effect on continued commitment. According to the findings, the organisation must take appropriate action against labour welfare measures that create a negative attitude among employees; this would undoubtedly increase employee commitment and, in turn, increase the organization's income in the future.

(Wehigaldeniya, Weerasekara, Kumara, & Weerakoon, 2018) The study's main goal was to determine the impact of welfare facilities on employee satisfaction at Sri Lanka's

Ministry of Sports. The Ministry of Sports in Sri Lanka received 35 responses. The data was analysed using correlation analysis to find a link between welfare facilities and employee satisfaction. It was discovered that welfare facilities and employee satisfaction have a positive relationship.

(Chhabra, Mittal, & Kushwah, 2018) Labor, along with capital and land, is one of the three factors of production, according to this paper. The term "welfare" has long been associated with happiness and wealth. The adoption of measures to improve the physical, economical, psychological, and general well-being of the working population is referred to as labour welfare. Welfare work in any sector aims to improve the working and living conditions of workers and their families or should aim to do so. The main qualitative dimensions of employment that improve workers' quality of life and productivity are adequate wages, safe and humane working conditions, and access to certain minimum social security benefits. The Indian Constitution, national and internal labour bodies, and labour legislation, particularly the factories act of 1948 and the contract labour (Regulation and Abolition) Act of 1970, all work to improve working conditions so that workers are not only happy but also productive. The paper examines the statutory welfare provisions and leave provisions enumerated in the Factories Act and the Contract Labor Act, as well as social security provisions enumerated in various acts. The research was carried in engineering firms to learn about workers' perceptions of various aspects of welfare, such as statutory welfare measures, social security benefits, and paid time off, as well as the effect of worker status (permanent/contractual) on such measures.

A total of 97 employees from various engineering firms were included in the study. These firms fall into two categories: light and heavy engineering firms with workers of varying strength. The findings revealed that, while many workers were satisfied with the welfare facilities, some workers believe they are insufficient, and that worker status influences workers' perceptions.

(G. Sai & Dr. K., 2018) The welfare measures introduced by Singareni Collieries Company Ltd are examined in this research article. The canteen facility, education, housing, and Singareni Seva Samithi are among the areas being

examined (SSS). It also looks at things like the coal mine provident fund and the pension scheme. The satisfaction level of the workers with the welfare measures introduced by SCCL was also a focus of this research. The Anova test is used to examine the relationship between welfare measures and worker satisfaction at Singareni Collieries Company Limited Kothagudem, with a sample size of 100 employees. According to the researchers, 78 percent of employees are satisfied with the company's health and safety measures. The statutory welfare measures implemented by SCCL were found to be satisfied by 70% of workers, and it was also discovered that there is a link between the welfare measures implemented and worker satisfaction.

(Bolaji & Olayemi, 2018) In Cocoa and Forest Research Institute of Nigeria, Southwest Nigeria, the study examines the impact of a welfare scheme on employee work satisfaction. Three hundred and twenty-five samples were selected using simple random sampling methods. A structured questionnaire was used to collect data. The questionnaire was divided into sections to gather information about the participants. The welfare scheme and its impact on their job satisfaction were assessed using a 5-point Likert scale. To ascertain the effect of the welfare scheme on employee job satisfaction, data were analysed using regression analysis. Employee job satisfaction is improved by having access to vacation and tours after work, according to the study. It was also suggested that the workers be provided with appropriate facilities and a meal allowance.

(Hemalatha, Benita, & Nageswara Rao, 2017) The study's main goal was to determine the effect of welfare facilities on work satisfaction as well as to determine employee satisfaction levels. Data was gathered from 120 respondents through a survey questionnaire. Employee well-being has a significant effect on job satisfaction, according to the study. The welfare measures are designed in such a manner that they meet the needs of the workers; if the needs of the employees are met, the employees will be satisfied, which will automatically lead to an increase in the company's productivity.

(Sudhamsetti & Madhavi, 2017) The primary objective of this paper was to analyse the various dimensions of labour

welfare measures and to know the satisfaction levels of employees. It was noted that N.T.P.S. gave various welfare measures to its employees and adhered to state and federal laws. The management must provide excellent facilities to all employees for them to be satisfied with the employee welfare programmes. It boosts efficiency while also improving quality and quantity.

(Karthi, 2016) Studied the various aspects of Labour welfare, health and safety in Textile and Clothing industry i.e RBR Garments, Tirupur. The study examined satisfaction level of the employee in the organisation with respect to the Employee Welfare measures and how welfare measures improve the motivation of the employees in RBR Garments, Tirpur. Further, the hypothesis was framed to find relationship between respondents' age, gender and marital status and level of satisfaction with respect to welfare activity. The research was descriptive in nature; therefore, primary data was collected from 150 respondents by using interview schedule. It was observed that, there is a close relationship between the respondent's age and their level of satisfaction with respect to welfare activities in the RBR Garments. It was also found that there is no significant relationship between gender and marital with level of satisfaction towards welfare activities. The analysis showed that, majority (93%) of the respondents motivated in the organisation due adequate welfare activities.

(Kadakol & Rashmi, 2016) The working environment of any job in a factory or a workshop imposes some adverse effects on the workers because of the heat, noise, smell etc. involved in the manufacturing process. This was the statement of research problem of the study. The study examined the welfare measures prevailing in the company and employee satisfaction towards it. It was concluded that, all the statutory welfare measures provided to the employees in equal extent and; therefore, majority of employees found satisfied with welfare facilities. Further, researchers were stated that, public sectors need to be improved in their welfare facilities.

(Basha, Eswariah, & Reddy, 2016) The study revealed that, majority of the employees was satisfied towards various welfare measures and social security measures provided in the company.

(Amutha, 2016) An attempt was made to determine non-statutory welfare measures for faculty in private institute colleges in the Kanchipuram district, as well as their level of satisfaction with the facilities. The study also looked at how well people knew about "non-statutory welfare schemes." A total of 15 engineering and arts colleges were chosen, with a sample size of 67 people chosen using a convenience sampling procedure. A questionnaire was used to collect primary data. Various statistical methods, such as percentage analysis, correlation, and the Chi-square test, were used to analyse the collected data. Employees with more than 5 years of experience were found to be extremely satisfied with non-statutory welfare schemes, according to the study. The harassment policies followed by the company were found to be satisfactory by 60% of the employees. Almost every employee was aware of the non-mandatory welfare benefits. Furthermore, the researcher recommended scheduling medical check-ups as needed and providing workers with Medi-claim policies. Employee motivation and personal issues require the formation of a counselling committee.

(Suthamathi, 2016) Investigated level satisfaction towards statutory welfare measure in Steel Plants at Salem District. The result was analysed through chi-square test, analysis of variance (ANOVA), student t test, and F test. It was found that, employees of Salem Steel Plant and JSW Steel Limited are pertaining more or less similar over the satisfaction of the Labour welfare measures.

(Nithyavathi, 2016) The research was descriptive in nature. The sample size was 150 respondents. According to the findings, most respondents feel safe working in the textile industry and believe that safety measures help to decrease the severity of accidents. The current welfare measures were found to be satisfactory by most respondents.

(John, 2016) The study revealed major Employee Welfare measures exist in Government Banks. Further, it was stated that, welfare measures make impact on employee morale, which is resultant in better productivity and organizational development. Salary is the minimum requisite for employment. People always look for something more than the monthly paycheque.

(Sai Babu & Gurunadham, 2016) According to their findings, there is a strong link between the implementation

of labour welfare measures and employee satisfaction. A total of 248 people took part in the survey. Statistical methods such as ANOVA and Multiple-Regression Analysis were used to analyse the data.

(Chaubey & Rawat, 2016) The effect of labour welfare measures on job satisfaction was investigated in this study. The research design selected for this study was descriptive, and the sampling method was easy sampling. Small Scale Industries (SSIs) in Dehradun are included in the study's scope. A total of 153 people were chosen at random from the cosmos. Statistical Package for Social Sciences Research (SPSS) was used to analyse the collected data after it was coded, and various statistical tests were applied based on hypotheses and matching variables. According to the findings, labour welfare measures have a major effect on job satisfaction.

(Jaishree, 2015) Employee job satisfaction with respect to various welfare facilities provided in the garment industry, as well as the factors affecting employee satisfaction, was investigated in an investigative and analytical study. This study, however, used a descriptive research design. Convenience Sampling, a non-probability sampling technique, was used to select the sample size of 297 respondents. Primary data was gathered using a structured questionnaire, and data was analysed using ANOVA, POST-HOC Test, Multiple Correlation, and Regression. According to the results of the analysis, $R = 0.457$; $R = 0.209$, indicating that welfare measures were positively related to job satisfaction, working conditions, canteen facilities, toilet facilities, and financial incentives. It was also determined that the companies' labour welfare practises were adequate.

(Singh, 2015) Studied various welfare policies adopted by company and employees' satisfaction with those welfare facilities. It is found that company provides medical facilities, clean and good workplace, trainings, bottom off counselling, safety, allowances etc. to their employees and most of the employees found happy with these welfare facilities.

(Manasa & Krishnanaiik, 2015) In their research article, they provide an in-depth analysis of both intra-mural and extra-mural welfare measures in Cement Corporation of

India units in Thandur and Adilabad, as well as their effect on employee satisfaction. It has been noted that CCI units provide different benefits to employees in accordance with state and federal regulations. They were pleased because they had adequate facilities for both permanent and temporary workers. Finally, it has been determined that the company's employee welfare facilities are satisfactory and commendable.

(Das & Panda, 2015) The study found that while 63 percent of the respondents are pleased with MCL's welfare system, 27 percent are dissatisfied with the company's efforts to improve welfare facilities. The cleanliness and upkeep of the workplace should be improved and taken care of, according to most workers.

(Tiwari, 2014) At Vindha Telelinks Ltd. in Rewa, Madhya Pradesh, an effort was made to discover welfare facilities and their effect on employee productivity. However, the research hypothesis was that "employee welfare facilities have a significant effect on employee productivity." The average mean score and percentage score of the overall of 22 items were calculated at 3.64 in the study (66 percent). VTL Rewa (M.P.) was found to offer a variety of benefits to its employees. Finally, it was determined that the company's employee welfare facilities are satisfactory and commendable, but that there is still room for improvement. So that efficiency, effectiveness and productivity can be enhanced to accomplish the organizational goals.

(Rajkuar, 2014) The purpose of the study was to learn about labour welfare measures in IT companies in Chennai. Employee perceptions of labour welfare measures on IT unit productivity, as well as factors that contribute to improving the standard of labour welfare measures for workers, were investigated. This study used a survey method. It applied to employees of Chennai-based IT firms. The researchers chose 60 IT companies at random from those that began operating between 2000 and 2005 and are still operating today. Stratified random sampling was used to select 600 workers for the intensive study. Five IT companies in Chennai were chosen for the research. A total of 120 people from each company were gathered for the study. According to the findings, there is a substantial link between labour welfare measures and IT company productivity. Selection and Training Processes,

Performance Appraisal, Career Planning, Feedback and Counselling, Rewards, Labour Welfare and Work Life, Organizational Development, Employees Participation, Labour Management Relationship, Commitment and Involvement, Skill and Knowledge, Motivation, Absenteeism, Labour Welfare and Work Life, Organizational Development, Employees Participation, Labour Management Relation, Commitment and Involvement, Commitment and Involvement, Skill and Knowledge, Motivation, Absenteeism.

(Purushothaman, 2014) The study revealed that, company provided all welfare facilities according to factories act. Disposal of wastes done properly. Proper ventilation in most area of the shops but in few areas, ventilation was found poor. Lightning in overall plant was best. Latrines and urinals cleanliness found fine but not provided separately for men and women. Health check-up program arranged by organization.

(Azami, Vasokolaei, Azadi, & Shaarbafchizadeh, 2014) Research evaluated level of satisfaction with the availability of welfare facilities among staff working in the headquarters of Tehran University of medical Sciences. The Data had collected through standard questionnaire from 238 respondents. It was found that employees were highly satisfied with respect to cash and information facilities whereas lowest level of satisfaction was associated with insurance facilities.

(Parameshwaran & Shamina, 2014) The study focused on effectiveness of various Labour Welfare measures provided at Cheyyar Cooperative Sugar mill and employee satisfaction. It is found that, more than half of the employees were satisfied on the welfare measures provided by the company.

(Shelar & Phadatare, 2013) study revealed employee's satisfaction level regarding employee's welfare and social security measures offered by industrial units in Karad Taluka and also its' impact on the performance of employees and productivity of industries. Further, Researchers conveyed suggestions to the management to minimize employees' turnover and absenteeism. Stratified random sampling method was used for sample selection. On the basis of revenue and employment generation Sugar Industry, Textile Industry, Engineering Industry,

Pharmaceutical Industry and Banking Service, Life Insurance Service, Hospital Service, and Hotel Service were selected for manufacturing and service industry respectively. The result of the study showed that, Employees from both the industrial units were satisfied with working conditions but moderately satisfied with intramural facilities. As far as health and medical facilities, employment security and housing facilities are concerned Employees were moderately satisfied. However, employees were dissatisfied with the rest of the facilities. Both industrial units provided all safety provisions; therefore, employees from these industrial units were satisfied with safety provisions. In case of social security measures, employees from both industrial units were moderately satisfied.

(Bhatt & Olive, 2013) Workers' perceptions of labour welfare measures in the private sector were investigated as part of a study. This study drew a total of 180 respondents from the state of Haryana. The perceptions of workers toward various welfare measures were analysed using a five-degree Likert scale. The data was analysed using the statistical technique Factor analysis model. A well-crafted questionnaire was created and distributed. The variables were extracted using a Varimax rotated matrix, Kaiser-Meyer-Olkin (KMO), and Bartlett's test. Researchers came to the conclusion that problems relating to labour welfare can be divided into eight categories. Loans and compensation infrastructure, education, housing, subsidised food, a better working climate, workforce stability, and cooperative societies are among them. These kinds of welfare facilities will go a long way toward improving productivity in the workplace and maintaining better industrial relations and stability.

(Renapurkar, 2013) The study revealed effect of employee welfare activities on employee satisfaction, absenteeism, and turnover. It was also examined the extent of welfare measure provided and employee awareness towards various welfare facilities. Stratified random selection technique was used to select respondents. The sample size of this study was 300 respondents include departmental head, administrative staff, and executives. It was concluded in study that, majority (69%) of employees was aware about welfare facilities. The study also observed that, most of the employees were satisfied whereas some employees

were dissatisfied with the welfare facilities provided to them. The paper suggested change approach with respect to some welfare facilities so that dissatisfied employees could get satisfied.

(Srinivas, 2013) The study examined employee awareness towards various statutory and non-statutory welfare measures and level satisfaction among employees at Bosch with respect to various welfare measures. The sample size of this study was 100 respondents of the Bosch Limited, Bangalore were selected through Convenience Sampling method. The primary data was gathered from direct interview with questionnaire and secondary data gathered from annual reports, journals, handouts, magazines. According to the results of the survey, 75% of respondents were aware of the statutory and non-statutory employee welfare benefits offered by Bosch Limited, while 25% were unaware. It was inferred that the majority of the respondents were aware of the company's employee welfare programmes. It was discovered that 44% of those polled believe that welfare facilities help to boost motivation and productivity. The satisfaction level of respondents was also found to be high, owing to the fact that the company offered the majority of the primary welfare benefits to its employees.

(Senthil Kumar & Vedanthadesikan, 2013) Attempted an investigatory and analytical study on satisfaction level of the employees with respect to the various welfare measures provided by Tamilnadu State Corporation, Villupuram Division. Because the study was based on primary data, a questionnaire was used to collect information. For the selection of 20 workers, the Stratified Random Sampling technique was used. Respondents came from a variety of departments, including Commercial & Operation, Personnel, Material, and Industrial Relations, as well as the Technical Section. Employee satisfaction with Public Sector Transport Corporation welfare measures was found to be mixed, with most respondents being neutral and a few being extremely satisfied. Many of the respondents were also pleased with their working environment.

(Brindha, 2013) The study analysed interpersonal relationship among employees, employees' satisfaction and factor influencing the quality of work life. Primary Data had been collected from 50 respondents by using

questionnaire. Stratified Random Sampling was used for selecting respondents. It is found that, there good interpersonal relations (63%) and 67% were satisfied with their relationship with management. Majority of employees found satisfied with respect to medical facilities, job rotation, interpersonal relations, team works, job security, rules and regulations and shift changing procedures.

(Pawar, 2013) A study concluded that, level of awareness about the welfare measures at VSP found to be very satisfactory but Majority of employees were unhappy about rest room facilities, sanitary & drinking water facilities and grievances handling mechanisms and existing work culture at VSP. Satisfaction level of employees towards existing non-statutory welfare measures was not up to the mark but below the average.

(Salaria & Salaria, 2013) Their study looked at the welfare measures given to workers, as well as employee satisfaction and welfare awareness. Employees in the auto industry are extremely pleased with intramural welfare measures, with only a few disappointed with extramural welfare measures. Employee perceptions of total welfare measures are overwhelmingly positive, with very few workers disappointed.

(Gurusamy & Princy, 2012) The purpose of this study was to determine whether textile workers are satisfied with the welfare services offered by the industry. The study was also conducted to provide industry with recommendations for improving employee satisfaction by highlighting various flaws in the current system. The descriptive research design was used in this study. To gather primary data, the Simple Random Sampling method was used to select 200 samples from the entire population. Data was also analysed using Simple Percentage Analysis and Chi-Square Analysis. According to the results, 90% of the respondents said they were aware of welfare services. On the other hand, 10% of the respondents said they were unaware of statutory welfare services. The majority of respondents (58 percent) were satisfied with the storing and drying, clothing facility, according to the study. The majority of the respondents (58%) did not receive housing accommodation, according to the results of the housing accommodation. The chi-square test revealed that there was no significant relationship between the respondents' sex and their level of

satisfaction with washing facilities, but a close relationship between the respondents' income and their level of satisfaction with canteen facilities.

(Symala Devi & Kaliyamurthy, 2012) The study focused on workers of unorganised sector. Government has framed various policies and sanctioned bills for security and welfare of these workers. As per the data, day by day the number of employments in unorganised sector is increasing. According to the NSSO, total employment in the organised and unorganised sectors in 1993-94 was 374 million, with around 27 million in the organised sector and the remaining 347 million in the unorganised sector. According to the findings of the study, government policies should reach out to people working in the unorganised sector, and there is a need to instil and promote trust in these workers' ability to handle money in a safe and secure way for the welfare of the workers and their families.

(Aleeswari & Manimaran, 2011) The required data collected from 250 respondents. The study revealed that, employees found highly satisfied and motivated with respect to the Labour welfare measures provided by their mills. However, Labour welfare measures played important role in improvement of employee efficiency and effectiveness.

(Sabarirajan, Meharajan, & Arun, 2010) According to a study, employee welfare measures play an important role in employee satisfaction and increase the quality of work life. Employee satisfaction and welfare measures have a significant relationship, according to this study, and employees of Textile Mills in Salem district are satisfied with the welfare measures offered by their organisation.

Conclusion:

According to the findings of the above study, there is a substantial link between Labour Welfare Measures (LWM) and employee satisfaction at work. The LWM facilities provide better and healthier working and living conditions for employees at work, resulting in improved morale and labour commitment to the company. Thus, LWM is no longer just an act that employers are required to follow; it has evolved into a necessity for employers, as its implementation has resulted in hiring better employees and lowering turnover, as well as increased job satisfaction, retention, and performance.

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A Study of Inspirational Stories Behind the Startups by Chhatrapati Shivaji Maharaj and Its Relevance Post Pandemic.

Dr Gauri Prabhu

Professor,
AISSMS Institute of Management

Sujit Tambe

Student,
AISSMS Institute of Management

Abstract: *This research paper attempts to look at the ways modern entrepreneurs can adopt the idea of Startup as initiated by Chhatrapati Shivaji Maharaj in this pandemic situation. It can be viewed as setting an entrepreneurial mindset in youth for business greatness. It additionally attempts to address how to tackle the crisis and build a startup for business. In this 21st century, one needs to be an extraordinary pioneer, an incredible chief, or an extraordinary money manager. The idea behind the startups was revealed 350 years prior and the main intention of doing a business was not to get successful and rich but to create a self-reliant India.*

Keywords: *Startup, Entrepreneurial Mindset, Chhatrapati Shivaji Maharaj, Self Reliant*

Introduction:

Chhatrapati Shivaji Maharaj was the organizer of the Indian Navy. He was the principal Asian ruler who discovered maritime power for protection. Chhatrapati

Shivaji set up his imposing business model on the Arabians Ocean because of his solid maritime power in the west piece of India. He constructed ocean forts to keep control of international concerns with India via ocean routes and utilized ocean strongholds for his restraining infrastructure on an ocean of the west. With the help of local people, by recruiting specialists in that field, Chhatrapati Shivaji started to build his own ships. He took wood as raw material and made a naval force; He created a monopoly in that sector. Shipbuilding can be assumed as a startup. Chhatrapati Shivaji gives a straightforward message through his concept of his own kingdom that nobody can get rich by doing a task under other authority and there is no opportunity without business and there is no wealth without any such opportunity. Here, the four aspects are discussed which will be useful for future entrepreneurs,

Ethics and Noble purpose

As an Entrepreneur, it is significant that the association has a respectable reason that joins the group together. It very well

may be pretty much as basic as a drive to make a mutually advantageous arrangement and incentive for clients and partners, or as effective as win-win situations or exploration. Ethics are most important for any business.

Leadership

Chhatrapati Shivaji had gathered numerous companions like Tanaji Malusare, Yesaji Kank, Baji Pasalkar and some more. He introduced to them about the concept of Swarajya and all went along with him in this mammoth undertaking. The Ashthapradhan (Concept of Cabinet) gathering to care for the condition of the issues of the realm was another new change brought by the King to have great authoritative undertakings of the realm.

Leaving legacies

As significant it is to set up and grow a business, building it on the establishments of social duty and bigger can help construct something beyond a business. Be it a belief system, a responsibility for the advancement of the public, or a straightforward demonstration of supporting the oppressed areas of society, driving a comprehensive improvement that can profit over the long haul is the thing that makes an inheritance. It was these characteristics – the possibility of Swarajya, the accentuation on moral practice and good living and the furious feeling of direction that

makes the legend of Chhatrapati Shivaji which even today implants energy, eagerness and fearlessness in the hearts and psyches of individuals.

Learning Drive

Learning is consistently at the center of development and achievement. Be it getting the new advances and rehearses or simply getting another ability or a language, learning has no age or time bar. The life of Chhatrapati Maharaj is an illustration of how an early training in expressions of the human experience of governmental issues, fighting and reasonable practices molded his character as a pioneer. What's more, all through his time as a ruler, he was instrumental in the presentation of a few creative procedures, similar to the guerilla tactics and close experience battles to altering the tax collection and presenting a reasonable strategy overseeing the practice. These talk about a pioneer that kept on learning for the duration of his life.

Literature Review:

Cyrus M. Gonda & Dr. Nitin Parab¹ made a study of the book named, Leadership Learning from Chhatrapati Shivaji Maharaj. Authors bring up significance of Leadership Gaining from Chhatrapati Shivaji. There is a need to depict why and how leadership Learning from Chhatrapati Shivaji Maharaj, how the board procedure's ability of Chhatrapati Shivaji made him an effective leader in the set of experiences.

Pramod Mande² mentioned in his book how forts of Maharashtra (Chhatrapati Shivaji's Swarajya) assumed significant part to utilize his matchless quality in the fight. What was the expectation behind the forts in his management strategies? He further discussed.

Namdevrao Jadhav³ focused on the Managerial skills of Chhatrapati Shivaji in his book called Shivaji – The Management Guru. How Shivaji Raje used his managerial and leadership skills in the famous war incidents of his life and how the administration is equally important, the author emphasized in his book. The author tried to give an overall

perspective of management in Shivaji – The Management Guru.

Dr. Girish Jhakotiya⁴ has emphasized on modern problems of the 21st century and how to tackle these problems by using the management skills, leadership skills, and social awareness of Chhatrapati Shivaji. These all skills have been discussed in the book called Chhatrapati Shivaji & 21st Century. Trading and management seem very effective 350 years ago and today there is a lack of management in every sector. There are some lessons of startup taught by Chhatrapati Shivaji expressed in this book. The process of becoming a leader and ten characteristics that are useful to leaders has been part of this book. The author has also revealed spiritual economics through the character.

Setu Madhavrao Pagadi⁵ has expressed the thought process in his book called Shiv Charitra. This subject has been taken to speak in the public shows and then written into book format for reference. The early incidents from Chhatrapati Shivaji's life have been discussed shortly in this book.

Dipaali Pulekar⁶ attempts to study the correlation between history and modern leadership styles. The study of leadership and other business models needs to be done from the historical point of view. The transformational leadership concerning a base model of four, have been studied in journal paper by the author, also the book review of leadership learning's from Chhatrapati Shivaji Maharaj has been studied by the author in International Journal. Transformational leadership styles can make difference and it can be value creation for the organization also focused by the author.

Research Gap:

The study of Chhatrapati Shivaji Maharaj as a Management guru has been done by many historians, management students, and Specialist, but very few of them emphasized on entrepreneurial skills of Chhatrapati Shivaji Maharaj. The study of Swarajya as a Startup should be done in this area as this could be the motivation for upcoming youth. The study of business mind behind the making of own ship is

available, but it should be studied in a more precise manner from the management point of view.

The objectives of the research paper are as follows:

1. To study the Concepts of Start up from the ideals of Swarajya and whether they can be applied in modern era.
2. To study the practices introduced by the great entrepreneur Chhatrapati Shivaji Maharaj for the entrepreneurs of today.
3. To find out the possible ways to set up a Startup after the pandemic from the learnings of the history.

Chhatrapati Shivaji Maharaj introduced the concept of Swarajya and we can consider some practices of history as a Startup in this research paper. In the existence of Chhatrapati Shivaji Maharaj, there were multiple times the emergency of the financial matter arose. The Swarajya movement had confronted 8 years of emergency. Such countless challenges came; such countless issues came.

Research Methodology:

The exploration approach received to examine these elements are experimental and the information is separated from the chronicled writing accessible in different recorded books composed by eminent history specialists and different journalists. Secondary data has been used to explore this research. This exploration paper would endeavor to catch just a portion of the conspicuous occurrences that demonstrate Chhatrapati Shivaji as a great Entrepreneur. These verifiable occurrences are analyzed on their application for esteem creation of Swarajya by Chhatrapati Shivaji.

If it starts like this it can be sustainable in any business effectively. Else, it will turn out to be only a joke like beginning a business in a propelled way and shutting it inside a half year. Start a business gradually, develop reliably and extend it with your 100% endeavors and become a lord in your field. Chhatrapati Shivaji Maharaj gave the message, put the cash in the pocket since it has the ability to overcome the requirements of the world, in any case, Use it shrewdly. So set aside cash, put away cash, and

develop the cash, and with all these above, put an adequate measure of cash for a crisis that will be useful for the future. An individual, who sees unmistakably the existence of Chhatrapati Shivaji, won't ever do the job in his entire life. It needs to be own Startups and that is the real need of this 21st century.

Data analysis and Interpretation:

Transformational leadership and Well-being become establishment for the accomplishment of Entrepreneurship. This quality arose out of the study. Vision a center fixing was discovered to be the case which has proof right from the seal of Chhatrapati Shivaji was made for the government assistance of humanity. Arrangement of vision, mission, and goal through community approach through individuals or representatives were vigorously rehearsed.

Chhatrapati Shivaji's Entrepreneurial Mind	Problem with today's Entrepreneurs
Excellent communication between king and people.	No transparency in communication between employees and leaders.
There is high morale due to Self-confidence.	There is low morale due to a lack of confidence.
He had not to harm any harvest of farmers and national property.	Most of the companies are not taking care of environmental conditions.
Merit and performance was key factors to retain the employee.	Hire and the fire is the HR policy nowadays.
The emotional quotient was high that's why results are good.	There is a lack of Emotional quotient that's why failure happens.

Contribution and Conclusion:

It is very clearly found that to begin a business first, one needs to dream, an extraordinary vision. It needs to prevail in any field of life, first figure out how to discover openings and to discover individuals, individuals as well as the correct sort of individuals who can assist us with accomplishing our vision and to fabricate our organization. Like Chhatrapati

Shivaji, when beginning any business, first investigate the issues that trouble your business. To start with, win your nearby market, make a solid start in that field, and after that enter the worldwide market and extend your systematic approach like Chhatrapati Shivaji Maharaj. The journey of the startup should be from local to worldwide.

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Digital Entrepreneurship

Mr. Vikrant V. Nangare

Assistant Professor,

Zeal Institute of Management & Computer Application, Pune

Abstract: *Entrepreneurship is the engine that drives the economy and culture forward. Entrepreneurship education helps to foster entrepreneurial thinking in society, as well as the creation of new entities and the more effective use of innovative ability, established expertise, and skills. Digital technology's pervasiveness in human life is a characteristic of modern society. Small businesses and entrepreneurs have been hit harder than any other sector of the economy by the latest pandemic. Small companies, on the whole, have less tools to weather a storm. Small companies also have little experience with digital entrepreneurship, which is now one of their best choices for weathering the storm. In this time of crisis, small businesses should explore a variety of digital activities. Applying for government assistance, staying in contact with consumers online, and launching e-commerce sales for established goods are all popular pieces of advice. The modern world is rapidly evolving in all areas, especially in information and communication technologies (ICT). In this case, the rapid adoption of emerging technology with new creative capabilities is altering competitive conditions, requiring changes to general market strategies, processes, and procedures. In this context, digital entrepreneurship is critical in enabling an entrepreneur to carry out all of his or her tasks accurately and efficiently. Since this is the process of using digital apps, it aids any entrepreneur in increasing the market value of his or her product and growing the business in both conventional and technological ways.*

Keywords: *entrepreneurship, digital entrepreneurship, information, and communication technology*

Introduction:

We live in a technologically advanced age. To reach out to customers and provide excellent service, any company, no matter how large or small, needs a digital presence. Massive growth in digital entrepreneurship has been enabled by the availability of a plethora of digital tools and services. Due to the overwhelming amount of information that has been spread on different channels, new startups are springing up all over the world. Customers are still on the lookout for the 'next best thing,' so there is a lot of space for new companies these days. While startups need some initial financing, overhead costs can be minimised in a number of ways. Co-working spaces, for example, are common these days because they allow you to open your own office without having to own a house. The digital entrepreneurship movement has taken off, resulting in a huge increase in the number of young and professional entrepreneurs with strong technical skills. In the years ahead, it can only get better. Another thing to keep in mind is how the world of technology is continually (and quickly) changing. This gives young entrepreneurs an edge because they can keep up with

trends more easily than their elders. Without a lot of connections or money, you can start a successful business. This is because there are a plethora of low-cost, high-impact resources available to assist emerging digital entrepreneurs in their endeavours.

What Is Digital Entrepreneurship?

Digital entrepreneurship consists of creating a business on the Internet, selling services or products online, without the need to invest in physical spaces. A few examples of digital businesses are online courses, e-commerce, blogs, YouTube channels, and technological solutions in general. Digital entrepreneurship is a concept that explains how entrepreneurship can evolve, as business and society continue to be changed by digital technologies. Digital entrepreneurship highlights developments in entrepreneurial practise, philosophy, and education.

Common Characteristics of Digital Entrepreneurship:

A strong digital entrepreneur, on the other hand, possesses those characteristics. He is able to compete and remain ahead of the game because of these characteristics.

1. Digital Entrepreneurship Involves Planning

The value of foresight and preparation cannot be overstated. It's important to remain focused on your objectives, build a crystal clear strategy and plan, and keep going in the right direction. No company has ever achieved by attempting to do all at once. Building a stable base necessitates meticulous preparation, vision, and strategizing.

2. Digital Entrepreneurship Involves Effective Communication

If you are good at organising and articulating your ideas and opinions, you will find it easier to succeed as a digital entrepreneur. It's not enough to have a bright idea; you still need to be able to communicate it clearly to others.

This is particularly relevant when engaging with corporate leaders and potential investors. It's also crucial when working with coworkers and business associates.

3. Digital Entrepreneurship Involves Adaptability

Things don't always go according to plan. As a digital entrepreneur, you must be able to adjust to new situations and problems that will undoubtedly arise.

It's futile to be stubborn in your concentration if you learn that something isn't quite correct. You must be able to comprehend each particular circumstance and make necessary changes to your strategy as needed.

4. Digital Entrepreneurship Requires Knowledge

Entrepreneurs are still learning new things. This learner attitude is what encourages them to broaden and grow their companies. Having a good understanding of your domain or business can help you gain insight into your customers and how they act. You can only create an effective marketing campaign for your company if you understand how your customers think. Keeping up with the learning curve isn't always easy. This is particularly true for digital niches like SEO, which are constantly evolving. This is where seeking dependable partners with the requisite industry expertise comes in handy. White Label SEO services are a perfect way for digital marketing companies to broaden their SEO services quickly.

5. Digital Entrepreneurship Involves Seeking New Opportunities

As an entrepreneur, you must always be on the lookout for new opportunities and innovations. You will be able to prepare yourself to recognise and seize new business opportunities that will broaden your horizons as you continue to learn and develop.

6. Digital Entrepreneurship Requires You To Be Tech-Savvy

Digital entrepreneurship necessitates a thorough understanding of the technical world in which you operate. Understanding how each technology interacts with other technologies will help you better consider the possibilities for your business.

7. Digital Entrepreneurship Learns from Hindsight

It's important to look back and learn from your mistakes when you first started out. Keep in mind the things you've learned. Using what you've learned to show others and yourself how to cope with problems more efficiently. There is no substitute for experience as a teacher.

8. Digital Entrepreneurship requires Grit

It's just a matter of time before things get tough. That is when you must take over and act. Pure grit and dedication will help you conquer challenges, stay ahead of the game, and accept defeats with grace. These are only a few of the attributes that a good digital entrepreneur must possess. Even if you don't possess any of the attributes mentioned above, make an effort to develop on a regular basis.

Tips to Become Successful Digital Entrepreneur:

- Possess an entrepreneurial mindset. Even if it's just a side hustle to supplement your income, your mental state will affect your creativity and motivation to improve sales and remain loyal to your customers.
- Keep the company's expenditures under check. Even if your expenses are minor, getting them all written down and up to date prevents you from being overwhelmed by them. Don't sell just to pay your bills from your digital company.
- Plan and set objectives based on the project's emphasis. If your goal is to make a living as an Affiliate solely by sales, consider what your optimal success and results will be in the coming months and years – and, of course, keep track of your progress on a regular basis.

- Develop your sales and marketing skills, as they are always changing. To put it another way, you should always be exploring new targeting methods, success metrics, content management, monetization, and so on.
- Don't get discouraged; instead, reflect on the lessons you've learned from your weaknesses and mistakes.
- Make an effort to communicate with other entrepreneurs who can help you share ideas, form alliances, and inspire you. In the corporate world, networking is important, and this is true for digital companies as well.

Challenges of Digital Entrepreneurship

Nowadays, corporations are more likely to put their online projects first. Retail companies are booming thanks to social networking sites, and whole businesses are being founded solely on the basis of websites and apps. Even though both of these things support our economy, there are some disadvantages. There is also a lack of appropriate legislation and regulations governing these online businesses. They operate independently and without supervision, making any action against them challenging, and eventually putting customers at risk. They are often involved in illegal activities but are never prosecuted. E-commerce would suffer as a result, and entrepreneurs would be affected. Within the world, effective e-commerce rules and regulations should be enforced. Otherwise, companies will struggle in the long run due to a lack of accountability and transparency. It is long past time for the government to step in and support the online marketplace. Entrepreneurs should be given the ability to obtain bank loans in addition to addressing the question of trustworthiness. Financial companies, for example, have yet to accept an intellectual property website as an asset. E-traders are still refused trade licences, which makes it impossible for them to grow their companies. Nonetheless, these are attracting FDIs to expand. As a result, digital entrepreneurship should be promoted in every way possible.

Start-Up Business Ideas for Digital Entrepreneurship

Ideas for a New Company Entrepreneurship in the Digital Age:- New business models and prospects for entrepreneurs who dare to question the status quo have

emerged because of the digital industry. You've probably heard of bloggers, youtubers, and other digital entrepreneurs who were inspired to take their first steps on the Internet and went on to create prosperous and profitable companies. Well, this sector is rapidly expanding, and an increasing number of entrepreneurs are venturing into profitable Internet businesses. If you are a digital entrepreneur who wants to start your own online company, we've put together a list of 10 business ideas to get you started.

- **Online Consulting**

You will work as an advisor and consultant if you have extensive expertise and experience in a particular field. Setting a price per hour (or fraction of time) for your services is critical. You may also build discount plans and bundles for customers that need several hours of your services.

- **Virtual Courses**

You can develop and market your own online course if you are passionate about teaching and have expertise and experience in a practical topic. What is the best way to make money from an online course? The income is created either through the selling of the course or through the collection of a monthly subscription fee for access to the course and other perks.

You can use a CMS like Chamilo, Moodle, WordPress, or Google Course Builder to publish the course; in this case, you will need hosting and your own domain. Another choice is to use platforms such as Udemy, Floqq, and Cursopedia, which allow you to publish your course using the tools they have developed.

- **Digital Strategy and Social Networking Administration**

You can provide management of social networks and digital media for businesses and independent professionals if you are knowledgeable about digital strategy and have gained knowledge and experience with various platforms and resources for online marketing. The concept is to serve as a service provider for your customers, creating content, managing promotional campaigns, interacting with customers, and producing performance reports.

- **Sale of Digital Info products**

Info products are information and knowledge-based goods, as the name implies eBooks, online courses, membership to platforms with tools and knowledge, Templates, Plugins, Audiobooks, Videos, Apps, and Applications are just a few examples of digital infoproducts you can build. You can sell your product on your own website or on sites like Amazon, eBay, and others once you've developed it.

- **Offer Services as Freelance**

If you have specialised technological skills that few people possess, you can be certain that someone would be able to pay for your services. Designers, programmers, and other people who work on their own use this business model. How do you eke out a living as a freelancer? Your customers pay you for your time, expertise, and experience. Some freelancers charge by the project's features, while others charge by the amount of time, they spend designing it.

- **Creation of Mobile Applications for Small Businesses**

Similarly, to how all businesses needed a website a few years back, more and more businesses today want their own smartphone application. Large companies typically employ mobile application development companies, but small businesses are also searching for cost-effective solutions that enable them to access their customers' mobile devices without difficulty. This concept is to use application development tools like Tu-App.net to create simple applications in a short amount of time so that small businesses can sell them to their customers.

- **Dropshipping**

Dropshipping is a business model in which the vendor sells goods from third parties (suppliers) without keeping them in stock. The retailer oversees making the sale and handling the shipping so that you can meet your final customer directly from your supplier (wholesale seller) under the retailer's own name. This business model is perfect because it allows you to sell items that are only available in foreign stores and are not widely available in local markets. On the internet, for example, you will find Chinese and American stores that operate under this model.

- **Sale of personalized t-shirts**

Customers will be able to make custom designs for their shirts with this company. While it seems to be a simple concept, there are many factors to consider in order to make the company successful:

T-shirt supplier: You'll need to find a wholesaler that can provide you with high-quality shirts at a reasonable price.

Prints: You can either buy the equipment to stamp the shirts yourself or hire a company to do it for you. Create an account and decide which choice is best for you to begin with.

Platform: Make sure you have tools that make it easy to customise the designs.

Logistics: In order for your company to be successful, you'll need an ally in

logistics who can help you ship your product at a fair price; otherwise, shipping.

could be more costly than the product.

- **Digital Magazine**

If you are passionate about a particular topic, you might want to consider starting your own digital magazine. Profits are produced in two ways: advertisement sales inside the magazine and magazine subscription fees. You will need an email marketing network to deliver the magazine to your subscribers on a regular basis for this business model. It is also a good idea to create a website to advertise the magazine and collect subscriptions.

- **Alternative subscription food**

Alternative food consumption is becoming more common. Vegetarian, vegan, raw food, and other eating habits are becoming more common. However, alternative food value propositions are difficult to come by in some areas. This concept is to include subscription models in which consumers are guaranteed breakfast, lunch, and/or meals in their home or office on a daily or weekly basis, based on their eating habits.

Top Trends Shaping Digital Transformation in 2021

In a world that is becoming increasingly digitally based, IT's position is more important than ever. The demand on businesses to remain competitive and build connected experiences is growing.

1. **The digital-ready culture.**

To satisfy growing consumer needs and build new revenue sources, businesses are under more pressure to digitise services rapidly and at scale.

2. **Democratization of innovation.**

Users in the line of business are attempting to build digital consumer interactions more quickly. By encouraging the company to self-serve and produce solutions faster, IT will help to drive cultural change.

3. **Composable enterprise.**

Hyper-specialization has spawned a slew of new applications, prompting businesses to adopt a composable enterprise to become more agile — one in which digital capabilities can be assembled from existing apps through APIs rather than being constructed from the ground up each time.

4. **Automation.**

Automation is being used by businesses to increase operating productivity and enhance business processes. APIs are important for automating processes and increasing productivity.

5. **API security.**

The average enterprise has 900 applications. The proliferation of new endpoints opens up new entry points for hackers, necessitating strong API protection.

6. **Microservices.**

Microservices are being used by businesses to quickly create new customer experiences. Service mesh technologies will be needed by companies deploying microservices to output.

7. **The data divide.**

Organizations are searching for quicker ways to unlock data and gain information in order to keep up with changing consumer demands. The ability to unlock, evaluate, and act on data will become foundational to growth in 2021, separating companies from their rivals and customers.

8. **Data analytics.**

To transform consumer interactions, businesses are investing in data analytics. The importance of data analytics can be determined by the data that is provided to them.

Conclusion:

In this digital era, we are growing. The entrepreneurial dream has become a reality as marketing expenses have become more and more manageable. The new approach is authenticity and creativity, and all of this can be accomplished by digital entrepreneurship. The online world has also given entrepreneurs the opportunity to work with and collaborate with similar companies. Instead of competing against each other, the integrated approach seems to be much more effective when growing your business. You can now build a network with like-minded entrepreneurs and collaborate. Naturally, more people are turning to the digital environment for income and job opportunities, particularly because many more conventional industries have been severely impacted by the Coronavirus pandemic. The world of digital entrepreneurship appeals to me because it allows me to work from home and has more versatility.

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Value Stream Mapping for Warm For-Ging Press Line

Harshada Mahadev Pawar

MBA Student

Anekant Institute of Management Studies, Baramati
pawarharshada.m@gmail.com

Dr. Manisha Vhora

Assistant Professor,

Anekant Institute of Management Studies, Baramati
manishavhora@aimsaramati.org

Abstract: This project focuses on centers around fulfilling the client need by improving the labor usage, upgrading the forging process and improving resources required. The efficiency improvement is to be brought out through alteration of shop floor design steady multi machine monitoring just as smoothing out the material stream in the middle of machines. The process duration investigation and part stream examination is completed to figure out more lead time measures. Point is to have uniform development of piece and this is a significant and basic exercises to be done from hierarchical viewpoints compelling usage of labor to raise the profitability. The investigation on machine use and format of hardware will likewise be made to upgrade the limit of press shop. Value Stream Mapping (VSM) is one of the key lean devices used to recognize the chances for different lean strategies. As VSM includes taking all things together of the interaction steps, both worth added and non-esteem added, are investigated and utilizing VSM as a visual device to help see the secret waste and wellsprings of waste. A existing State Map is prepared to record how things really worked on the creation floor. Future State Map is created to plan a lean interaction course by the end of the underlying waste generations through Kaizen's.

Keywords: Value Stream Mapping (VSM), Lean manufacturing, lean waste, lead time, takt time, cycle time, kaizens.

Introduction

Each association is endeavoring hard on completing more work in less time and without breaking a sweat. The essential point of any association has been to persistently limit squander and expand stream which would at last prompt consumer loyalty by giving right item at the ideal time in the correct amount and the correct quality at a sensible cost. The objective of Value Stream Mapping is to move from bunch and push to one-piece stream and get through the whole worth stream. Presenting a lean worth stream that advances the progression of the whole framework from data, to material, to completed merchandise showing up at the client's entryway is a definitive objective. It helps in lessening lead time, stock, and overproduction and improves throughput, productivity and quality.

Lean Manufacturing: Lean manufacturing consists of word lean which means to reduce or to minimize the waste in production which leads to maximum utilization of resources and ends up with increased value of product.

Value Stream Mapping: Value stream mapping is a method of lean manufacturing which uses symbols, metrics and arrows to show and improve the flow of inventory and

information required to produce a product or service which is delivered to a consumer

To cater the demand of customer KTFL Group Expand the Business through KTTPL Plant. KTTPL is mainly engaged in the Manufacturing of various types of automotive forging components with facilities of Press Shop and Post forging process. Press Shop with presses of 1350T and 2500T capacity. With gradual of expansion of this business forward

integration by the way of starting the Bevel Gear Warm Forging. A team of qualified and experienced staff and operators is engaged in manufacture of quality product. For this project we focused on the company's main product, Bevel Gear that is used in differential unit. Parts are shuttled between the different factories usually twice of its process flow. The lead time, referred to here, spans from Raw material inward to when the final product is boxed. Our project identified the Billet turning, billet chamfering and heat treatment operation, which involves the outsourcing, as the biggest portion of the current lead time. With the initial project research and further investigation, the team found out that this principle was not always implemented.

The collaborations were the first in Value stream planning bearing. Our essential undertaking objective was to

decrease the current lead time by at any rate half. To accomplish that objective, the group initially needed to report the present status of the creation interaction. With the production of an underlying and last state VSM, the gathering had the option to make determinations dependent on the examination and information they amassed, and they had the option to accomplish the essential objective of the undertaking. The second task objective was operational upgrades in the creation offices. We accomplished these operational upgrades through the enhancement of cycles and furthermore decreased the all out process duration.

Review of Literature

Drew A. Locher - Value Stream Mapping for Lean Development_ A How-To Guide for Streamlining Time to Market (2008, Productivity Press) Lean is defined as an efficient way to deal with expanding esteem by limiting waste, and by flowing the item or administration at the draw of the client interest. These vital ideas of "significant worth," "flow," and "pull," line up with a definitive Lean objective: "flawlessness," or a constant making progress toward progress in the presentation of the association. [1]

King, Jennifer S._ King, Peter L - Value Stream Mapping for the process industries_ creating a roadmap for lean transformation (2015, CRC Press)

discussed flow and waste is just as important for your entire supply chain as it is for your manufacturing operations, and often more so. Value stream mapping is a very significant component of any Lean initiative, providing a framework that highlights waste and the negative effect it has on overall process performance and flow. [2]

Research Papers and Articles:

Shrut Bhati, Suyash Porwal, "A Case Study on Improving Process and Eliminating Waste through Lean Manufacturing Techniques" International Journal of Scientific Engineering and Research (IJSER)Volume [3], Issue [12], December (2015), page 1-4,

described work carried out on value stream mapping by eliminating waste through lean manufacturing techniques for continuous small improvement in an organization rather than rapid and bigger improvement. Lean assembling depends on deciding every one of the defects in the framework and amending it by utilizing fitting instruments and methods, these apparatuses and procedures causes us to

streamline the interaction by saving time, diminishing waste. [3]

K. Venkataraman, B.Vijaya Ramnath, V.Muthu Kumar ,C. Elanchezhian, "Application of Value Stream Mapping for Reduction of Cycle Time in a Machining Process"3rd International Conference on Materials Processing and Characterization (ICMPC 2014), page 1187-1196.

Depicted the execution of lean assembling methods in the driving rod producing framework at an auto assembling plant situated in south India. The target of the case business was to expand the fare deals. Lean assembling framework was chosen to meet the organization's quality, cost and conveyance targets. [4]

Manjunath M, Dr. Shivaprasad H. C., Keerthesh Kumar K. S., Deepa Puthran, "Value Stream Mapping as a Tool for Lean Implementation: A Case Study" International journal of research and development, May, 2014 Vol 3 Issue

proposed that how value stream mapping (VSM) is a powerful tool in lean implementation and to tackle the improvement areas from the current state & to propose the future state which helps in reducing the lead time, manufacturing cost and delivery in time without compromising for the quality of the product. [5]

Dinesh Sethy and Vaibhav Gupta, "Production Planning & Control: The Management of Operations", National Institute of Industrial Engineering, National Institute of Industrial Engineering 6 January 2015

studied on value stream mapping for lean operation. They also study on cycle time reduction. Both current and future states of supplier shop floor scenarios are discussed using value stream concepts. This is analysed along with takt time calculations and the application of other gap areas [6]

Problem Statement

The company manufacturing of various types of automotive forging components with facilities of Press Shop and Post forging process at Ranjangaon. Currently the production for the Bevel Gear is manufacturing on 1350TP line this manufacturing process is broken up into steps which include Billet Cutting, Turning and Chamfering, Billet Coating, Billet Heating, Forging, Trimming and Heat treatment out of this process Billet turning and chamfering are out-source from supplier at

Bhosari, Pune and post forging Heat Treatment done from off-site KTFL Heat treatment division. This outsourcing processes create more lead time in production. Keeping on focus to reduce lead time and improper material flow problem. Due to this problem relocate this 1350TP line to Baramati.

Objectives

1. To study lead time of warm forging process line.
2. To analyses the causes of improper material flow and high cost.
3. To develop Value stream mapping technique.
4. To check the difference of before and after study
5. To analysis the customer demand and sale.

Methodology

Research methodology involves studying the methods used in research field and the theories or principles behind them, in order to develop an approach that matches research objectives. Methods are the specific tools and procedures which researcher use to collect and analyze data.

Scope:

Present study confines to the production and operation department for analysis of cycle time and lead time of manufacturing of warm forging. This study helps in identifying the non-value added activities at Kalyani Techno Forge Limited Ranjangaon. It also states the technics to optimize the lead time and cycle time. It also helps the organization to focus on the cost reduction. The study is limited to the bevel gear of warm forging at Kalyani Techno Forge Ltd Ranjangaon and Kalyani transmission Technologies Pvt. Ltd Baramati. Thus, for this the manager level and operator level employees are being surveyed to satisfy the objectives of this research.

Research Design:

Researcher used exploratory research method for investigation of Non value added activities for identification of wastage in process which has more lead time and improper material flow.

Descriptive research is used by researcher to “describe” a current state of process flow, value added and Non value added activities, phenomenon happening at Kalyani Techno Forge Ltd. Ranjangaon. Hence researcher choose exploratory and descriptive research methodology for this research.

Nature and source of data to be collected:

For Primary data to be collected in Kalyani Techno Forge Ltd. Ranjangaon by:

Structured interviews of managers of Sales, Design, Production, Operation and Quality as well as the operators of Cutting, IBH, Coating, Forging, Trimming operation. Sheets referred like Manufacturing Cost, Manpower cost, Transportation Cost, Kaizen’s Sheets. Published sources mean data available in printed form, it includes: Magazines, Journals, Books and Reports published by Science direct. Research studies were done by scholar students of Pune university and AIMS institutions.

Research Instrument:

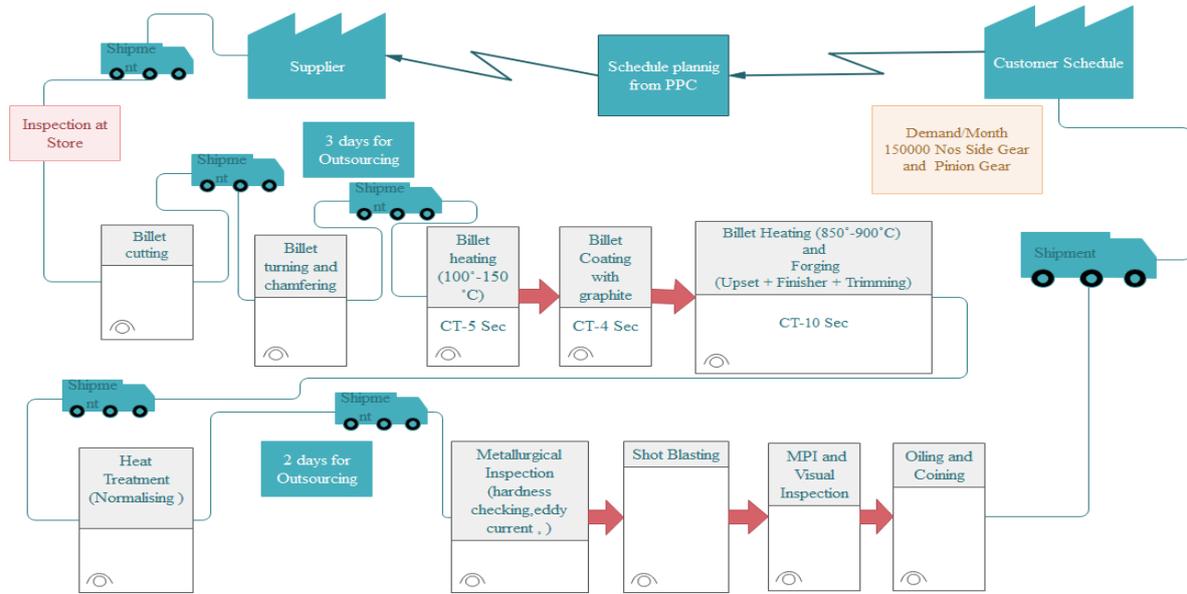
- For research Structured Interview is to be used as a Data Collection Tool
- 10 Questionnaire is prepared using 5 point Likert Scale.
- Data collected by taking interviews of 5 managers and 5 operators of following department: Operation, Production, Engineering, Quality, Marketing.

Data Analysis & Interpretation

Current Process Map

For this project we used Edraw Max to create current state and future state VSMS. Our first objective was to create a current state VSM for KTFL factory. To do this we initially created multiple current state VSMS. The Current Process start with Raw material inward and end by dispatching to customer as shown in current state at KTFL Ranjangaon division Figure No.: 1 After raw material inward it stores in rack grade wise after that following process done: Business objectives is to increase production in Bevel Gear manufacturing by arranging resources in optimize form. The customer requirement of bevel gear in number is 150000/ month. The takt time for the demand of 150000 numbers is 14 seconds and the daily requirement in number is 5770/day.

Figure No.1: Current Process Map



On X Axis: Waste in Process.

On Y Axis: Cumulative Percentage analysis of numbers of respondents.

As per the above Pareto analysis by 80-20 % principle it is observed that Transportation Extra processing and over processing are the big waste in current process. Hence, we can conclude that, the current process flow has more lead time because of this three waste in the organization.

Waste	No. of Respondent	Cumulative	Percentage
Transportation	4	4	40
Extra processing	3	7	70
Over Processing	1	8	80
Movement	1	9	90
Waiting	1	10	100

Table No :1 Pareto analysis of waste in the organization

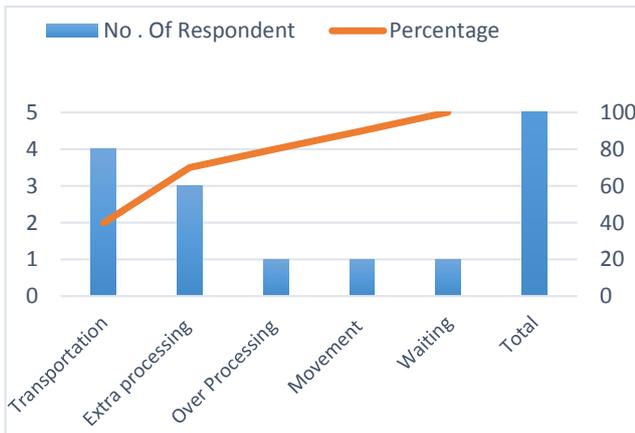
Graph No- 1, Pareto analysis of waste in the organization.

Billets Cutting: Billet cut with Circular Saw (Model - Everising P75C machine.)

Billet Turning and Chamfering: As a section of bar is 60mm it required turning to achieve required diameter 40-45 mm after cutting. It sends to supplier for Turning and Chamfering to Bhosari, Pune which is 50 km from Ranjangaon this process has following drawbacks

Chamfering to Bhosari, Pune which is 50 km from Ranjangaon this process has following drawbacks

- Take 3 days' lead time.
- Over processing
- Wastage of turning
- Cost waste in turning and transportation



Preheating: After Chamfering it come again KTFL plant and Billet preheated up to 100°-150°C in IBH coil 250KW Preheating is not an online process so it takes time for loading and unloading.

Coating: After preheating billets are store and deep in graphite oil bath this operation is manually

- Required one extra manpower
- Improper oil concentration because of manually operation
- Required extra cycle time

Post Heating, Forging and Trimming: this all processes are online from Billet Heating to trimming billet heating up to

850°-900°C it sends to next process for forging on 1350TP (Upset + Finisher) and then Trim the unwanted flash on trimming

This processes have drawbacks: Trimming operation cause distortion in bevel gear.

Heat Treatment (Normalizing): Heat treatment after trimming required for reliving residual stresses. For this heat treatment job send to off-site plant of KTFL heat treatment division. This process has following draw backs:

- It takes 2 days’ lead time for outsourcing heat treatment.
- this incurred extra cost for heat treatment.

After heat treatment of job is inspected for Metallurgical Inspection (hardness checking, eddy current) and then shot blasted for improving surface hardness and finishing. It visually inspected under ultrasonic light by magnetic partial inspection testing for inspection of surface defect. After this job oiled for coining and then job dispatch to customer by oiling and packaging as per customer requirement. Identifying the Opportunities for improvement in current state of process flow as shown in figure No. 2 take actions on improving points.

Work Area : Warm Forging			Part: Bevel Gear					
Sr. No.	Operation Description	Waste Elimination			Methods Improvements		Investment	
		Eliminate Operation	Combine Operation	online opeation (elliminati on loading and unloading)	Reduce Operation	Introduce New tooling	Optimizing the machining parameters	Capital Investment Machine
1	Raw material Cutting			*	*			
2	Billet Turning	*						
3	Billet Chamfering							*
4	Billet Pre-heating (100°-150°C)							*
5	Billet Coating with graphite							*
6	Billet Heating (850°-900°C)							*
7	Forging(Upset 30b Finisher 30h Trimming30 j)					*		
8	Heat Treatment					*		

Kaizens: Implement the Modified Process by eliminate operations

Eliminating Following processes to maximize profit and reduce lead time.

time waste in transportation and over processing

Turning process: Before used steel bar which has more pitting corrosion surface for this bar are turned from large section (Diameter- 60mm) to desired section (35-40 mm) which incurred cost for transportation and for machining. For reducing this waste our team brainstorming and find solution to purchase pealed bar. Pealed bar don't have pitting corrosive surface so not required turning operation. This kaizen save Total Cost save Rs 9.4/ Piece. This process

This elimination of trimming operation and converting manual coating to online reduce cycle time 9 sec. represent kaizen sheet 2 as shown in figure No 4

also saves 3 days' lead time for this turning process because of out-sourcing represent Kaizen Sheet 1 as shown in figure No. 3.

Coating: After preheating billets are store and deep in graphite oil bath this operation is manually so this required one extra manpower and more cycle time this will be eliminated by making this process online

Trimming process: Trimming process is required to remove unwanted material after forging but this cause distortion and this also an over processing. After forging at customer end machining will remove this excess material so not required to trim the material.



Figure No 3.: Kaizen Sheet 1

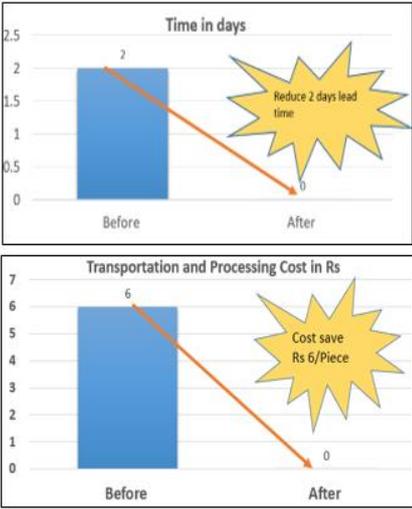


Figure No.4.: Kaizen Sheet

KAIZEN : Implement the modified process by optimizing the process parameters

Heat treatment: Before used offsite heat treatment process for relieving stresses generated in forging by normalizing method this treatment incurred cost for heat treatment processes and transportation. It takes lead time of 2 days.

Now, Online Control cooling replace off site heat treatment process. Only conveyor introduce after forging so It's become continues processes. Which relive internal stresses without further heat treatment process.

Operation: Heat Treatment		
Theme: To reduce over processing		
Before	After	Benefits
1. Outsourcing Heat treatment 2. Required extra heat for Normalizing	1. Provided Inhouse Controlled Cooling. 2. Speed & feed is controlled through VFD 	by Reducing Over Processing - 1. Reduce 2 days Lead time 2. Cost save Rs 6 / Piece for Heating 

Provided in-house control cooling conveyor online after forging process this gives benefits of cost saving Rs 6 (Rs 5/Piece for heat treatment and Rs 1 for Transportation) and reduced lead time by 2 days as shown in figure No:5

Figure No. 5: Kaizen Sheet 3

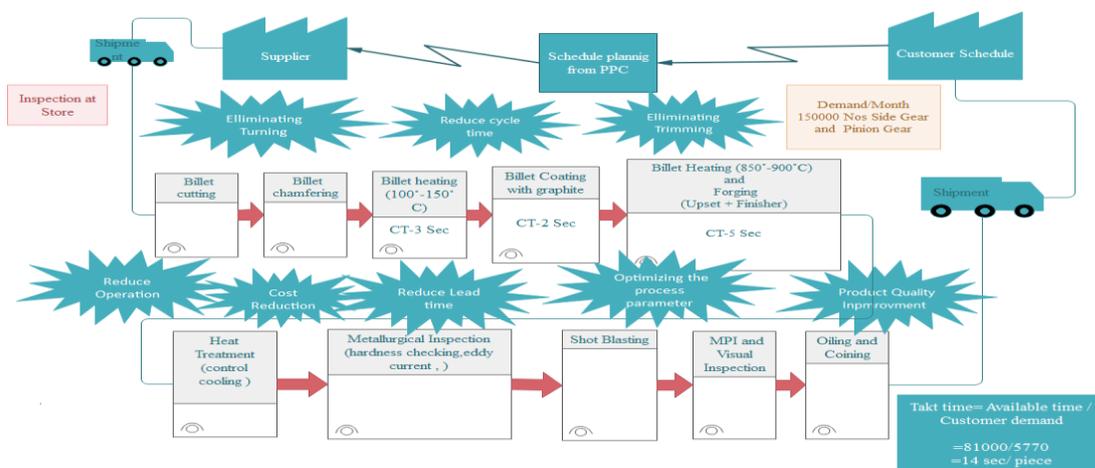


Figure No.6 : Future Process Map

Future Process Map:

Draw the future map as shown in figure No .6 removing waste in current process. There will be mapping the work area in C shape as shown in figure No: 7 so that the processes or man power are next to each each other would eliminate unnecessary

time and ergonomic conditions. A lean work area is a self-contained, well-occupied space that includes several value adding operations.



Figure No 7: C – shape of 1350TP line

Observations & Findings

Following findings are observed and they are as follows:

- Lean manufacturing is a key factor in organization. 100% respondent dissatisfied with current process flow as per their opinion current process flow is non value added in the organization.
- According to 80% respondent transportation, extra processing and over processing are the big waste in current process. Hence, we can conclude that, the current process flow has more lead time because of this three waste in the organization.
- According to the 100% respondents all parameters like more lead time, more cycle time, incurred more cost, Improper material flow, less sale which is generated by waste like transportation, Extra processing and over processing in current process.
- The lead time 3 days for turning and chamfering and 2 days for heat treatment is reduce by in-housing this process.
- The study understands the overall cost Rs 15.4 is incurred for over processing and improper material flow of turning (Rs 9.4) and heat treatment (Rs 6) is reduce up to zero by eliminating and reducing respectively this processes.
- Using VSM technique reduces waste by removing non value added activates and reduce the cycle time up to 9sec by making graphite coating online and eliminating trimming operation.
- The required takt time for the demand of 150000 numbers is 14 seconds and the daily requirement is 5770 numbers per day is achieved by value stream mapping up to 10 sec.
- C shape of single piece flow line gives proper material flow at Baramati.

Suggestions

The suggestions for the findings from the study are as follows:

1. Pick and Place Forging loader between forging press and cooling conveyor to avoid nick mark and reduce cycle time.
2. Soft Landing / Unloading of controlled cooled job in pallet for avoiding nick mark on job for improving quality.
3. For avoiding material mix up need to be installed eddy current material checking interlock at the entry of billet induction heating coil.
4. Need to install temperature sensing Accept / Reject interlock system at entry and exit of control cooling conveyor to reject NG parts.

Conclusion

- he developed method of Value Stream Mapping systematically and with proper utilization of resources net product output increased.
- The VSM method visualized manufacturing processes, improper material handling, waste management, bottlenecking reduction of process.
- VSM has proven to be an effective tool to analyze a company's current production state and point out problem areas.

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A Study on Green Banking Process, Products & Services in Private and Public Sector Banks in India

Prof. Sachin Shrirang Jadhav

Assistant Professor

Anekant Institute of Management Studies (AIMS)

Baramati, Dist: Pune, India

e-mail: sachin.j@aimsaramati.org

Abstract: *In view of the current situation and the existence of banking processes and infrastructures, IDRBT offers recommendations for greening banking on two levels in its study. One is Greening Banking process, products and service which mainly focus on making day-to-day business operations simpler and faster through Enterprise Resource Management, Customer Relationship Management, Sourcing and Procurement and Product Life Cycle Management. Making Banking products and services greener by following simple practices like electronic and telephone banking, Debit cards, credit cards, ATMs and paperless work like e-statements etc. and making them environmentally friendly. Greening Banking Infrastructure, on the other hand, focuses on making IT infrastructure (including data centres) and physical infrastructure (including buildings) greener, as well as taking steps to allow a bank to produce electricity for its own use. Green banking can help the environment by lowering customers' and banks' carbon footprints. Both the bank and the customer can help the environment by conserving paper. A green banking plan should ideally include both. This is exemplified by online banking. When a customer of a bank goes online, the environmental benefits are reciprocal. In this paper researcher studied the green banking initiatives by Indian public sector banks (State Bank of India, Punjab National Bank, Bank of Baroda,) and private sector banks (HDFC Bank, ICICI Bank, and Axis Bank).*

Keywords—*Greening Banking; Infrastructure; Data Center; Carbon Footprint; Online Banking; Paperless Work, Carbon Neutrality Project, Green Bond, ASTITVA*

Introduction

In this changing era of global economy, it is very important for us to know the changing economic trends and its effect on the environment. Every organization, from accounting perspective, is aiming to earn more and more profit which concern with short term business activity, and from economic perspective they are trying to make satisfactory profit which concern with long term existence. Business can achieve sustainable growth by enabling markets to operate within an acceptable system of cost-effective regulations and economic instruments. The financial institutions such as banking sector is one of the major economic agents influencing overall industrial activity and economic growth. Now the question that every organization asks themselves is that, to make satisfactory profit

what all things they need to consider while planning for their business activities. The expected answers may be lowering the cost, quality control, employee satisfaction, customer satisfaction through pre and pro services etc. Here primarily we think about our responsibility towards customers and then our employees. But one important factor we normally forget which directly or indirectly help us in achieving our organizational goal i.e. 'Environment'. Without environmental support we cannot achieve our goals. So it's essential to identify our responsibility toward environment so that its effect will reflect in our financial statements. Here the need comes for the study of Green Banking and its prospects & challenges in the Banking sector.

Conceptual Framework & Significance Of The Study

The Narsimha Committee submitted its reports to the Finance Minister in November 1991 & April 1998. The Narasimham-I (1991) and Narsimha-II (1998) Committees were established to investigate all aspects of the financial systems' structure, organisation, operations, and procedures, and to make recommendations for improving their efficiency and productivity. The Committee recommended that banks focus on 'Strengthening Technology' for payment and settlement systems, technology, infrastructure with electronic funds transfer, integrated fund management system, core banking, plastic cards (debit and credit), phone banking, telebanking, internet banking, and other areas [2][3]. With the establishment of the first Green Bank in Mt. Dora, Florida, in 2009, the idea of green banking was born.

The Institute for Development and Research in Banking and Technology (IDRBT) established by RBI defines Green Banking as:

“Green Banking” is an umbrella term that refers to activities and guidelines that help banks be more sustainable in terms of their economic, environmental, and social impacts. Its aim is to make banking processes, as well as the use of IT and physical infrastructure, as efficient and successful as possible while having zero or minimal environmental impact.”

Considering the nature of banking processes and infrastructures, IDRBT in its report, offer guidelines for greening banking in two levels [1].

A. Greening Processes, Products, and Services

B. Greening Infrastructure

A. Greening Processes, Products, and Services:

It focuses on making day-to-day business activities, as well as banking products and services, more

environmentally friendly by implementing simple practises.

A bank is a financial institution that accepts deposits and invests them in lending activities, either directly or indirectly through capital markets. Banks have a variety of ways for customers to access their various banking products and services, including ATMs, branches, mobile banking, internet banking, and the Internet of Things (IoT).

Processes, goods and services, policies, and other practices are the four main avenues for greening banks, which are briefly outlined here.

(i) Green Process

Each of a Green Bank's functional units and activities must be green – environmentally friendly and contribute to long-term environmental sustainability. Banks have a number of options for greening their operating units and operations. Keys among them are:

Supply Chain Management

- Adopt techniques and plans to minimize inventory, its carrying cost and wasted freight
- Adopt networked design using a carbon footprint.

Enterprise Resource Management

- Facilitate paperless transactions
- Adopt staff and components optimization strategies, as well as intelligent system management techniques.

Customer Relationship Management

- Maintain communication with and communicate with customers and prospective customers using electronic means wherever possible, and reduce paper-based correspondences.

Sourcing and Procurement

- Vendors should be chosen based on the sustainability of their goods, facilities, and operations.

Product Life Cycle Management

- Design and deliver banking products and services that use fewer capital and electricity, lowering their carbon footprint.
- Implement cost-effective and environmentally friendly systems for product end-of-life management.

(ii) Green Products and Services

Banks are on the verge of launching new goods and services in response to customer demand for environmentally friendly options. Here are some of the solutions that banks can provide to their customers if they don't already:

- Digital and telephone banking, allowing consumers to take care of the majority of their banking needs at any time and from any place.
- Electronic (paperless) statements, product information, manuals, and annual reports to consumers and stakeholders eliminate the need to write and mail cheques.
- Providing and supporting mutual funds that invest in "green" businesses.
- Providing a special line of credit to assist homeowners in making energy-efficiency improvements to their homes;
- Providing credit cards that are co-branded with environmental charities.

Banks must set near-term and long-term green targets, build green strategies, and phase in their greening activities based on the guidelines, opportunities, and options outlined above.

Green banking can help the environment by lowering customers' and banks' carbon footprints. Both the bank and the customer can help the environment by conserving paper. A green banking plan should ideally include both. This is exemplified by online banking. When a customer of a bank goes online, the environmental benefits are reciprocal. Green banking entails merging organisational and

technological changes with a shift in client behaviour.

B. Greening Infrastructure:

Making IT technology (including data centres) and physical infrastructure (including buildings) more environmentally friendly, as well as taking steps to allow a bank to produce electricity for its own use.

Statement of the Problem

Banks in India are expanding the scope of their Green Banking system to increase their overall efficiency to meet with the changing dynamics of credit. There are very few studies done on the move from traditional practices to Green Banking practices. It will be interesting to see if we can evaluate whether the Green Banking process, products, & services have an impact on the bank's operating efficiency or not.

The problem could be clarified by following statements:

1. Interest rates are now dictated by market forces as a result of globalisation, which has resulted in a steady decline in interest rates due to fierce competition in the financial market. Bank interest income is weakening day by day as a result of the decreasing rate of interest, resulting in lower profitability. To compensate for the decrease in interest income, banks have begun to put a greater focus on cost-cutting by Green Banking practices.
2. As interest spread is decreasing, banks have little option but to raise their revenues by reducing their cost.
3. Volatility of interest rates is compelling banks to initiate Green Banking practices.
4. Banks income source is based on where they disburse / allocate their funds for future earnings. Hence it's necessary to know whether for such decisions banks refer environment safety aspects and at what level.

5. Banks are witnessing growth in their income because of changing psychology of customers who favor convenience as major factor.

Overview of Literature

Green banking aspires to a cleaner and more environmentally friendly future. As previously mentioned, consumer knowledge is needed in the sense of this new definition.

Jaggi (2014) explores SBI and ICICI's Green Banking project. SBI also added a Green Channel Counter, no-queue banking, increased commitment to carbon neutrality, online money transfer, and wind farms to its offerings. ICICI Bank's Green Products and Services include instabanking (anytime, anywhere), car finance, and home finance. Furthermore, these banks have taken other energy-saving measures such as duplexing (two-sided printing), recycling, CFLs, carpooling, and so on.

Sudhalakshmi and Chinnadorai (2014) analyse the current state of Indian banks in terms of green banking, concluding that while the "go green" slogan is important for emerging economies like India, significant efforts have not been made. The green part of a bank's lending principle must be included. Any action taken today will result in a better future global climate. As a result, India needs a strategy to encourage Green Banking. Indian banks are lagging behind in adopting this environmentally friendly trend. In this respect, serious measures must be taken.

Jha and Bhome (2013) conduct a similar survey to the one mentioned above in order to evaluate and raise consumer awareness about Green Banking. They note that certain steps in Green Banking are needed after conducting interviews and using specially designed questionnaires for surveys. Green checking accounts, online banking (ATMs, special touch screens), green loans (low-interest loans for those who choose to purchase solar equipment), power-saving equipment, green credit cards, and

paper-free mobile banking are only a few of the measures they recommend. Green banking would ensure that companies step in the direction of sustainability.

Yadav and Pathak (2013) investigate the Green Banking strategies used by private and public banks to ensure the long-term sustainability of the climate. Using a case study approach, they discover that Indian banks recognise the importance of environmental stewardship. Furthermore, the findings of the study show that, with the exception of ICICI Bank, public sector banks have taken more initiatives than private sector banks. Only ICICI Bank's solution is viable in the private sector.

Bahl (2012) emphasises the importance of raising awareness about Green Banking in order to ensure long-term growth. The most important Green Banking strategies are analysed using Garrett's ranking methodology. If the aim is to achieve sustainable growth, the only way to do so is to raise awareness and provide education. Publications and newsletters should be prioritised among internal subsystems to raise awareness, and event meetings, media, and websites should be used as effective external subsystems. Effective Green Banking needs a well-crafted green policy guideline.

Sahoo and Nayak (2008) investigate the importance of Green Banking and include examples from around the world. According to the researchers, there haven't been many bank initiatives in India, so policy steps are required to promote Green Banking in the country. According to the researchers, none of the Indian banks have followed the equator concept and are signatories to the UNEP financial initiative declaration. Environmental standards should be used by Indian banks when financing projects. [4]

With mobile technology allowing for faster and more reliable transactions, the "cardless" Automatic

Teller Machine (ATM) is gaining traction in the United States and around the world.

II. Green Banking initiatives by Indian Banks

Indian banks are pursuing green banking initiatives in both the public and private sectors. Public sector banks are those in which the government owns a majority stake (more than 50%), whereas private sector banks are those in which private shareholders own a majority stake. India's public and private sector banks have taken a range of green initiatives. The researcher chose the top three public and private sector banks based on their net income for this report. (Details in the Table I).

TABLE I.

Public Sector Banks		Private Sector Banks	
Banks	Net Profit (Rs. in Cr.)	Banks	Net Profit (Rs. in Cr.)
State Bank of India	14,488	HDFC Bank	26,257.32
Punjab National Bank	682.31	ICICI Bank	7,930.81
Bank of Baroda	546.19	Axis Bank	1,627

Source: Annual Reports (FY 2019-20) of each bank on their websites

Public Sector Banks

(A) State Bank of India (SBI)

- Carbon Neutrality Project: The Bank has a plan in place to achieve “Carbon Neutral” status by 2030, according to an approach report. In place of generator sets, a remote monitoring based Solar Power System is being implemented at Branches (Rural/Semi-Urban).
- SBI Green Fund: Green Reward Points can be exchanged for credit to the SBI Green Fund, which will be used to support environmental initiatives, for all of our digital channel customers.
- Green Bonds: Environment and Social Management Systems (ESMS) have become increasingly important in our credit appraisal

process and business decisions. During the reporting period, the bank issued additional Green Bonds worth USD 100 million, bringing the total size of the bank's Green Bonds to USD 800 million. During the year, the bank launched an online tutorial called “ASTITVA” for its employees on sustainability issues relating to the bank's internal sustainability initiatives and the UN Sustainable Development Goals. In addition, a quarterly E-Newsletter called “SUSTAIN ON” was launched and is being mailed to all workers to keep them updated about sustainability issues and news.

- In 2010, SBI introduced the Green Channel Counter (GCC) facility at its branches to replace the conventional paper-based banking system. (SBI, 2015).
- It is a signatory to the Carbon Disclosure Project, in which it engages in a variety of environmentally and socially sustainable initiatives through its branches located throughout the world. (WWF-INDIA, 2014).
- The Export-Import Bank of India (EXIM) and the State Bank of India (SBI) have agreed to provide long-term loans of up to 14 years to Astonfield Renewable Resources and Grupo T-Solar Global SA of Spain for the construction of solar plants in India. (Yadav & Pathak, 2013).

(B) Punjab National Bank (PNB)

According to Corporate Social Responsibility Report 2010-11 (PNB, 2015), they had taken various steps for reducing emission and energy consumption.

- PNB is conducting an electricity audit of its offices as part of an energy conservation

initiative, and has kept a separate audit sheet to track the impact of its green initiatives.

- More than 290 Tree Plantation Drives are organized by the bank..
- It began emphasising green building practises such as energy-efficient lighting, immediate water leak repair, printing on both sides of paper, and metre sensors for lights and fans, among others.
- The organisation signed a "Green Pledge" with the Ministry of New and Renewable Energy, as part of which they established a butterfly park in the Guruvayur temple complex, which houses 18 different medicinal plants.
- They had established guidelines to ensure that all required approvals and permits, including those from the Pollution Control Board, were obtained prior to the disbursement of term loans, and that compliance with environmental and social protections, such as rehabilitation and relocation of project affected persons, was ensured as a pre-disbursement condition for project loans.
- The bank is also thinking on how to step up sustainable growth, with an emphasis on the Equators Principles on project finance.
- The organisation was awarded a second prize for 'Best Wind Energy Power Financer' by wind power India 2011 after sanctioning nine wind energy projects with an aggregation cap of 185.81 crore.

(C) Bank of Baroda

According to the annual report of BOB (2020), they had taken various green banking initiatives such as:

-

- When it comes to industrial projects, BOB favours environmentally sustainable green projects like windmills, biomass, and solar power projects that help gain carbon credits.
- The organisation has made significant changes to their lending policies, such as requiring businesses to receive a "No Objection Certificate" from the Pollution Control Board and refusing to lend to environmentally harmful industries that use ozone depleting substances such as halos-1211, 1301, 2402 used in foam products, chlorofluoro carbon CFC 11, 12, 113, solvents in cleaning and aerosol products.
- The bank has taken a number of technological steps, including adhering to e-business guidelines, using internet banking and mobile banking to facilitate paperless banking, and increasing the number of ATMs installed in underserved areas to minimise petrol or diesel consumption and contribute to a cleaner climate.
- They changed desktop virtualization as part of their green initiative, and backup consolidation and server virtualization improved data centre operational efficiency.
- The bank is also promoting measures for pollution control and environmental conservation.

Private Sector Banks

(A)HDFC Bank Ltd

According to HDFC Bank, various steps are being taken to reduce their carbon footprints in the areas of waste management, paper use, and energy efficiency (2020):-

- The bank is encouraging its workers to reduce their use of natural resources and greenhouse gas emissions.

- They are reducing the use of paper by sending e-transaction advices to their corporate customers, engaging with their high net worth customers through electronic media, and encouraging their retail customers to use e-statements.
- The bank is also encouraging energy efficiency by switching to CFL lighting, turning off all lights at all branches after 11 P.M., and building green data centres with cutting-edge technology.
- The organisation is experimenting with renewable energy by installing 20 solar ATMs, including a pilot ATM in Bihar, and replacing ATM batteries with Lithium-ion batteries.
- The bank is procuring green goods that comply with the Central Pollution Control Board's regulations and are Energy Star classified.

(B) ICICI Bank Ltd

According to ICICI Bank, the 'Go Green' programme includes activities such as green products/offers, green interaction, and green contact with customers. (2020):-

- Green Products and Services: The bank provides environmentally friendly goods and services, such as (i) Insta banking: - It is a service that allows customers to bank from anywhere and at any time using internet banking, mobile banking, IVR banking, and other methods. Customers' carbon footprint is reduced because they no longer need a physical declaration or drive to bank branches. (ii) 'Vehicle Finance': They are waiving half of the processing charge on auto loans for Honda Civic Hybrids, Tata Indica CNG, Reva electric vehicles, Mahindra

Logan CNG variants, Maruti's LPG versions of Maruti 800, Omni, and Versa, and Hyundai's Santro Eco. (iii) Home Finance – For customers buying homes in LEED approved buildings, the bank has reduced the transaction cost.

- Green Engagements: (i) During Diwali 2013, the company held an environmental awareness programme for employees and customers, during which a money plant was given to everyone in attendance as a symbol of mutual responsibility to protect the environment. (ii) It has also partnered with the CNBC – overdrive auto awards Green theme. (iii) Every year, the bank commemorates World Environment Day on June 5. On that day, they engage in a number of activities such as signing a green pledge through signature drives, planting and distributing saplings, and so on. Every year in March, they celebrate Earth Hour by turning off the lights in their offices, branches, and ATMs from 8:30 p.m. to 9:30 p.m.
- Green Communications: The bank often requires customers to pay their bills electronically, move funds online, and subscribe to e-statements, all of which facilitate 'paperless' and 'commute-free' banking transactions.
- Green Partners: The company is looking for national and international green organisations and non-governmental organisations to form partnerships with. They are collaborators with the BHNS Green Governance Awards, which recognise the participant's organization's efforts to protect the environment beyond legislative enforcement.

(C) Axis Bank Ltd

As per Annual report 2020, AXIS bank is taking several initiatives in green banking such as:

- In August 2011, the bank started collecting all dry waste from its corporate office and thirty-four Mumbai branch offices and recycling it into notepads, notebooks, and envelopes. To date, more than 1,00,000 kg of paper has been recycled, resulting in 12,000 notebooks, notepads, and envelopes for use in the bank's corporate offices and branches.
- The bank has started carpooling to minimise carbon emissions;
- They are also encouraging their customers to use e-statements and other electronic messages to reduce paper consumption.
- The organisation has implemented the Independent ATM Deployment (IAD) model, which has resulted in the installation of ten solar-powered ATMs in the Coimbatore circle. [5]

Conclusion

Banks agree that any small 'Green' move taken today will go a long way in creating a greener future and that each one of them will work towards a better global climate. 'Go Green' is an organisation wide initiative that moving banks, their processes and their customers to cost efficient automated channels to create knowledge and consciousness of climate, nation and society. Green Banking can give following benefits.

1. In general Ethical banking eliminates as much paper work as possible; you can get green credit cards, green mortgages, and conduct all transactions through online banking.
2. Raising business people's awareness of environmental and social responsibility so that they can engage in environmentally sustainable business practises.

3. They adhere to environmental lending guidelines, which is a great concept that will encourage business owners to make environmentally sustainable changes that will benefit future generations.

Overall, green banking is a great way for people to become more aware of global warming; each businessman can make a significant contribution to the environment and help to make the world a better place to live. Green banking is to thank for this. Many conventional banks did not conduct green banking until a few years ago, nor did they actively pursue investment opportunities in environmentally friendly sectors or companies. These tactics have only recently gained traction among smaller alternative and cooperative banks, as well as diversified financial service providers, wealth management firms, and insurance companies. Although the stated reasons for increasing green goods and services can vary among these businesses, the development, variation, and creativity are all important.

Not only among smaller alternative and cooperative banks, but also among diversified financial service providers, asset management firms, and insurance companies, these strategies have only recently become more common. While the specified reasons for increasing green goods and services (e.g., to improve long-term growth prospects or the sustainability values on which a firm is founded) may vary, the growth, variety, and creativity are all present. Such developments mean that a promising movement to incorporate green financial products into conventional banking is underway.

The idea of "Green Banking" would benefit banks, businesses, and the economy in equal measure. Not only will "Green Banking" help to green the industries, but it will also help banks improve their asset quality in the future.

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A Study of Teachers Proficiency in Using ICT-Enabled Methods While Teaching with Reference to Higher Education Institutes in Ahmednagar District

Dr. Mangesh P. Waghmare

Assistant Professor,
New Arts Commerce and Science College, Ahmednagar.
E-mail: mpwaghmare@gmail.com

Abstract: COVID-19 is one of the biggest crises the human race saw in the recent past. It created a huge impact on every sphere of human life. On one side use of digital tools, virtual meetings, strengthening healthcare infrastructure, research for vaccine became possible due to COVID impact and on another side, many small-scale industries, small businessmen suffered huge losses. The education sector saw some fundamental changes during COVID-19. Online classes became norms for the last year. Many professionals used this time to reskill themselves.

Technology cannot replace a teacher but a teacher who uses technology will replace one who does not. Developing educators' skills is more important now than ever before as modes of teaching continue to undergo a massive transformation in the wake of the pandemic. This study was conducted in Ahmednagar district to know the ICT skills of teachers in Arts, Commerce and Science colleges. It is observed that 36.3 % students are of the opinion that 75% to 89 % curricula and syllabi are covered in Online Teaching

Only 19.7 % students are of the opinion that 90% to 100 % teachers are proficient in using ICT-enabled methods like multimedia, web-based learning and national e-resources while teaching this underline serious deficiency of teachers in Ahmednagar District Arts Commerce and Science College in ICT skills.

Keywords: National Education Policy, COVID-19, ICT skills, Technology in teaching, Curricula and syllabi

Introduction:

With the internet penetration rate estimated to reach above 55 per cent by the end of 2025 in India, digitisation of education remains one of the topmost priorities of government. Indian universities and colleges, which were earlier not permitted to offer more than 20 per cent of a degree online, are now lifting the restrictions on online learning to widen access to higher education and raise the profile of Indian institutions globally.

Realising that rapid development depends on widespread education, the government rolled out a new National Education Policy (NEP) that puts emphasis on digitisation besides the use of technology in education. It also focuses on EdTech for furthering education, particularly in the rural areas. This was mainly done to take quality education to all parts of the country, especially the Tier-2 and 3 cities and villages. The government learnt that technology has the power to reach small towns and villages and provide access to quality teachers. This was a distant dream but massive

tech disruptions across the country have successfully executed the mammoth task that was earlier unimaginable.

With these initiatives, education is likely to witness a sea change in the forthcoming years as the Indian government is leaving no stone unturned to rapidly evolve with the most sophisticated educational technologies and raring to transform the digital landscape of the nation. And with social distancing still in place amidst the pandemic, an increasing number of educational institutions continue to move fully online to facilitate students. This indicates that e-learning is the future and will shape the way for advance learning methods in EdTech.

Importance of technology in teaching:

Bidding adieu to the traditional teaching methods and issues such as shortage of teachers, inadequate student-teacher ratio, and insufficient teaching resources,

digitisation in education has made way for the latest teaching tools and methodologies that are now reaching

students in the remotest corners of the country. And with inclusive education being one of the goals of the government, the remote teaching model is likely to serve well. The technology is also helping teachers connect with several students spread across several locations simultaneously. The interactive digital media also is a great solution to the shortage of teachers in the country. To facilitate the same, it plans to use technology to upgrade the skills of teachers through the online portal DIKSHA. It is a digital platform for teachers across the nation that allows them to stay equipped with advanced digital technology while giving their lifestyle a digital twist.

Impact of COVID -19 on Education Sector:

Crisis gives birth to new opportunities. COVID-19 is one of the biggest crises the human race saw in the recent past. It created a huge impact on every sphere of human life. It is possible to explain the positive and negative impacts of COVID-19. On one side use of digital tools, virtual meetings, strengthening healthcare infrastructure, research for vaccine became possible due to COVID impact and on another side, many small-scale industries, small businessmen suffered huge losses.

The education sector saw some fundamental changes during COVID-19. Online classes became norms for the last year. Technology cannot replace a teacher but a teacher who uses technology will replace one who does not. Digital tools such as Google Classroom, Khan Academy, ePathshala and others broadened the scope of pedagogy and made knowledge-sharing dynamic. Pandemic-jolted professionals invested time in upskilling.

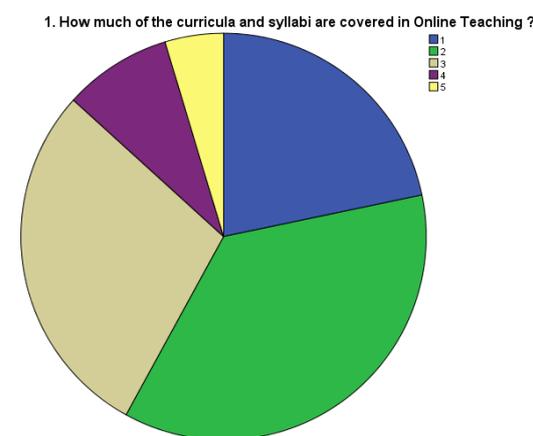
Research Design:

The secondary data is collected in this research from Internet, Books etc. The primary data is collected in this research through online mode from 557 students from UG and PG colleges in the Ahmednagar district.

Analysis:

How Much of the Curricula and Syllabi Are Covered in Online Teaching?

	Freq	%	Valid %	Cumulative %
1. 90% to 100 %	121	21.7	21.7	21.7
2. 75% to 89 %	202	36.3	36.3	58.0
3 55% to 74%	160	28.7	28.7	86.7
4. 30% to 54%	48	8.6	8.6	95.3
5 Below 30%	26	4.7	4.7	100.0
Total	557	100.0	100.0	



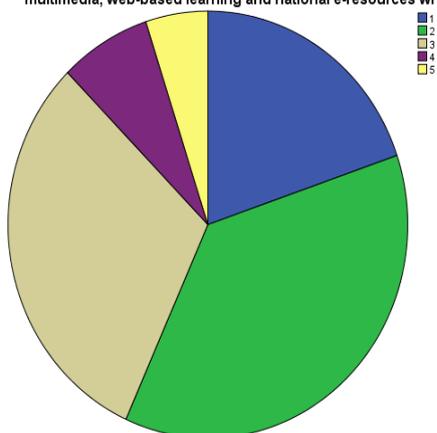
Interpretation:

- It is observed that 36.3 % students are of the opinion that 75% to 89 % curricula and syllabi are covered in Online Teaching
- It is also observed that 28.7 % students are of the opinion that 55% to 74% curricula and syllabi are covered in Online Teaching
- It is found that only 21.7 % students are of the opinion that 90% to 100 % curricula and syllabi are covered in Online Teaching

2. What percentage of teachers are proficient in using ICT-enabled methods like multimedia, web-based learning and national e-resources while teaching?

	Frequen cy	Perce nt	Valid Perce nt	Cumulati ve Percent
1. 90% to 100 %	110	19.7	19.7	19.7
2. 75% to 89 %	206	37.0	37.0	56.7
3 55% to 74%	172	30.9	30.9	87.6
4. 30% to 54%	41	7.4	7.4	95.0
5 Belo w 30%	28	5.0	5.0	100.0
Tota l	557	100.0	100.0	

4. What percentage of teachers are proficient in using ICT-enabled methods like multimedia, web-based learning and national e-resources while teaching?



Interpretation:

- It is observed that 37 % students are of the opinion that 75% to 89 % teachers are proficient in using ICT-enabled methods like multimedia, web-based learning and national e-resources while teaching
- It is observed that 30.9 % students are of the opinion that 55% to 74% teachers are proficient in using ICT-enabled methods like multimedia, web-based learning and national e-resources while teaching
- It is found that only 19.7 % students are of the opinion that 90% to 100 % teachers are proficient in using ICT-enabled methods like multimedia, web-based learning and national e-resources while teaching.

Conclusion:

Only 19.7 % students are of the opinion that 90% to 100 % teachers are proficient in using ICT-enabled methods like multimedia, web-based learning and national e-resources while teaching this underline serious deficiency of teachers in Ahmednagar District Arts Commerce and science college in ICT skills.

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Study of Assessment of Awareness and Perception About E-Trading and Debt Mutual Funds Among Domestic Investors

Prof. Vedashree Mali

Assistant Professor,
School of Management(PG), Faculty of Management,
MIT World Peace University, Pune, India.

Shreya Shukla

MBA Student,
School of Management(PG), Faculty of Management,
MIT World Peace University, Pune, India.

Abstract: Financial system of the Indian economy comprises of four major components, namely, Financial Markets, Financial Institutions, Financial Instruments and Financial Services. The rising income of individuals is a major contributor to the financial services sector. Mutual fund is a trust which pools the savings of investors who share a common financial goal. These funds are classified as per the risks and time horizon associated with them. Broadly, mutual funds are classified into Equity mutual funds, Debt mutual funds, Balanced funds, Exchange Traded Funds, Specialty Funds and International funds. The mutual fund industry in India has witnessed a significant growth over the number of years. The objective of this research is to understand the awareness and perception among domestic investors about debt mutual funds. The data collected from the individuals through a structured questionnaire were analyzed using Chi square test, after derivation of hypothesis. The results of the test conducted indicates that there is no relation between certain demographic characteristics and awareness among the individuals. This in-depth research also tries to assess the perception of investors about debt mutual funds. The data collected through questionnaire was analyzed using appropriate statistical tools. Chi square test was carried out to understand their perception and opinions about debt mutual funds. The results derived after conducting the test gives a broader idea for the study.

Keywords- Mutual funds, Debt mutual funds, Debt mutual fund products.

Introduction: The financial sector in India consist of two broad segments: the organized sector and the unorganized sector. The former consists of Reserve Bank of India (RBI), commercial banks, non-banking financial companies (NBFCs), mutual funds, insurance companies, pension and provident funds. While the latter consists of indigenous bankers and money lenders. The rise of the mutual fund industry and the ease of investing due to E-trading facility in India, have created its presence in the personal finance sector and has come up as an investment option for investors in order to diversify investments across asset classes. A mutual fund is a trust that pools the savings of a number of investors who share a common financial goal. The money collected is invested in capital market instruments such as shares, debentures, and other financial products. Income is typically earned from dividends on stocks and interest on bonds held in the fund's portfolio. The fund owners receive income in form of interest which is paid over the year by the fund. The owners are often given a choice either to receive a check for distributions or to reinvest the earnings and acquire more shares. If the

securities sold have increased in price, the fund has a capital gain. These gains are also passed on to the investors in a distribution. Mutual funds are divided into several categories, depending on the kind of securities wanted in a portfolio and on expected returns. Categories of mutual funds include Equity funds, Debt funds, Index funds, Balanced funds, International/ Global funds, Specialty funds and Exchange Traded Funds (ETFs). The objective of this thesis is to assess the awareness and perception about debt mutual funds among domestic investors. Debt mutual funds are basically the funds wherein the fund manager invests the investors' money in Commercial Papers, Certificate of Deposits, Treasury Bills and Government Securities. These funds are usually preferred by individuals who are not willing to invest in high volatile equity market. The various debt mutual fund products are comparatively less volatile than equity funds. Individuals who are risk averse and who just want regular and fixed returns opt for these funds.

Categories of Debt Mutual Funds

Debt fund category	Where do they invest?
Overnight Funds	Investments made in securities with maturity of one day. Investors can invest anywhere from 1 day to 1 month. These are considered the safest in debt fund category. The returns are below average.
Liquid Funds	Investments made in short term assets such as treasury bills, commercial papers, certificate of deposits or call money. Duration is up to 91 days. These are considered safe as the time of investment is low.
Short- Term Funds	Funds which lend for a period of 1 to 3 years. The returns offered are higher than those by fixed deposits.
Corporate Bond Funds	Funds that lend at least 80% of their money to companies with the highest possible credit rating. The investors who don't mind to bear more risks for extra returns prefer investing here. The quality of papers in the portfolio decides the quality of the scheme.
Banking and Public Sector Undertakings Debt Funds	Securities of only banks and public sector companies are held. The chances of credit risk are least as the borrowers are of high quality.
Dynamic Bond Funds	These are actively managed funds which invest in debt securities with varied maturity profiles.
Gilt Funds	Investments done in government securities. Since the issuer of the securities is the government, there is no credit risk associated. However, interest rate risk exists.

Credit Risk Funds	These are the riskiest in the category in the of debt mutual funds. At least 65% money is invested in companies whose securities are not of high rating.
Fixed Maturity Plans	Investments in fixed maturity plans can be made only at the time of a new fund offer. Invests in high rated securities and corporate bonds giving predictable rate of returns.
Monthly Income Plans	These are combination of debt and equity assets, in which more than 65% of assets are invested in fixed income yielding instruments. The remaining percent invests in equity.

(Source: Compiled by the authors)

Risks associated with Debt Mutual Funds:

- **Interest Rate Risk-** The risk associated with fluctuations in the market. The value of a bond is inversely proportional to interest rate.
- **Credit Risk-** The risk that the issuer of a bond or other security won't have enough money to make its interest payments.
- **Liquidity Risk-** This refers to the easy convertibility of securities into cash. The risk occurs when the securities are sold and there is no or low demand in relation of credit risk.

Objectives of the Study:

1. To assess the awareness and perception about debt mutual funds among investors.
2. To assess the awareness about various debt mutual products among the individuals.
3. To understand investors inclination towards debt mutual funds.
4. To understand whether demographic characteristics have an effect on the awareness level of individuals.

Research Methodology:

Research Problem: The research was carried out with a motive to understand the awareness and perception of

domestic investors about debt mutual funds. The research also covered aspects such as knowing existing investors perception about debt mutual funds and their inclination towards various products.

Research Hypothesis: The hypotheses were derived to understand whether demographic characteristics have an effect on the awareness level of individuals.

1. H₀ = There is no significant relation between age and awareness among investors about debt mutual funds.
H₁ = There is a significant relation between age and awareness among investors about debt mutual funds.
2. H₀ = There is no significant relation between gender and awareness among investors about debt mutual funds.
H₁ = There is a significant relation between gender and awareness among investors about debt mutual funds.

Research Design: Quasi research also known as explanatory or descriptive research is a qualitative research is undertaken for this study. The cause-and-effect relationship of variables can be assessed. This study focuses to understand the awareness and perception about debt funds among investors.

Population elements and size: The research was conducted with the responses obtained from individuals of different age groups. The population was not restricted to any specific age group, gender and profession. The population consists of 88 individuals. However, the sampling frame was of 60 individuals. Convenience sampling and Quota sampling techniques were used for this particular study.

Data Collection Method: Primary data was collected to assess the awareness and perception about debt funds among investors. Further, for this study questionnaire survey method was used to collect responses. This method comprises of a structured set of questions which are answered by the population and helps to understand their attributes, attitudes, behavior and action. The questionnaire is a combination of close and open-ended questions. The formed questionnaire was circulated to the decided people with brief description which worked as a help for them to fill the form. Further, the data was analyzed using

appropriate Microsoft Excel functions and statistical tools. The research was also be backed by secondary data.

Literature Review

Nandini and Sugandan (2018) Conducted a study to understand postgraduation students' awareness about mutual fund as an option of investment. The paper highlights that majority students were not aware about the concept of mutual funds and they being a tool of investment. The study focused on knowing their perception, awareness, purpose of investments and also to create awareness among the students through various modes. To analyze the collected data, authors have used independent sample T-test and have drawn their conclusions.

G. Prathap and Rajamohan (2013) Conducted a research in the state of Tamil Nadu to study the status of awareness about mutual fund among investors. The study focused to understand that in the phase of increasing investment options are individuals inclined towards mutual fund as an option of investment. The study also focused to know investors awareness about various advantages of mutual funds and to know their level of satisfaction with investments made. The study was undertaken keeping in mind the problem that individuals just invest in debt mutual funds with the motive of seeking higher returns as compared to fixed deposits and skip the fact that there are risks associated with debt funds too.

Prabhu (2013) Conducted a research to understand the preference of Indian investors towards investments in mutual funds specifically towards Monthly Income Plans (MIP's). The research focused to understand the awareness level among investors, to find out which scheme is preferred by the investors and to understand why they prefer MIP's over other debt mutual fund products.

Binod Singh (2011) Conducted a research to understand the investors attitude towards mutual funds as an option to invest. The author took various aspects like related to mutual funds into consideration for his research. The author studied the relation of investors' attitude towards mutual fund and various demographic factors on. To analyze the data Chi- Square test was undertaken to analyze the various factors responsible for investments in mutual funds.

R. Uppily and Meenakshisundaram (2018) Conducted a research in the city of Chennai with a motive to study the awareness of debt mutual funds among the Information Technology professionals. The research was conducted keeping in mind various factors such as purpose of investing in debt mutual funds, which fund do the investor’s prefer equity funds or debt funds, if debt funds, then their pattern of investment. The study was undertaken with a pre- determined sample size of 120 respondents. The authors concluded that there is a significant relationship between demographic characteristics and awareness about gilt fund and hybrid debt mutual fund. The paper highlights that there is no significant difference between purpose of investment in debt mutual funds and source to know about mutual fund.

Data Analysis

The collected data was analyzed using frequency for every category into study. Further, Chi- square test was used to derive the dependence or independence of two variables taken into study.

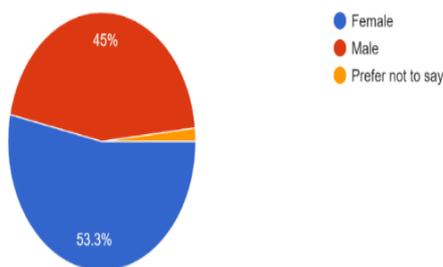
The researchers have collected the data keeping in mind that the investors take their investments through E-trading platforms only.

Interpretation & Results:

Table No. 1 Gender

Gender	Frequency	Percentage (%)
Female	32	53.30
Male	27	45.00
Prefer not to say	01	1.70
Total	60	100

(Source: Primary Data)



Graph No. 1 Gender Allocation

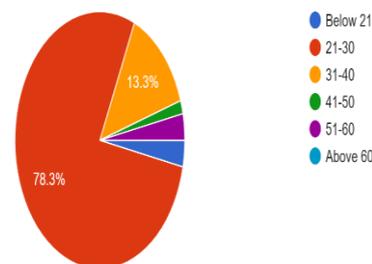
The above pie chart reflects that majority respondents were females comprising 53.3% of the total sample size (i.e. 32

out of 60 respondents). Out of the total sample size 45% (i.e. 27 out of 60) were male respondents.

Table No. 2 Age Group

Age	Frequency	Percentage (%)
Below 21	02	3.30
21-30	47	78.30
31-40	08	13.30
41-50	01	1.70
51-60	02	3.30
Above 60	0	0
Total	60	100

(Source: Primary Data)



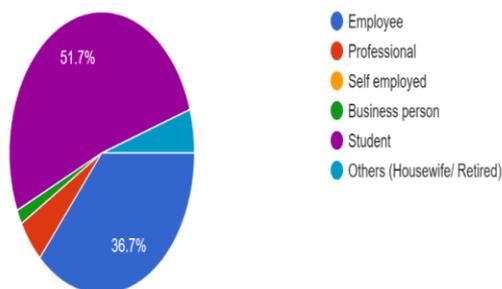
Graph No. 2 Age Group

The above chart highlights that maximum respondents are between the age group of 21 to 30 years. These individuals comprise of 78.3% of the total sample, 47 out of 60 respondents belong to 21-30 age group. The age group of 31 to 40 years comparatively had less responses comprising of 13.30%. It can also be observed that there were 2 respondents of 2 age groups each i.e. below 21 and between 51 to 60 years comprising 3.30% of total sample size. There was no respondent above the age of 60.

Table No. 3. Occupation Category

Occupation	Frequency	Percentage (%)
Employee	22	36.70
Professional	03	5.00
Business person	01	1.70
Student	31	51.70
Housewife/ Retired	03	5.00
Total	60	100

(Source: Primary Data)



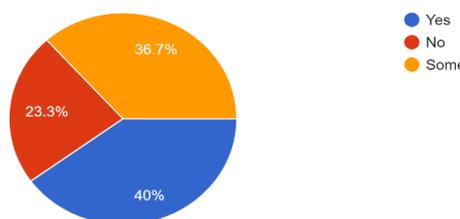
Graph No. 3 Occupation Category

In the research occupation is one of the characteristics which affect the awareness and perception about debt mutual funds among individual investors. It can be observed that the majority respondents are of student category comprising 51.7% of total sample size (31 out of 60 respondents). While other respondents belong to the categories of Employee (36.7%), Employee (5%), Housewife (5%), Business person (1.7%) of the total sample size.

Table No. 4 Awareness about debt mutual funds

Debt mutual fund awareness	Frequency	Percentage (%)
Yes	24	40.00
No	14	23.30
Somewhat aware	22	36.70
Total	60	100

(Source: Primary Data)



Graph No. 4 Awareness about debt mutual funds

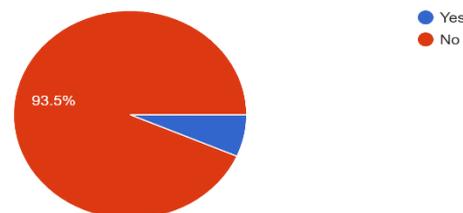
With the help of the above pie chart, it can be interpreted that 40% (24 out of 60) respondents are aware about debt mutual funds. It can also be interpreted that these respondents are aware about the various categories of debt mutual funds. It can also be observed that 36.7% (22 out of

60) respondents are have a basic idea about debt mutual funds but do not have in depth knowledge about the same. On one hand it can be understood that majority respondents have complete and basic knowledge of debt mutual funds respectively; on the other hand, it can be observed that 23.3% (14 out of 60) respondents are not aware about debt mutual funds.

Table No. 5 Investor status

Investor to Debt Mutual Funds	Frequency	Percentage (%)
Yes	03	6.50
No	43	93.50
Total	46	100

(Source: Primary Data)



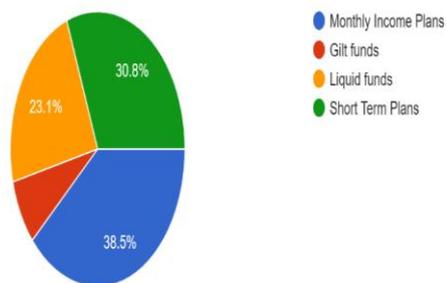
Graph 5.5 Investor Status

With the above pie chart, it can be understood that 6.5% (3 out of 46) respondents invest in debt mutual funds. These respondents wish to receive regular returns and prefer liquidity which can be solely achieved with investments in debt mutual funds. While 93.5% (43 out of 60) respondents do not invest in debt mutual funds and prefer other categories as investment avenues.

Table No. 6 Preferences in debt product

Product preference	Frequency	Percentage (%)
Monthly Income Plans	05	38.50
Gilt funds	01	7.70
Liquid funds	03	23.10
Short Term Plans	04	30.80
Total	13	100

(Source: Primary Data)



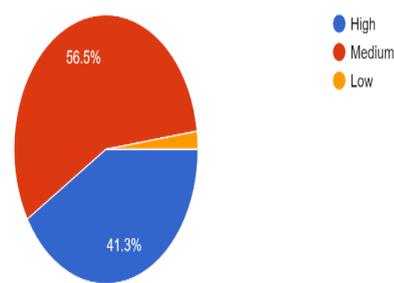
Graph No. 6 Preference in debt product

It can be observed that out of the total respondents (i.e. 13 respondents) majority respondents i.e. 5 out of 13 respondents (38.5%) who are investors in debt funds prefer Monthly Income Plans (MIPs) as an instrument for investment in debt funds. It can be understood that they believe in receiving regular income, want better returns as compared to traditional means of investment and as there is no restriction on withdrawal of funds MIPs are given the first preference. It can also be figured out that the investors have given their second preference to Short Term Plans (STPs) comprising 30.80% of the total sample size (i.e. 4 out of 13 respondents). Investments in Short Term Plans (STPs) fetch stable returns at a comparatively low risk and helps investors diversify their portfolio. However, it can be analyzed that 3 out of 13 investors (23.10%) prefer to invest in liquid funds as these funds hold very short- term instruments and there are less chances of fluctuations in return as compared to other debt fund products. It can be observed that only 1 investor out of 13 prefers to invest in gilt funds as there is no credit risk associated with this product and it provides moderate returns in the short term.

Table No. 7 Expected returns from investments

Expected returns	Frequency	Percentage (%)
High	19	41.30
Medium	26	56.50
Low	01	2.20
Total	46	100

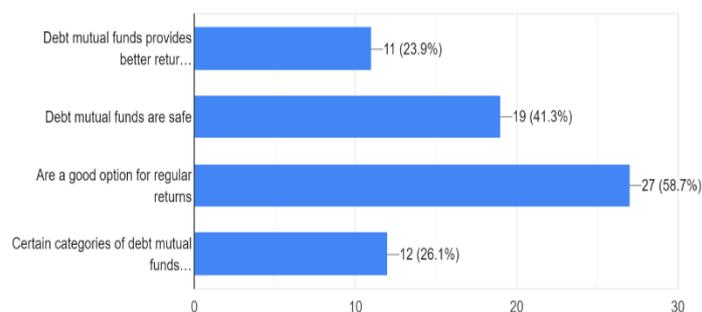
(Source: Primary Data)



Graph No. 7 Expected returns from investments

The above pie chart depicts that majority respondents i.e. 56.5% (26 out of 46 respondents) expect medium returns from their investments. This category of investors can also be called as moderate risk seekers. It can be observed that a comparatively a smaller number of respondents i.e. 41.3% out of the total sample size (19 out of 46 respondents) wish to receive high return from their investments. These investors usually invest in high risk securities to achieve the expected returns. Only 1 out of 46 respondents expects low returns from the investments and can also be called a low risk seeker.

Graph No. 8 Opinion about debt mutual funds



Graph No. 8 Opinion about debt funds

With the help of the above graph, it can be understood that majority respondents believe debt funds are a good option for regular returns and this reason encourages them to invest. Comparatively a lesser number of respondents are of the opinion that debt funds are a safe instrument for investment. Whereas, few respondents opine that debt funds provide better returns.

Hypothesis derivation using Chi- square test:

To test the hypothesis Chi- square test is used which helped understand the difference between the observed values and

expected values. The degree of freedom enabled to know how many numbers in a grid are independent. In this case the degree of freedom is used to calculate the “p value”, which helps determine whether to accept the null hypothesis or to reject it. If the p- value is less than the significance value we can reject the null hypothesis; however, if the p- value is more than the significance value we can retain the null hypothesis.

Hypothesis 1

H₀: There is no significant relation between age and awareness among investors about debt mutual funds.

H₁: There is a significant relation between age and awareness among investors about debt mutual funds.

Table No. 8 Observed values for age group

Age	Below 20	21-30	31-40	41-50	51-60	Total
Aware	1	19	3	1		24
Not aware	1	9	4			14
Somewhat aware		19	1		2	22
Total	2	47	8	1	2	60

(Source: Primary Data)

Table No. 9 Expected values for age group

Age	Below 20	21-30	31-40	41-50	51-60	Total
Aware	0.8	18.8	3.2	0.4	0.8	24
Not aware	0.466667	10.966667	1.866667	0.233333	0.466667	14
Somewhat aware	0.733333	19.266667	2.933333	0.366667	0.733333	22
Total	2	47	8	1	2	60

(Source: Primary Data)

Table No 10 Chi- square result Hypothesis 1

P value	0.18673
Alpha	0.05
p > alpha	
Df	8

It can be observed that the value of p derived after conducting the test is 0.187, which is greater than the significance value i.e. 0.05. Since, the value of p is greater

than 0.05, the null hypothesis can be retained i.e. there exists no significant relation between age and awareness.

Hypothesis 2

H₀: There is no significant relation between gender and awareness among investors about debt mutual funds.

H₁: There is a significant relation between gender and awareness among investors about debt mutual funds.

Table No 11 Observed values for gender allocation

Gender	Male	Female	Prefer Not to Say	Total
Aware	14	9	1	24
Not aware	7	7		14
Somewhat aware	6	16		22
Total	27	32	1	60

(Source: Primary Data)

Table No. 12 Expected values for gender allocation

Gender	Male	Female	Prefer Not to Say	Total
Aware	10.8	12.8	0.4	24
Not aware	6.3	7.466666666666667	0.2333333333333333	14
Somewhat aware	9.9	11.733333333333333	0.36666666666666666	22
Total	27	32	1	60

(Source: Primary Data)

Chi Square result of Hypothesis 2

P value	0.41075
Alpha	0.05
df	4

It can be observed that the value of p derived after conducting the test is 0.411, which is greater than the significance value i.e. 0.05. As the value of p is greater than 0.05, the null hypothesis can be retained i.e. there is no significant relation between gender and awareness level.

Findings

With the help of this study, it can be analyzed that individuals are aware about mutual funds being an avenue for investment. However, it can be understood that investors prefer to invest in avenues which are

comparatively less risky and provide them regular returns. Majority investors prefer bank deposits, gold and PPF as their investment option, comparatively a lesser number of investors though aware about mutual funds do not prefer to invest in mutual funds and other capital market instruments. They are more inclined to the traditional means of investments i.e. bank deposits over debt mutual funds. This thought process can be because of the risk associated with capital markets and can be linked to the theory of loss aversion in behavioral finance which proposes that individuals with a fear to lose money do not invest and let go the they could have earned had they invested.

With the help of this study, it can also be understood that the demographic characteristics such as age and gender are not related to the awareness about debt mutual funds. The age group of 21-30 years has the maximum level of awareness. To understand the investment pattern of investors it can be analyzed that they prefer SIP over Lumpsum investment and seek the benefit of compounding. In case of debt mutual funds, it can be understood that respondents prefer Monthly Income Plans (MIPs) as a source to invest in debt funds. These funds provide regular returns and there is no restriction on withdrawal of funds in MIPs hence are preferred by them. The risk associated with debt mutual fund products is slightly low as compared to equity funds. Investors opine that debt mutual funds are a good option for investment as they provide regular returns and ensure safety to a certain extent. This attitude of investors categorizes them as risk averse and urges them to invest in debt funds as compared to high volatile equity funds.

Conclusion

The mutual fund industry as witnessed a significant growth over a period of time. Mutual funds come with certain risks and provide returns as per the returns and help the investors satisfy their goals and reap benefits. Individuals are aware about debt mutual funds being a source of investment, but they do not invest in them as they prefer investing in fixed deposits and PPFs.

Individuals are aware about debt mutual funds being an option of investment and it can be observed that the age group of 21-30 has maximum level of awareness about

mutual funds as an avenue for investment. It can also be observed that there is a lack of awareness about the categories of debt mutual fund products which is one of the reasons individual investors are drawn to invest in the traditional means.

There is no significant relation between demographic factors and the level of awareness. Demographic factors such as age and gender have no dependence on the level of awareness about debt mutual funds.

Investor's believe in receiving regular income and want better returns as compared to traditional means of investment, also, there is no restriction on withdrawals in Monthly Income Plans (MIPs), these are preferred as an instrument for investment in debt funds. Investors and individuals opine debt mutual funds are a good option for regular returns and this factor encourages the investors to continue with their investments.

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A Study of Acceptance of Amul Products at Retail Level with Special Reference to GCMMF (Amul) at PCMC Area in Pune

Prof. Dileep M. Pawar

Research Scholar
NWIMS&R Pune-01 ,
Email id: -pawardilip937@gmail.com

Prof. Dr. Vinod N. Sayanakar

Professor
Anekant Institute of Management Studies AIMS Baramati
vnsayanakar@gmail.com

Abstract: In this research the intent is to study the acceptance level of products manufactured by AMUL in PCMC and Pune region. To understand the various aspects behind the success of an organization withheld the growing curve of the organization make it more attractive for the investor and stakeholder. This study covers many important aspects which are related with Sales and marketing. This study shows the image of Amul products. This study also deals with stakeholders (customers and retailer) perceptions, Amul Retail Stores. The customer' for the Amul products & the problem faced by the Retailers gives the information that where the Amul need to improve the level of customer satisfaction and the role of Retailers for the Amul product's distribution. The data analysis and interpretation was carried out from the data collected from primary and secondary sources. The main purpose of this study is to know about the retailer's inputs towards the Amul Milk Products. This study aims to know the market condition of Amul milk (Amul Gold & Amul Taaza) in comparison with other major brands of milk in the market. The study analyzes the criteria chosen by retailer for Amul Products acceptance in terms of Profit margin, promotions and offer, support from sales team and service provided by distributors. The research methodology adopted for this study is Descriptive research through primary and secondary data, in this research efforts have been made to collect data within PCMC area in Pune region. A sample of 120 has been taken for the research. All of the respondents are Existing users of Amul Milk products.

Keywords: Product Acceptance, Amul Products, Product Awareness

Introduction:

Market Acceptance of product and services

It is indication by which it is seen whether the product or service is fulfilling the need of a large customer base so as to commercialize its production. Market acceptance test Consider market size, the valuation of your solution and the number of actual business you've acquired to get a better determination of your market acceptance. If you meet the needs of a large number of customers.

Process of Market acceptance of the product and services.

1. Wait and watch the market; then build a prototype or test service in market.
2. Build a minimum viable product.
3. Run it by a group of critics.
4. Tweak it to suit your test market.
5. Make a test website with integration of social platform.
6. Create a marketing plan and use it.

Objective of the Study

1. To study Acceptance level of Amul products at retail level.

2. To study & analyze customer response towards Amul products.
3. To know the interest of customer while purchasing Amul products.

Scope of The Study

- The study encompasses Dairy Retail product store observation and audit.
- Understanding the distribution channel of Amul products.
- The study not only gives idea about what problems are faced by distributors in distributing Amul products but will also help in identifying solution for problems faced by distributors.
- The study helps in increasing no. of retailer in Amul products.
- The study will assists in reorganization border policy for retail distributors.
- The study will help in supply required products & services to retail distributors in timely mode.

- This study also will also help in humanizing the market share of Amul in Dairy market.

Literature Review: -

It is essential for small retailers to understand how to make product available and attractive for customers. Even small decisions by the organization like, to provide the attractive box with chocolates on the front desk of shop creates the temptation for customers to buy the product. To ensure the box availability, the rent is as well paid to the retailers by the organization. So this chain of selling through retailers or dealers reduces the cost of product. It creates the better bonding among salesperson, distributors and organization. (Barki, 2010). These distributors and salespersons interact with retailers who are aware about the hurdles they face (Alur & Schoormans, 2013). These retailers promote the products to local customers and make recommendations to the end consumers (D'Andrea et al., 2006). The acceptance of consumers decides the success of the product. (Agadi and Paramashivaiah, 1995). Hence the role of these small retailers is more crucial in acceptance and preferences of various products by consumers. (Alur and Jan, 2013). The factors that create the awareness and acceptance among consumers are mainly organizations brand and its implemented marketing strategy, secondly, traditionally accepted products packaged with a brand value and matching upon supply and demand.

With Amul products, advertising of Amul has exactly caught the pulse of common man and youth in India. Moreover the campaign of “The taste of India” created a brand that may serve to a common consumer. Amul has formed the assurance of consumers as quality product with a fair price. A customer is always satisfied, if he gets for what he pays. This care for a consumer continues the organization to be strong even in adverse conditions.

Research Methodology:

Research design

The essential elements of research design are:

- Accurate purpose statement of research design
- Techniques to be implanted for collecting details for research
- Method applied for analysing collected details
- Type of research methodology
- Probable objections for research

Descriptive Research Design:

Descriptive research includes surveys and facts finding of different kinds. Descriptive studies are used to describe various aspects of the phenomenon, characteristics and behaviour of sample population.

Research Data Collection Method:

- Sampling method: **Convenient sampling methods**
- Sampling Technique: -Non-probability sampling methods

Convenience Sampling

Convenience sampling is possibly the easiest method of sampling, because participants are selected based on accessibility and keenness to take part. Useful results can be obtained, but the results are prone to major bias, because those who volunteer to take part may be different from those who choose not to (volunteer bias), and the sample may not be ambassador of other characteristics, such as age or sex.

Sample Populations/Universe: -

Sample frame is the origin material or device from which a sample is drawn. Sample frame for this study is PCMC region.

Sampling frame:

The sampling frame gave us additional data that was useful in our calculations concerning the future direction of the firm.

The residents of PCMC are the sample frame for this study.

Sample size:

An most favorable sample is one which fulfils the necessities of competence, representativeness, consistency and liveness.

Sample size measures the number of individual samples measured or observations used in a survey or experiment. The sample size for this study is 120 customer of Amul Milk products and 115 retailer of Amul Milk Product.

Type of data collection technique:

The methods of collecting primary and secondary data differ since primary data are to be at first collected, while in case of secondary data the nature of data collection work is merely that of collection.

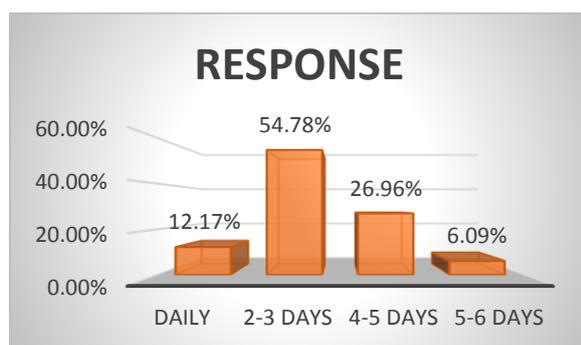
Primary data-questionnaire:

Survey was conducted in Pune City. A sample size of 120 respondents was taken for the purpose of the study.

DATA ANALYSIS AND INTERPRETATION

When Salesman visits at your Store?

Option	Count	Response
Daily	14	12.17%
2-3 days	63	54.78%
4-5 days	31	26.96%
5-6 days	7	6.09%
Total	115	100%

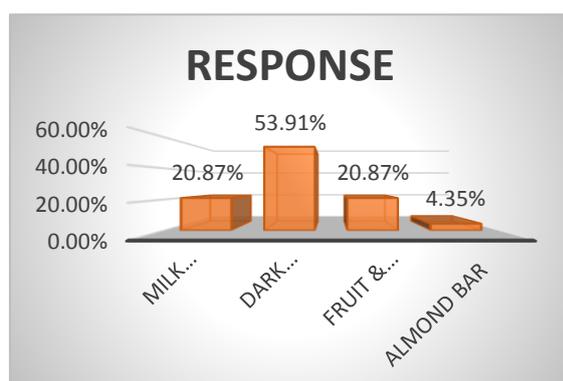


Interpretation: 12.17% retailer said that salesman visit their stores daily, 54.78% retailer said that salesman visit their store in 2-3 days, 26.96% retailer said that salesman visit their store in 4-5 days, 6.09% retailer said that salesman visit their store in 5-6 days

What type of Amul chocolates do you prefer in your store?

Table: 4 types of chocolates in the store.

Option	Count	Response
Milk chocolates	24	20.87%
Dark chocolates	62	53.91%
Fruit & nut chocolate	24	20.87%
Almond bar	5	4.35%
Total	115	100%



Graph No.:4: 4 types of chocolates in the store.

Interpretation:

20.87% retailers prefer milk chocolates, 53.91% retailers prefer dark chocolates, 20.87% retailers prefer fruit and nut chocolates, 4.35% retailers prefer almond chocolates.

Are you satisfied with Amul distributors?

Satisfaction level from the distributor

Option	Count	Response
Yes	111	96.52
No	4	3.48
Total	115	100%



Graph No.: 5: Satisfaction level from the distributor

Interpretation:

96.52% retailers are satisfied with distributors, 3.48% retailers are not satisfied with distributors.

How much stock do you keep?

Table.6: Stock

Option	Count	Response
10 packets	6	5.22%
20 packets	19	16.52%
30 packets	42	36.52%
More than 50 packets	48	41.74%
Total	115	100%



Interpretation:

5.22% retailers keep 10 packets, 16.52% retailers keep 20 packets, 36.52% retailers keep 30 packets, 41.74% retailers keep more than 50 packets

Which brand is most popular in your store?

Option	Count	Response
Amul	57	49.57%
Mother dairy	28	24.35%
Gokul	21	18.26%
Delicious	9	7.83%
Total	115	100%



Graph No.:7: Popular Brand

Interpretation:

49.57% retailers said that, Amul is most popular brand, 24.35% retailers said that, Mother Dairy is most popular brand, 18.26% retailers said that, Gokul is most popular brand, 7.83% retailers said that, Delicious is most popular brand

What are the products of Amul you sale very frequently?

Frequent selling product

Option	Count	Response
Ice-cream	79	16.56%
Cheese	73	15.30%
Dahi	85	17.82%
Milk	90	18.87%
Chocolates	81	16.98%
Butter	69	14.74%
Total	115	100%



Graph No.: 10: frequent selling product

Interpretation:

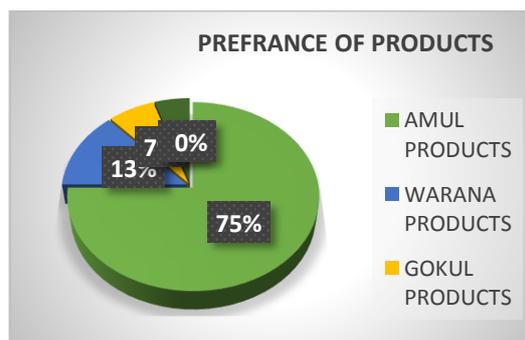
16.56% retailers said that frequent selling product from their store is Ice-cream, 15.30% retailers said that frequent selling product from their store is Cheese, 17.82% retailers said that frequent selling product from their store is Dahi, 18.87% retailers said that frequent selling product from their store is Milk, 16.98% retailers said that frequent selling product from their store is Chocolates, 14.74% retailers said that frequent selling product from their store is Butter.

Customer feedback

Which product will you prefer?

Table:3: Preference

Option	Count	Response
Amul products	90	75.00%
Warana products	16	13.33%
Gokul products	8	6.67%
Kwality products	6	5.00%
Mother dairy	0	0.00
Total	120	100%



Graph No.:3: Preference

Interpretation:

75% customer prefer Amul product, 13.33% customer prefer warana product, 6.67% customer prefer Gokul product, 5% customer prefer Kwalitiy product.

Are you satisfied with respective price of Amul products?

Option	Count	Response
Yes	114	95%
No	6	5%
Total	120	100%



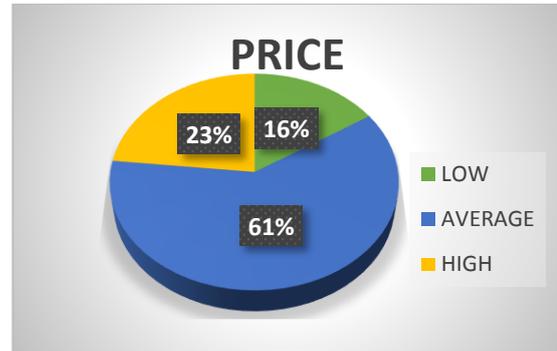
Graph No: 4: Price Satisfaction

Interpretation:

95% customers are satisfied with Price of Amul product, 5% customers are not satisfied with Price of Amul product. What about the price of Amul Products?

Table :6: Price

Option	Count	Response
Low	19	15.83%
Average	73	60.83%
High	28	23.33%
Total	120	100%



Interpretation:

23% of customers think that, the price of Amul products is low, 61% of customers think that, the price of Amul products is average, 16% of customers think that, the price of Amul products is high.

What do you like in Amul products ?

Table: 7 : Attractive feature

Option	Count	Response
Quality	35	29.17%
Taste	42	35.00%
Price	26	21.67%
Availability	17	14.17%
Total	120	100%



Graph No.:7: Attractive feature

Interpretation:

29% customers think that quality is the attractive feature of Amul, 35% customers think that taste is the attractive feature of Amul, 22% customers think that price is the attractive feature of Amul, 14% customers think that availability is the attractive feature of Amul

How is the packing of Amul products?

Table: 8: Packaging

Option	Count	Response
Poor	17	14.17%
Good	70	58.33%
Excellent	33	27.50%
Total	120	100%



Graph No.:8: Packaging

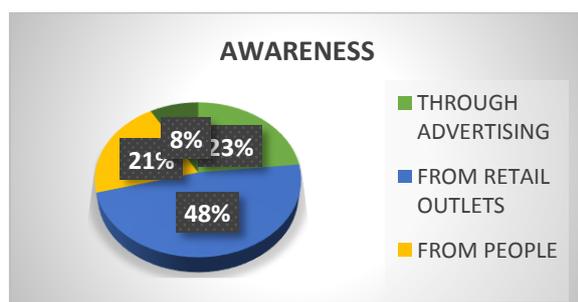
Interpretation:

14% of customers say that, the packaging of Amul product is poor,58% of customers say that, the packaging of Amul Product is good,28% of customers say that, the packaging of Amul product is excellent.

How do you come to know about Amul product?

Awareness of Amul Product

Option	Response	Count
Through advertising	23.33%	28
From retail outlets	47.50%	57
From people	20.83%	25
Other	8.33%	10
Total	100%	120



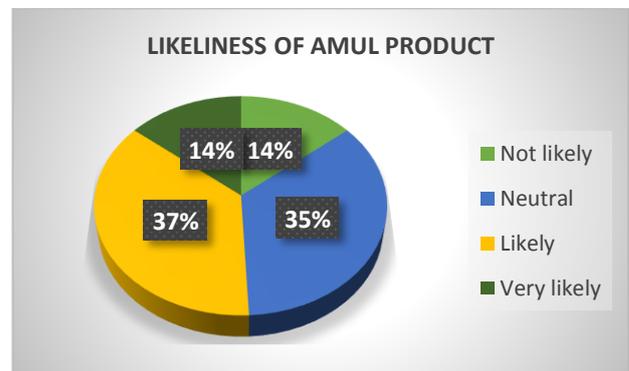
Graph No.:10: Awareness of Amul Product

Interpretation:

23% of customers came to know about Amul through advertising, 48% of customers came to know about Amul from retail outlet, 21% of customers came to know about Amul from people,8% of customers came to know about Amul through other so How likely you recommend Amul product to other?

Likeliness of Amul product

Option	Count	Response
Not likely	10	15.00%
Neutral	47	37.50%
Likely	45	39.17%
Very likely	18	15.00%
Total	120	100%



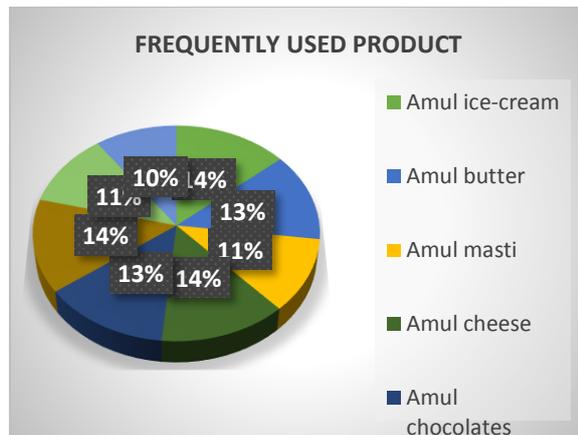
Interpretation:

37% consumers likely recommend Amul products to other, 35% consumers are not thinking of recommendation of Amul product,14% consumers are very likely recommend Amul products to other,14% consumers are not likely recommend Amul products to other.

What are the product of Amul which is used very frequently?

Frequently Used Product

Option	Percentage	Count
Amul ice-cream	13.79%	72
Amul butter	13.22%	69
Amul masti	11.11%	58
Amul cheese	13.41%	70
Amul chocolates	13.41%	70
Amul milk	13.98%	73
Amul cool	11.11%	58
Amul lassi	9.96%	52
Total	100%	120



Interpretation:

From above table and graph, we can interpret that 14% consumer use Amul ice cream, cheese, milk frequently, 13% consumer use Amul chocolates and butter frequently, 11% consumer use Amul cool and Amul masti frequently.

10% consumer use Amul lassi frequently.

Findings

- 100% of the retailer sale Amul Products. 93% of retailer sale Amul Dark Chocolates. Dark chocolate is most demanded product of Amul. Salesman of Amul visit frequently in 2-3 days. Dark chocolates is most selling product of Amul, hence retailers keep Dark chocolate.
- Most of the retailers are satisfied with distributors of Amul. 41% of the retailers keep more than 50 packets of Amul products. When it is asked to retailers about most popular brand in their stores, most of them voted for Amul. 90% of the retailers keep the stock of Chocó Butter in their Store. Most of the retailers keep other brands with Amul.
- All products of Amul are most frequently bought by customers. Awareness of Amul brand is 100% amongst the customer. 100% of the customers like Amul products. 75% of total respondents prefer Amul Products. 95% of customers are satisfied with price of the Amul products. Availability of Amul Ice-cream is 89%. 60% of customers say that the price of Amul products is average.
- The attractive feature of Amul is its quality. 58% of the customers say that the packaging of Amul products is good. Customers prefer both type of milk i.e., loose milk and pouch milk. The major awareness of Amul

products is due to Advertising. Customers are likely to recommend Amul products to their friends and family. All the Products of Amul are bought by the customers frequently.

Limitations of the study:

1. Some outlets did not co-operate with us as they thought; it is just wastage of time.
2. Since all the products are not widely used by all the customers it is difficult to draw realistic conclusions based on the survey.
3. There was no way to assess the reliability of the outlets and parlours. No matter what consumer /respondent said had to be understood to be truth.
4. Interpretation of data may vary from individual depending on the individual understanding the product features of the company.

Conclusion: -

The objective of the study the acceptance of Amul products was beneficial to increase the no of consumers for Amul products in the intended area. Various activities like survey, posters, flyers, Amul umbrella and Amul kiosk can have significant effect on the sale of Amul milk products. During survey it was observed that Amul chocolate products have less demand in market compare to competitors. Amul need to bring upon variety of chocolate product from price range to quality of product. Amul should keep promotional offers on purchase of products. The overall consumer acceptance was observed and Amul products captured extensive acceptance in the locality.

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Digital Path to Double the Farmers Income

Dr. Umesh S. Kollimath

Associate Professor,
AIMS Baramati

umeshkollimath@aimsbramati.org

Abstract: Indian agriculture is the largest among all the sectors in terms of its sheer size, employment and its politico-economic influence. Whether it's 17% share of Indian GDP, employment of nearly 50% of country's population or forming roughly a US\$ 400B economic value, it just cannot be ignored. It is noteworthy that sectors after sectors are getting overhauled by digital influences, the agriculture value chain has a greater potential remains unexplored. We are among the top global producers of Pulses, food grains, dairy, Jute etc. But, when it comes to our Agri value chain, it is the most fragmented and thereby inefficient compared to China, Netherlands, Denmark, etc. It is everybody's knowledge that we are far lagging behind in farm mechanization (mere 35-40% in India as compared to most developed countries (with almost 90% mechanization). Further, farmer share in consumer price is very less (between 20 – 30%) as against the global standards. We are also seriously underperforming in terms of food processing. (less than 15%) whereas globally about 30 – 40% of the fresh produce undergoes processing, considerably prolonging the shelf-life. The present article conceptualizes a digital solution to resolve these issues on a fast track and lead us to double the farmers' income in line with the policymakers' vision.

Keywords: Digital path, Digital Preparedness, Farmer's income, Resource, Digital Drivers

Introduction: A slew of new innovations has arisen that are primarily affecting the global agriculture market. Data processing, data analysis, data storage, data management, and data transmission and exchange are examples of these technologies. Technologies that use data transfer or sharing to enable other types of transactions, such as transfer of ownership or value, contact (between humans or digital devices), and digitally distributed services, fall under the category of data transfer and sharing.

Many of these technologies are available for policymakers and managers to use directly. Others (for example, tools for automating agricultural machinery) are unlikely to be specifically used by policymakers and managers, but they are also useful for enhancing policymaking because they can produce, share, manage (e.g. securely store) or analyze policy-relevant data. Furthermore, policies can be created,

with these technologies in mind: although this research does not explicitly address policies aimed at promoting adoption in the agriculture and food sectors, agricultural and agri-environmental policies could alter incentives for farmers and other actors to adopt these technologies.

Some of the technologies have existed in some form for many years, but recent advances have greatly improved the ability to obtain, analyze, manage or transfer data that is relevant for agricultural policies, including by reducing the cost and increasing the speed of data collection, analysis and dissemination.

The sub-sections below provide an overview of key recent technological and institutional innovations and identify some of the factors driving digitalization in the agriculture and food sectors.

Digital Drivers to Farm Productivity:

Technology purpose	Category	Sub-category	
Data collection technologies	Remote sensing	Satellite-mounted data acquisition / monitoring systems	
		UAV / drone-mounted data acquisition / monitoring systems	
		Manned aircraft data acquisition / monitoring systems	
	In situ sensing	Water quantity meters	
		Water quality sensors a, air quality sensors a	
		In situ meteorological sensors	
		In situ soil monitors	
		In situ biodiversity, invasive species or pest monitors	
		Crop monitors	
		Livestock monitors	
		Crowdsourcing data collection	Serious games' for gathering agri-environmental data
			Citizen science
		Online surveys / censuses	Data collection portals (e.g. online census)
	Financial / market data collection	Retail scanner data	
Business software for recording financial or market information (e.g. database entry systems)			
Data analysis technologies	GIS-based and sensor-based analytical tools	Digital Elevation Modelling	
		Land Use-Land Cover mapping	
		Watershed modelling	
		Soil mapping	
		Landscape modelling Software (programs, apps) for translating sensor and other farm data into actionable information.	
		Software for automating agricultural machinery which uses sensor or other farm data as input	
		Software for measuring and grading agricultural outputs (e.g. carcass grading software)	
		Crowdsourcing data analysis	
	Deep learning / AI	Crowdsourcing applications for data sorting / labelling	
		Data cleaning algorithms	
		Big data analysis algorithms	
Machine learning			
Predictive analytics			

Data storage technologies	Secure and Accessible Data Storage	Cloud storage
		Confidential Computing
		Virtual data centres
Data management technologies	Data management technologies	Distributed ledger technologies (e.g. Blockchain)
		Interoperability programs and apps
Data transfer and sharing; Digital communications; trading, payment and service delivery platforms	Digital communication technologies	Digital data visualization technologies
		Social Media
		Web-based video conferencing
		Machine-assisted communication (e.g. chatbots, natural language generation algorithms)
	Online platforms - property rights, payments, services and markets	Online property rights and permits registries
		Online trading platforms
		Platform-based crowdfunding for agriculture and agri-ecosystem services
		Online payment platforms (for public programs)
		Service delivery platforms

The availability of these new tools enable the creation of new information, and in particular, “actionable insights” not only for farmers but also regulators and policy makers who are increasingly demanding data to support policy-making is increasing, as governments move deliver “data driven” policies and services

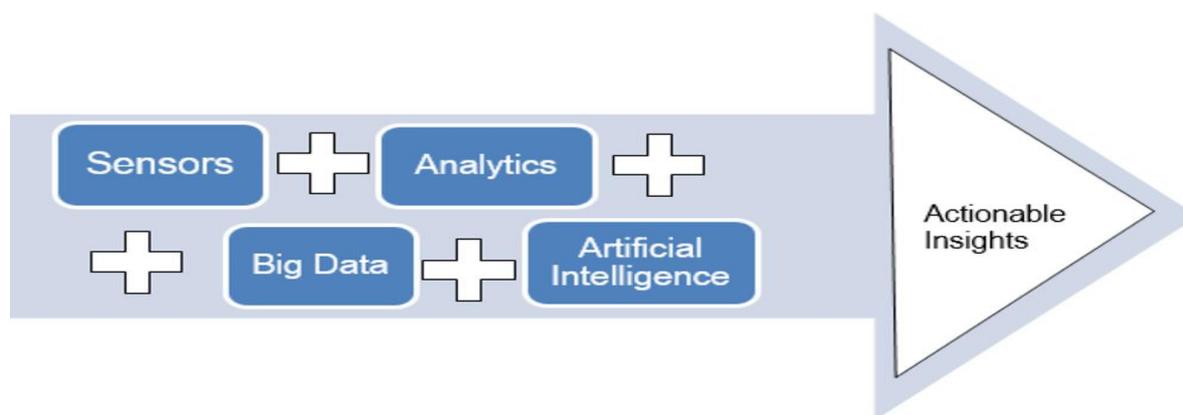


Figure 1 Technological revolution for the production of actionable insights in agriculture
 Source: <https://www.oecd-ilibrary.org>

Reflecting the dynamic nature of many factors relevant to land management decisions, there is strong demand for up-to-date information. One particularly beneficial aspect of new data analysis tools is that they are often designed to be dynamic and updatable. These features lessen the need for constant investment in new hardware or software, and better match users’ needs. Therefore, tools that can allow

for rapid update of information better match demand for information, and as such are likely to be used more, both now and in the future.

Emerging Trends in Digitalized Agriculture:

Institutions for accessing, managing and sharing agricultural data are evolving alongside the technological innovation described above. Institutional innovations are

important pathways for ensuring that opportunities offered by technological innovation can be realized in practice. Key developments in recent years are:

- a. Open data principles
- b. FAIR data principles
- c. New arrangements for improving access to agricultural data held by public organizations
- d. Interoperability and metadata standards
- e. New partnerships for co-innovation and collaboration in research and governance
- f. New models of collective governance for agriculture and for data
- g. Digital property rights and data access rights.

Given that policies are themselves institutions, and moreover ones which can in turn shape other institutions (for example by creating or protecting property rights, incentivizing collaboration, setting a regulatory framework for data access), many of the examples given in this report, particularly via the case studies, are examples of how institutional innovation is enabling governments to make better use of digital technologies, or enabling others to do so. Further discussion of such institutional innovations are provided throughout this report.

Digital Agriculture: A case for Indian Farm sector

Geoffrey Carr of The Economist once said, "If agriculture is to continue to feed the world, it needs to become more like manufacturing." The population of India is projected to reach nearly 1.6 billion by 2050 (various sources such as the UN, IHME). This means an ever-increasing demand for food. But the cultivable land and water resources are limited and moreover, fast depleting due to unscientific farming. The only approach seems to be adopting digital solutions to upscale, upgrade, and modify the agriculture sector.

Digital approach would be very much compatible with the present trends such as Industry 4.0, the Internet of Things (IoT), Artificial Intelligence (AI), and Nano Technology, etc. We have already seen the impact of digital technologies on manufacturing as well as service sector. Therefore, it can very well bring a transformation in the farming processes and value chain. The agricultural industry is benefiting from genome editing and smart breeding technologies, as well as combining digital AI-based

technologies with microbial soil mapping to improve production quality, grow pest and disease resistant crops, and so on.

In terms of accepting agriculture sector digitization, India has a significant advantage. The CII – Jubilant Bhartia Food and Agriculture Centre of Excellence (CII-FACE) outlines several examples and draws parallels between the growth of nanotech solutions in India and global pioneers in its white paper titled "Advanced Technologies Reshaping Indian Agriculture." The paper focuses on the use of nanomaterials in agriculture, including targeted delivery of nutrients or pharmaceutical capsids for disease detection and treatment, as well as delivery of bioactive compounds to specific sites to boost crop development. It also discusses how to bring the strategy into effect.

The aim of this paper is to look into the preparedness of farmers in western Maharashtra for transformational innovation in agriculture, as well as the industry's ability to build more robust digital-enabled value chains.

Objectives

1. To identify the imperatives of digitalization of Indian Agriculture
2. To explore preparedness of the farmers for digitalization process.
3. To establish the direct benefits of digitalization for the study area.

Research Methodology

A Sample survey of 100 farmers, 100 extension service providers and 100 local bodies in the surrounding villages of Baramati, Phaltan, and Dound Taluka were carried out. Farmers were asked the questions on various parameters such as digital readiness, Digital literacy, Affordability, etc.

The results were analyzed and interpreted to know the level at which the farmers in the study area exist as far as digitalization of the farm sector is concerned.

Data Analysis:

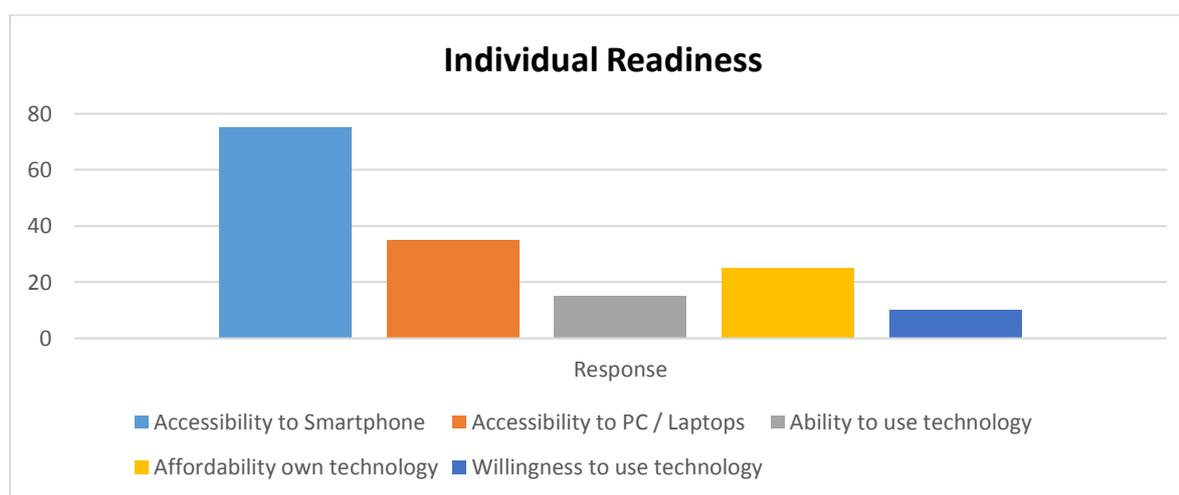
The complex nature of Digital technology forces end-users, such as farmers, to always be up to date with the latest trends, which can be visualised at various levels. As a result, a three-level definition of digital readiness has been attempted: individual, institutional, and administrative.

Individual digital readiness refers to an individual's ability to access and use ICT resources, as well as having the requisite skills to keep up with technical advancements. It

is the degree to which an organisation has infrastructure, network connectivity, policy support, and affordability to obtain and efficiently use data at the institutional level.

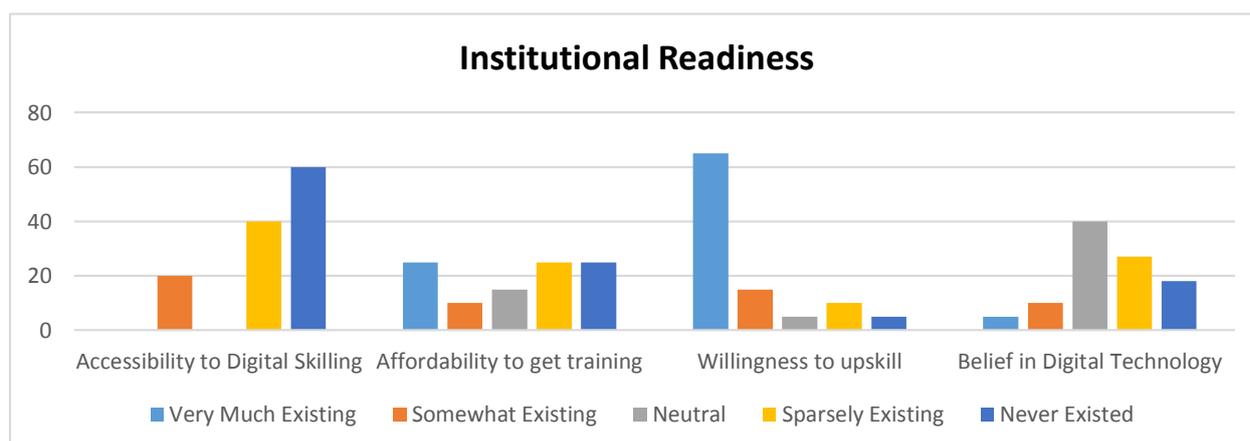
Digital Readiness of the Farmers at Individual Level

Parameters	Response	Percentage
Accessibility to Smartphone	75	75
Accessibility to PC / Laptops	35	35
Ability to use technology	15	15
Affordability own technology	25	25
Willingness to use technology	10	10



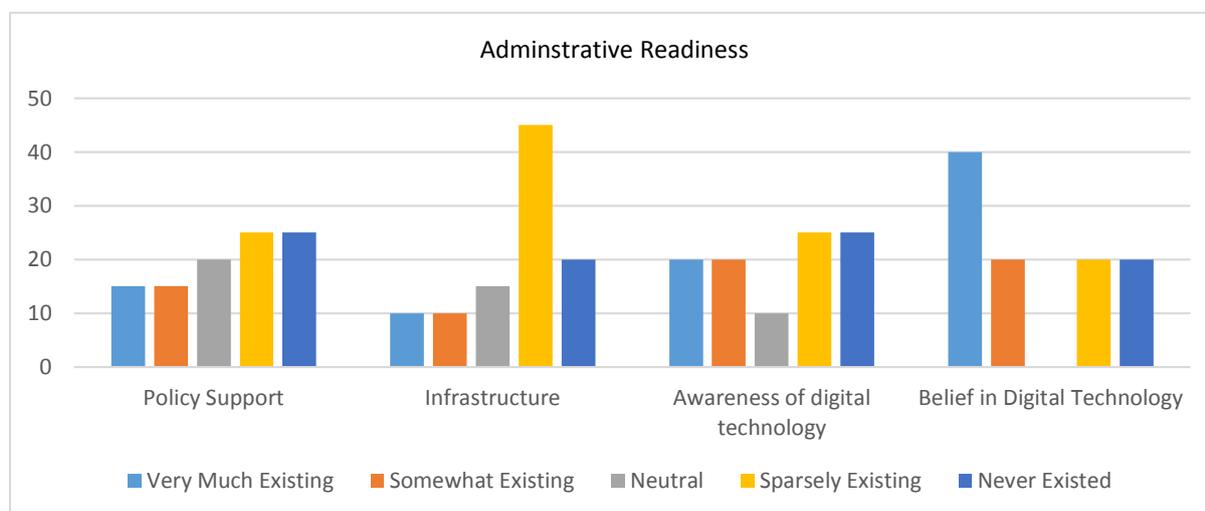
Digital Readiness at Institutional Level

Parameter / Response	Very Much Existing	Somewhat Existing	Neutral	Sparsely Existing	Never Existed
Accessibility to Digital Skilling	0	20	0	40	60
Affordability to get training	25	10	15	25	25
Willingness to upskill	65	15	05	10	05
Belief in Digital Technology	05	10	40	27	18



Digital Readiness at Administrative Level

Parameter / Response	Very Much Existing	Somewhat Existing	Neutral	Sparsely Existing	Never Existed
Policy Support	15	15	20	25	25
Infrastructure	10	10	15	45	20
Awareness of digital technology	20	20	10	25	25
Belief in Digital Technology	40	20	0	20	20



Observation:

From the primary investigation of the individual farmers, officials, and educational institutions bring forth the following observations:

- i. Digital technology has certainly made its road through the rural Indian due to the rapid adoption of smart phones and internet for the purpose of communication and entertainment.
- ii. Digital literacy is at a minimum level and acts as a hindrance for adoption in farming
- iii. Familiarity of mobile phones is not consistent with that of robust digital software and hardware.
- iv. At the apex level of governance at states, there is a remarkable vision for digitalization of farm sector. But the same is not adequately reflected in the local governance.
- v. Universities and other forms of educational bodies seem to be involved in digital sensitization. But lack in scale and penetration to the marginal society.
- vi. Infrastructure availability is quite lukewarm.
- vii. There is a general willingness among commoners to take up digitalization as panacea for their crippling obstacles in farm productivity.

Suggestions:

- i. Both central government and state governments should work in tandem to bring digital models of farming at production, processing as well as marketing of fresh produce.
- ii. Universities must proactively participate in upskilling and spread of digital technologies for the benefit of the farming community. Vocational courses, student exchange programs, internships can be some avenues to bridge the digital gap.
- iii. There is a need of educated lot to actively participate in local governance of rural places.

Conclusion:

The digital invasion through smartphones has more positives than the negatives, when it comes to revolutionizing the Indian farm sector. Government, NGOs and Educational Institutions have to collaborate and explore the vast potential of digital sensitization of rural mass. This is the only way left to create a level playing field for small and marginal players in the Indian agriculture to transform the sector and lead especially the major food producing countries in production and exports of value-

added products. This should be taken as a national mission, as a part of current endeavor to double the farmers' income.

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A Study of COVID-19 Pandemic Effect on Online Financial Markets in India

Dr. T. V. Chavan

Associate Professor,
Anekant Institute of Management Studies (AIMS) Baramati
tanaji.chavan@aimsaramati.org

Mr. Bhanushali Vishal Govind

Student,
Anekant Institute of Management Studies (AIMS) Baramati
vishal.bmw.m4@gmail.com

Abstract: In the current market environment, where the stock price fluctuates, Because of the COVID-19, it is appropriate to invest consciously in the market, whatever it is. The COVID-19 is a study of the stock market's fluctuation over the previous 6-8 months that assists investors in making investment decisions. For new investors or students with an interest in the stock market, this study explains the factors that directly or indirectly affect the market, as well as some fundamental information about not only the stock market but also other markets such as derivatives and commodity markets.

Keywords: Online, pandemic, market, Stock, etc.

Introduction

The goal of choosing this subject is to learn about stock market trends during the COVID-19 pandemic COVID-19's current situation, as well as investment-related information for potential investors. The study of stock market fluctuations familiarizes the investor with the factors influencing his or her investment. Stock prices can be extremely volatile, and some analysts believe this volatility is excessive. This is difficult to demonstrate because predicting future earnings and dividends is difficult. Dividends are usually smoothed out by companies, making them less volatile than stock prices. Because there is a good chance that price movements in one direction will be reversed, volatile stock prices have little effect on consumption and capital spending.

Objectives-

- To understand various investment options and the investors risk preference towards it.
- To access the impact of COVID-19 on Indian financial markets

Data collection:

Secondary data – Earlier records from journals, internet and other sources.

Tools used for analysis:

Fundamental Analysis & Technical Analysis

Data Analysis and Interpretation:

Effects of COVID-19 on indices: Before, during and after COVID-19

Effects of COVID-19 on indices is described in the form of charts and they are as follows:

Technical analysis of Nifty 50, Before, during and after pandemic situation of COVID-19 as follows:



Candle stick chart Nifty 50, 1-day time frame (Chart 1)

Interpretation:

On the date of 20-1-2020 the nifty 50 indices were high i.e. 12430.5. Due to the COVID-19 situation the nifty 50 were down. on 24-3-2020 the nifty 50 was at 7511.1.

Nifty Recovered from pandemic situation of COVID-19. Nifty 50 New high is 12030 On 12 oct 2020.

The red line indicates the simple moving average. Period 200 day a SMA (simple moving average) helps to find the support and resistance.

The below line is the line chart i.e. RSI (Relative strength index) period 14 it shows overbought and over sale zone Overbought above 80 and over sale line below 20

Nifty 50 total fall 4908.34 (39.70%) within 45 Trading days. Nifty 50 Rise after COVID-19 4558.86 (60.81%) within 138 Trading days.

Technical analysis of Sensex Before, during and after pandemic situation of COVID-19 as follows:



Candle stick chart Sensex, 1-day time frame (Chart2)

Interpretation:

On the date of 20-1-2020 the Sensex indices were high i.e. 42263. Due to the COVID-19 situation the Sensex were down. on 24-3-2020 the Sensex was at 25640.

Sensex Recovered from pandemic situation of COVID-19. Sensex New high is 40903 On 12 oct 2020.

The red line indicates the simple moving average. Period 200 day a SMA (simple moving average) helps to find the support and resistance.

The below line is the line chart i.e. RSI (Relative strength index) period 14 it shows overbought and over sale zone Overbought above 80 and over sale line below 20

Sensex total fall 16835.70 (65.97%) within 45 trading days. Sensex Rise after COVID-19 15208 (59.14%) within 138 Trading days.

Technical analysis of MCX (Multi commodity exchange) Before, during and after pandemic situation of COVID-19 as follows:



Candle stick chart MCX, 1-day time frame (Chart 3)

Interpretation:

On the date of 20-1-2020 the MCX indices were high i.e. 1443. Due to the COVID-19 situation the MCX were down. on 24-3-2020 the MCX was at 850.75.

MCX Recovered from pandemic situation of COVID-19. MCX New high is 1755 On 12 oct 2020.

The red line indicates the simple moving average. Period 200 day a SMA (simple moving average) helps to find the support and resistance.

The below line is the line chart i.e. RSI (Relative strength index) period 14 it shows overbought and over sale zone Overbought above 80 and over sale line below 20

MCX total fall 628.57 (43.42%) within 47 trading days. MCX Rise after COVID-19 936.89 (114.09%) within 138 Trading days.

Findings:

1. The chart No.1 of nifty 50 shows how the nifty reacts to the COVID-19 pandemic situation. Nifty 50 fall from its high 12430 to its low 7511 within the 45 trading days. Nifty collapsed 39.70% from its actual value and nifty hits their lowers circuits after a long time due to corona virus. But the Nifty Recovered from pandemic situation of COVID-19. Nifty 50 New high is 12030 On 12 oct 2020. Nifty 50 Rise after COVID-19 4558.86 (60.81%) within 138 Trading days.
2. The chart no.2 is of Sensex which is under BSE. Sensex falls during the pandemic situation of the COVID-19. Sensex high before the COVID-19 is 42263 and the low is 25640 during the corona virus impact. Sensex hits their new low after a longer time, within 45 trading days Sensex fall 65.97% from its actual value. But the Sensex Recovered from pandemic situation of COVID-19. Sensex New high is 40903 On 12 oct 2020. Sensex Rise after COVID-19 15208 (59.14%) within 138 Trading days
3. The chart no.3 is of MCX which is under NSE. MCX falls during the pandemic situation of the COVID-19. Sensex high before the COVID-19 is 1443 and the low is 850.75 during the corona virus impact. MCX hits their new low after a longer time, within 47 trading days MCX fall 43.42% from its actual value. But the MCX Recovered from pandemic situation of COVID-19. MCX New high is 1755 On 12 oct 2020.

MCX Rise after COVID-19 936.89 (114.09%) within 138 Trading days.

Suggestions:

1. Fundamentals of the all indices or stocks is weak due to COVID-19.
2. From the Chart No. 1 it is found that the Fundamentals of Nifty 50 is weak and technical are also weaker side so its suggested to Future Nifty indices holders to close their positions.
3. From the chart No. 2 it is found that the Sensex Holders are also advisable to close their positions to avoid huge losses.
4. Investors need to do pyramiding in Nifty Bees at lower levels.
5. According to Chart No 1 to 3 Short sellers also need to book their profits before market corrections.

Conclusion:

According to the results of the analysis, the charts created using the share price and technical tools show all of the trends and variations as interpreted in the theory. According to the moving average analysis, the scrip is in a bullish trend if the price is above the moving average, and the scrip is in a bearish trend if the price is below the moving average. Technical analysis ignores the company's true nature. Technical analysis is entirely based on the chart, which includes price and volume data. The investor must invest carefully in a scrip that offers a high return while posing the least amount of risk.

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Students' Perceived Service Quality of Online Teaching: A Higher Education Management Perspective

Smita S. Khatri

Research Scholar
Neville Wadia IMSR, Pune
smitakhatri22@gmail.com

Dr. Vinod N. Sayankar

Research Guide & Professor
Anekant Institute of Management Studies, Baramati, Pune
vinodsayankar@aimsaramati.org

Abstract: *Educational circles are busy finding out ways to incorporate blended learning over online and traditional formats. The former being the lucrative choice of educators to enhance quality of educational services, can be considered as the modern form of learning. With this aim the present study was conducted to know students' perception about service quality of online teaching in Higher Management Institution. Further, an effort was being made to know teaching methods preferred by students for learning and whether the antiquated classroom practices can be buried? For the present study cross-sectional descriptive research design was used. Primary data was collected using a structured questionnaire as a research instrument. A quantitative study was conducted at a Higher Education Management Institution [HEMI] in a rural area in Pune district of Maharashtra, through a survey applied to a final sample of 50 students. The results revealed a mix response from students as far as preference for teaching methods was concerned.*

Keywords: *Perceived Service Quality, Online Learning, Traditional Methods Blended Learning and Higher Education*

Introduction:

HEMI are realizing the significance of stakeholders' expectations in their strategic decision-making process. In such increasingly competitive environment, improving and maintaining a competitive advantage is a difficult task (Cubillo-Pinilla et al., 2009), and it becomes important to study thoroughly the factors allowing HEMI to attract and retain students, especially considering the many options open to them (Markovi, 2005). Because most institutional revenues are enrollment-related, poor student recruitment and/or poor retention in HEMI delivering poor quality services and poorly positioned to recruit students, may represent a competitive disadvantage in today's enrollment markets compared to their high-quality counterparts, and result in high rates of student dissatisfaction, and thus jeopardize institutions' financial health (Zammuto et al., 1996).

It is vital for HEMI to actively monitor service quality and safeguard the interests of stakeholders in general (e.g., students, parents, government, professional bodies), through fulfilling their real needs and desires, and especially regarding students (Al-alak, 2009). The pandemic that has hit the nation badly has made the HEMIs rethink on the new methods of teaching and learning that

can act as a base for enhancement of quality. Indeed, many studies have been undertaken to understand how students perceive service quality, and how student satisfaction is influenced in the context of HEMI; but when it comes to perception of quality, it is defined and perceived as different by every stakeholder. And therefore, the perception of quality what is regarded by students cannot be generalized and need to be studied separately. Hence the study.

Research Problem:

In the wake of Covid-19 pandemic, HEMIs in India have decided to fully make their classes online as a measure of safety and giving the students the flexibility to learn conveniently from their places. Apoint that is to be addressed here is sudden shift of teaching from offline to online thereby making students wonder about the quality of teaching and their own will to learn in this kind of virtual classroom to which they were never exposed before. More particularly, the students from remote areas. The study attempts to address the issue of students' perception of quality for online teaching and their preference for the teaching method.

Hypothesis:

H0: Perceived Service Quality of Online Teaching at the Institute is significantly low.

H1: Perceived Service Quality of Online Teaching at the Institute is significantly high.

Objectives of Study:

1. To know whether students prefer to learn online or offline.
2. To know the general opinion of students about online teaching at Institute
3. To understand students’ perception of service quality for online teaching.
4. To find if blended learning concept by HEMI can be adopted by students.

Scope of Study:

The study is confined to only one HEMI in Pune district of Maharashtra. As the study is based on students’ perception of service quality for online teaching, students of MBA I & II year both are considered. The intended study focuses only on identifying online teaching practices adopted by HEMI and their quality perceived by the students.

Research Methodology: To accomplish the study objectives quantitative method of research was used. As the study intends to know students’ perception of service quality for online teaching of HEMI, descriptive research design was used. The study involved use of cross-sectional design as the collection of information was done from only one sample of population i.e. MBA I & II Year students only. This information was collected only once.

Data Sources: The study utilized data from both the Primary and Secondary sources.

Secondary Sources: Database (JGate) Reference Books, Journals and Articles etc.

Primary Source: Students of MBA Institute (I & II Year) gave their responses through Google forms.

5. Research Instrument: A structured questionnaire was used to collect the primary data. The questionnaire was designed keeping in view the study objectives. The question format used is close ended. This was done with a view so that students can understand and answer the questions easily. The questionnaire was based on five-point likert scale.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.945	.946	7

To test the reliability of the research instrument, Cronbach alpha was calculated for 7 items. Out of the 7 items used in the study, 6 items are related to perceived service quality and 1 was related to the preference of students for mode of teaching. The alpha value calculated indicates high correlation between the items and signifies internal consistency of responses.

Sampling: The present study was carried out in Baramati taluka of Pune district, State of Maharashtra, India. As the study is confined to only one HEMI located in the heart of the city, only 210 students learning (MBA II Year only) in this Institute are considered for the study. But only 41 responses were generated. After assessment and discarding of some responses (sample error), only minimum sample size of 30 responses was of statistical significance.

Sampling Frame: Students of Management Institute

Elements: Male & Female Students

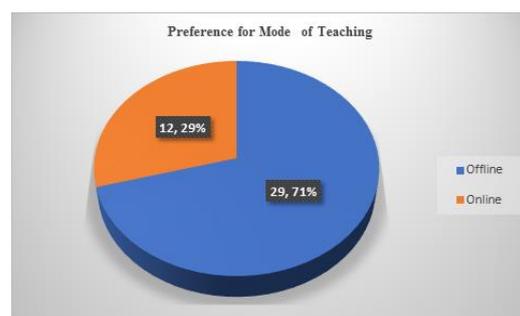
Sampling Unit: As the study focuses on the students’ perception of service quality for online teaching, only students will be considered as the sampling unit.

Sampling Technique: Convenience Sampling Technique (Non-Probability Sampling)

Sample Size: 30 Respondents

Data Analysis and Interpretation: The collected data is tabulated and analyzed using descriptive statistics, SPSS and hypothesis is tested using t test.

Chart No.1



(Source: Primary Data)

From the chart, it is evident that students prefer offline teaching over online teaching. The reason behind this is the opinion of students regarding the employability skills; as they feel these skills are not enhanced online and can be learnt only offline. Also students opined that the offline classes are more engaging.

Table 1: Opinion about Online Teaching

	Min	Max	Mean	Std. Deviation
Opinion about online teaching at Institute	1.00	5.00	3.8537	1.08538
Valid N (listwise)				

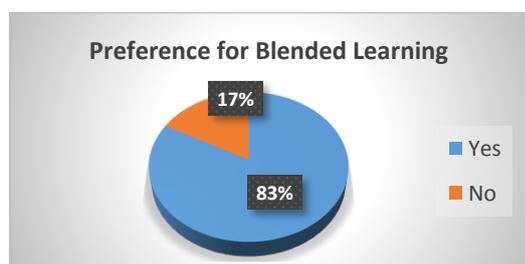
The above analysis shows that there is a favourable opinion of students about online teaching at the Institute.

Table 2: Descriptive Statistics of Perceived Service Quality of Online Teaching

	Minimum	Maximum	Mean	Std. Deviation
Institute understands students' specific needs of an online class	1.00	5.00	3.1951	1.34572
Teachers give students individualized attention during online class	1.00	5.00	3.1220	1.30758
Online learning helps me learn concepts in a better manner	1.00	5.00	2.8537	1.27595
Online class helps me build better employability skills	1.00	5.00	2.7805	1.17286
I am satisfied with the quality of online teaching at my Institute	1.00	5.00	3.5122	1.20669
I am satisfied with the value for money	1.00	5.00	3.2927	1.22971
Valid N (listwise)				

Mean value for all the statements were calculated through descriptive statistics. The mean value of all variables is above 3 except students' opinion for building of employability skills in online class. The value of which was found to be 2.7805 (which is less than mean value 3).

Chart No. 2



(Source: Primary Data)

It is evident from the above chart that students would prefer blended learning as they consider that a mix of both teaching methods (online & offline) can help them learn better. They are of opinion that though online teaching is favourable, they find learning the concepts online as difficult and due to pandemic, it is not feasible to go for offline classes. Hence, they feel that blended learning can help.

Hypothesis Testing:

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Perceived Service Quality	30	3.4900	.91589	.16722

One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Perceived Service Quality	2.930	29	.007	.49000	.1480	.8320

Hypothesis testing was carried out using one sample t-test. It is evident from the above table that the p value is .007 which is less than the 0.05. Hence null hypothesis i.e. Perceived Service Quality of Online Teaching at the Institute is significantly low is rejected and alternative hypothesis is accepted. Hence conclusion can be drawn that perceived service quality at the Institute is significantly high.

Findings:

1. Chart no. 1 depicts that students prefer the offline mode of teaching at the Institute.
2. Table no. 1 makes it clear that students have a favourable opinion about online teaching at the Institute.
3. Students perceive that Institute understands their specific needs of an online class

4. Table no. 2 depicts that teachers give students individualized attention during online class
5. It is found in the study that students feel it difficult to learn the concepts online.
6. Students are of opinion that employability skills cannot be effectively built online.
7. Students are satisfied with the quality of online teaching at the Institute [Mean: 3.51].
8. Students satisfied with the value for money [Mean: 3.29]

Conclusion:

The study provides comprehensive framework for the perceived service quality of online teaching in higher education. The present study has attempted to pave way for knowing the perception of higher management students for online teaching. Employability skills enhancement being the major reason for most of the students to enroll in the Institute, online teaching cannot serve the purpose. Though students consider offline teaching as the best mode, in the wake of covid-19 pandemic, Institute can consider the concept of blended learning which is also preferred largely by the students. It can be concluded that though perceived service quality at the Institute is significantly high, this new method of blended learning may help in serving the purpose of skill enhancement of students.

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Role of NSS (SPPU's TCC- Unit) in Ground Water Recharge Management in Anjangaon (Karha River Baisan) Dist.-Pune

Kardile Vilas Vasant

NSS P.O. (TCC-UNIT)

Department of Computer science

Tulljaram Caturchand College, Baramati Pune

Abstract: Drought is biggest challenge in Maharashtra state. Although Maharashtra is the second most urbanized state in India but, 55% of the population still lives in rural areas and their main occupation is agriculture. The agricultural sector is facing frequent water shortages due to erratic rainfall. As a result, agrarian-dominated villages are facing the problem of declining groundwater levels, and the problem is more pronounced and acute in drought-prone areas. To tackle the below ground level problem, there is need to replenish the ground water table with rainwater during the monsoon and waste water management. Long-term measures must be taken to prevent such situations. This paper focuses role of National service scheme (SPPU's TCC- Unit) for attempt the recharge ground water level activity. Aim of this paper is to highlight the youth's contribution in 'Ground water harvesting'' with NSS in drought prone area in Maharashtra.

Keywords: Drought, Uneven Rainfall, Role of NSS in Irrigation management.

Introduction

Since last few decade, almost every part of society (Urban, industrial, agricultural and environmental) has faced water scarcity problem. Water is a valuable natural resource. Water, once abundant, is becoming more valuable due to drought and overuse. Therefore, it needs to be nurtured and handled carefully. Moreover, due to uneven rainfall, the existing water supply is not sufficient. In such cases the adverse effects of water scarcity in the drought affected areas are even worse. It will intensify in the coming decades. Furthermore, while we are building cement forests for colonization in the interest of urbanization, we conveniently ignore that, we are blocking the land's water exploitation path. This directly affects your groundwater level. As a result, we are facing the problem of falling below ground level.

So, by considering importance of water management, Government agencies, Non- Government agencies are attempt water harvesting activity. With this agencies National Service Scheme Savitri Phule Pune University is also provide own contribution in this activity.

This paper have objective to explain, 'at the college level, the role of the National Service Scheme for develop an effective personality', to create a sense of social

commitment and service among the youth'. In section-I, Role of NSS in social aspect, in section-II Ground Water Harvesting and its method's, material(Method and Material), in section-III, Introduce the Ground water harvesting in Anjangaon ,In section-IV Impact analysis of ground water harvesting Anjangaon project, In section-V, Conclusion and feature scope Appreciation.

Section-I: Role of NSS in social aspect

In 1969, National Service Scheme (NSS) is introduce in higher education with the primary objective of developing the personality and character of the student youth through voluntary community service. It concert to promote social welfare among the students, by the two activity ('Regular program activity' and 'Winter Special Workforce Rites Camp'). These two activities specifically helps volunteers to create and empower patriotism, national unity, all religions, tolerance, and social commitment.

Savtribai Phule Pune University (SPPU) is one the prominent contributing university of this scheme in Maharashtra. SPPU affiliated colleges are located three district's (Ahmednagar, Nashik, Pune). Since 2015- 2019, Maharashtra region faces the Drought conditions. Maharashtra Governments mission to making drought-free

Maharashtra. Savtribai Phule Pune University (SPPU) NSS unit is also decide to contribute in the mission of ‘drought-free Maharashtra’. In this consideration ‘Paini foundation (Non-government organization)’, hosted the ‘Satyamev Jayate Water Cup competition’ in which thousands of villages competed to do the best and maximum work in water and soil harvesting from 2016 to 2019.

As part of Savtribai Phule Pune University (SPPU) NSS units, Tuljaram Chaturchand College of Arts, Science and Commerce, Baramati (Pune, Maharashtra) (SPPU’s NSS TCC Unit B-32) organize three Water Harvesting’s Seven Days special Camp at Anjangoan, Baramati from May-2019, Deceber-2019 and January-2020. Anjangaon is located at drought-prone areas, Karha river basin. [1]

Section-II Ground Water harvesting (its methods, its constrain and opportunity in implementations with NSS)

Our water resources are depleting each year. Water harvesting is nothing but making efforts to collect water ground water from where it falls doesn’t allow it to drain out [2]. There are various application of water harvesting like household application, Agriculture application, Commercial Application. Generally, these application follows basic objective of water harvesting “Decreases the water loss, use and waste of resources without any damage to water quality by implementing water management practices that enhances the beneficial use of water with various ways or method” [3]. These method are classified as per Urban and Ruler Area and specified in following table.

Table 1 : Area wise water harvesting method	
Urban Areas	Rural Areas
Recharge Pit	Gully Plug
Recharge Trench	Contour Bund
Tubewell	Gabion Structure
Recharge Well	Percolation Tank
	Check Dam/Cement Plug/Nala Bund
	Recharge Shaft
	Dugwell Recharge
	Ground Water Dams/Subsurface Dyke

Potential Areas:

- A. Where ground water levels are declining on regular basis.

- B. Where substantial amount of aquifer has been de-saturated.
- C. Where the groundwater level goes deep during the months except for the rainy season.
- D. Where groundwater recharge is reduced.

Constrain

N.S.S. volunteers are teen ager, come from various stream of education. They have passion and curiosity with immature knowledge and untrained behavior. Most of the time, untrained teams face different problems in actual practice. Water harvesting process is completely scientific process [2, 3]. So, it is essential to avoid consequence, provide training to volunteer because training conveys trainee with facility to gain technical knowledge and to learn new skills to ensure for successfully and efficiently completion of estimated task. It is very difficult and have big constrain to train student volunteers in other subjects than regular syllabus.

Opportunity

The organizing of the NSS special camp focuses on empathize significance of the labor prestige and self-reliance. It is specifically organize to abstraction the need of physical work with intellectual endeavors. Fundamental aim of this activity is encourage youth to participate enthusiastically in the national development process, to live a democratic life and enhance national unity through co-operation.

With considering basic concepts of the special camp and the estimated theme for this year, and for overcome constrain there is an opportunity for get the training for our volunteer by Paani foundation Team”. Panni Foundation provide training for villagers those who are going to participate this competition.

Section-III, Methodology

a) Method

As a part of Ground Water harvesting methods, in this study we are concentrate on following method:

- Capturing run-off from rooftops of Home.
 - Capturing run-off from local catchments
 - Conserving ground water through watershed management for recharge level.
- 1) Farm Band (Band-Banidisti)

- 2) Percolation Tank, In-late out-late Tanks
- 3) Check Dams / Nala Bunds
- 4) Recharge Shaft

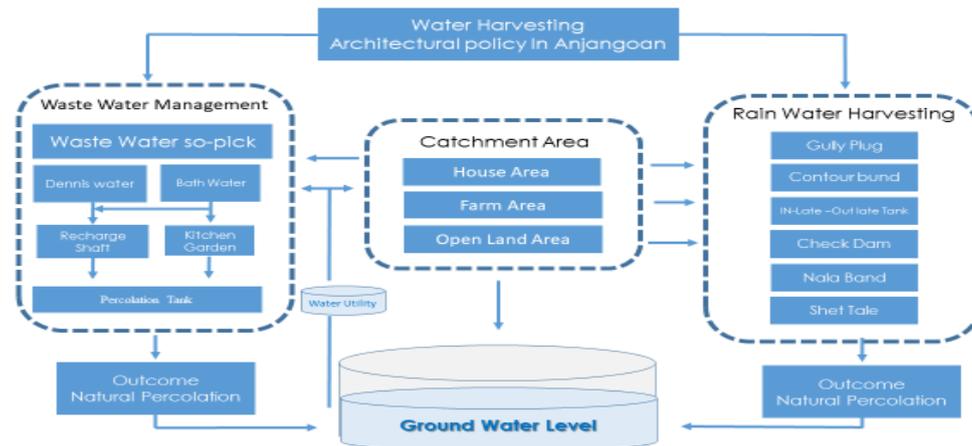


Figure 1: Architecture diagram for water harvesting in Anjangaon

b) Utilization

Homemade or Cheap material can be used for the construction of Container and Tanks. It has low maintenance costs and requirements also. Collected rainwater can be consumed with proper treatment. It provides supply of safe water close to homes, agricultural field and other areas

c) Implementation estimated method (Implement the Ground water harvesting campaign in Anjangaon)

Anjangaon is a Village in Baramati Taluka in Pune District of Maharashtra State, India. It belongs to Desh or Paschim Maharashtra region Pune Division in Karha river basin. It is located 87 KM towards East from District headquarters Pune. 8 KM from Baramati. 226 KM from State capital Mumbai. Due to the lack of suitable water sources in the Karha river basin, the main source of drinking water in the area is groundwater and is widely used [1, 4, and 5]. Moreover, due to uneven rainfall, the existing water supply is not sufficient. In such cases the adverse effects of water scarcity in the drought affected areas are even worse.

Table 2 : Geographical conditions and social information of Anjangaon		
	Language	Marathi and Hindi
	Elevation / Altitude	5509 (mts.Abov Sea level)
	Total Population	1755
	Total No of Houses	373
	Female Population %	48.0 % (843)
	Total Literacy rate %	76 % (1332)
	Female Literacy rate	32.4 % (569)
	Scheduled Tribes Population%	0.2 % (3)
	Scheduled Caste Population %	16.2 % (284)
	Working Population %	61.5 %
	Child(0 -6) Population by 2011	174
	Girl Child(0 -6) Population % by 2011	47.7 % (83)
	Figure is Adopted form Wikipedia[6] and than Modified	

d) Implementation strategy

- I) Provide awareness and training to NSS volunteer about water harvesting.
- II) Making awareness about importance of water harvesting in village.

<p>With the concept of Jalsandharan (Mati Adava Pani Jirva), rain drops fall in farm are flow to slope. So to stop rainwater at farm camper digs 734 Ghan.ft bandh bindishi at the Ajangoan. It will help to stop the rain water.</p>		
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Compartment and Nala banding

<p>With the concept of Jalsandharan (Mati AdavaPaniJirva) rain drops fall in open place (Maalran) are flow to slope camper digs 168 Ghan.ft compartment banding and one Nala banding at the Ajangoan.It will help to stop the rain water</p>		
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Revival In-Late out Dam

In Anjangoan, there is very big In-Late out late dam near forest land, but that is not maintain and drossy. With permission of Forest office and Grampanchayat, Our NSS volunteer dredging the dam and make a table point near dam.

			
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Water Shade Management in farm

During the special summer camp our volunteers with the villagers construct the '2' farm dam (Shettale) which having (34 X 34 X 8) feet and (24 X 24 X 7) fee size approximately 9248ft³and 4032ft³.This farm dam has 1.5 and 1 lack litter capacity.

	
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Prepare a NANA NANI Park (Revival In-Late out Dam)

In Anjangoan, there are 2 very big In-Late out late dam near forest land, but that is not maintain and drossy. With permission of Forest office and Grampanchayat, Our NSS volunteer dredging the dam and make a table point near dam. The table point created by our volunteer is appreciated by the villagers. The Location of Table point is very good and peace and 500 mt long from the Anjangoan. At evening, it is very good point for sunset. So, we apple the grampanchyat for prepare a senior citizen park. On that apple grampanchayat give we two benches for prepare a Nana-nani park.

			
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Kitchen Garden (Paras Bag) Tree plantationCultivated fruit and other tree

More than 125 trees were cultivated in the campus of primary School, Two side's road of Anjangoan. 100 trees (Karanj and Kadulim) been planted at boundary of IN-Late out late Damp (Pazartalav) and in the roadway.More than 125 trees were cultivated in the campus of primary School, Two side's road of Ajaangoan. Our two volunteers and villagers develop the nursery (Ropvatika) under observation of our college's botany department.Attitude of tree cultivation developed in villagers. In addition to this 75 Fruits tree like Chikku, Ammba, Peru ...etc is given to home for develop kitchen graden.



Section V conclusion

Outcome

This is trivial truth that, ground water level recharge process is nature’s process. But, due to modernization desire human conveniently forgetting that we are blocking the path of water to enter in the surface of the earth. As a result, we are facing the problem of falling below ground level, and in drought-prone areas, this problem is more pronounced and accelerated Moreover, there is no any ground water recharge method that produce sudden impact because it is a gradual process. So, it is not possible that our effort produces suddenly increasing impact on the groundwater level.

Pani foundation Appricition



Ajangoan get Appriciable Certificate for Pani Foundation

Discussion

No	Types of Method	Quantity	Specification	Optimistic Outcome
1	Farm band	770 Ghan feet	2 .5 Hector	
2	Percolation Tank, In-late out-late Tanks	2 Tank	10*10*1.5	1.5 lack Liter storage per rain
			10*15*3	4.5 lack Liter storage per rain
3	Vanrai bandhara Check Dams / Nala Bunds	6 Dams	17*3*4.47	Near about 70 K liter storage per rain
			14*3*4	Near about 50 K liter storage per rain
			13*3*3	Near about 50 K liter storage per rain
			14*3*3	Near about 50 K liter storage per rain
			10*3*3	Near about 40 K liter storage per rain
4	Recharge Shaft	78 Home	12*3*4	Near about 60 K liter storage per rain
			Each and every house use 200 liters water daily. With this consideration (200 litter * 78 home *356 day) = 5,694 kilo litter	Each and every house use 200 liters water daily. 5,694 kilo litter water yearly water thatwill souse due to this soap-pick .as a result it will help to increase the level of underwater.

In-late Out-late tank Near Forest Land

Before	2018	2019	2020
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Conclusion

On the basis of basic theme of “National Service Scheme” (NSS) ‘Not me bur for you’ and as a part of routine of NSS, Tuljaram Chaturchand College’s NSS Unit organize three Camp with 450 student (150 each camp separately) in Anjangaon. This camps contributory labor work able to revive the depleting ground water resources. Also help to save the little amount of rain water which used to rain away from many years. Thus it is concluded that implementation of water harvesting system with TCC NSS unit of Anjangaon campus would result in the form of the approach to deal with present scenario of water scarcity and storing huge quantity of 53,96,816 liters in a year in campus.

Acknowledgements

I would like to thanks Dr. Prabhakar Desai. Coordinator (SPPU NSS Unit), Dr. Murumkar C.V., Principal, Tuljaram Chaturchand College, Baramati and all NSS Volunteers and Member of this street-play teams for allow me for functioning on this work.

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Measuring Psychological Distress Due to Pandemic & Lockdown Among Employees Between Ages 25-35 In Bangalore

Ayesha Siddiqua

Department of Social Sciences-
Garden City University, Bangalore

Mayuri

Department of Social Sciences-
Garden City University, Bangalore

Abstract: *The current COVID-19 pandemic has wreaked havoc on people's lives in ways that have never been seen before. We classify COVID-19 as an intractable crisis that forced countries to enforce lockdowns, using the typology of crises. The COVID-19 pandemic has wreaked havoc on people's lives all over India, particularly on new and old employees' working relationships.*

Keywords: *Pandemic, Intractable, typology relationships*

Introduction

Aspects of the workplace can have a significant impact on whether or not people's mental health improves or deteriorates as a result of the pandemic. Anxiety, depression, post-traumatic stress disorder (PTSD), and sleep disorders are more likely to affect healthcare workers, particularly those on the front lines, migrant workers, and those who come into contact with the public.

Employees in a variety of industries are extremely concerned as a result of the nationwide lockdown. Salaries cuts, delayed appraisals, and layoffs have all been devastating to workers in a variety of industries. In Bangalore's first month of lockdown, it is estimated that 16,000 crores in revenue from the service sector was lost.

The lockdown was imposed by the Indian government in order to prevent the virus from spreading. The lockdown was split into four stages and lasted from March 25th to May 31st. The government then began a series of Unlock stages, which lasted from June 1 to November 30. The government imposed numerous restrictions on collecting and travel across India during these periods of lockdown and unlocking. This heavily disrupted employees from travelling to and working from offices, leading to many companies to lay off employees, and ordering the remaining work force to "Work from Home".

Literature Review

There have been multiple reports studying the impact of the Pandemic and various Lockdown on people

- 1) Rehman et al discovered that people who didn't have enough supplies to keep the lockdown going were the

ones who were most affected, and that family wealth was adversely correlated with stress, anxiety, and depression. Students and healthcare workers were found to have higher levels of stress, anxiety, and depression than other occupations.

- 2) Employees reported increased working hours, significant changes in their positions, lower productivity, and higher stress levels, according to Jaiswal et al. Aside from these findings, they found that during this time of isolation, workers showed signs of creativity.
- 3) According to Business Today, India's unemployment rate jumped to 9.1% in December 2020. The increase in unemployment was attributed to a partial recovery in the labour participation rate (LPR) to 40.6 percent in December, up from 40 percent in November and 40.7 percent in the two months prior..
- 4) According to a poll conducted by mint and YouGov, less than half of respondents (45%) want the practise of working from home to continue. Although the household environment made work safer for most people, it also led to increased office workload (81%) and trouble striking a balance with household tasks (60%) for 60 percent of respondents.

What Made Me Choose This Topic?

I'm a student, and we're used to a hopping and popping lifestyle, so we don't have many obligations right now. But the Pandemic made us all think of things we never would have thought of otherwise. Because we grew up in a

generation that prioritised the here and now with little regard for the future. COVID-19 later caused my working friends to face terrifying crises such as layoffs, joblessness, and only pay when you re hired. Pay only when you receive work or on lower rates. Their concerns affected me, and made me think about their situations and problems faced by them.

Methodology

Male and female, young adults and middle-aged adults between the ages of 25 and 35 from Bangalore are among the participants. Up to the age of 50, a small amount of data was collected from older employees.

The questionnaire used was the Kessler Psychological Distress Scale (K10), which asks ten questions about emotional states, each with a five-level response scale, to determine the level of stress. The questionnaire can be used as a quick screening tool to determine levels of distress.

Each item is graded on a scale of one to five, with one being "none of the time" and five being "all of the time." The 10 item scores are then added together, yielding a minimum of 10 and a maximum of 50. Low scores indicate low levels of psychological distress and high scores indicate high levels of psychological distress. The 2001 Victorian Population Health Survey adopted a set of cut-off scores that may be used as a guide for screening for psychological distress.

These are outlined below:

K10 Score: Likelihood of having a mental disorder (psychological distress)

- 10 -19 Likely to be well
- 20 -24 Likely to have a mild disorder
- 25 -29 Likely to have a moderate disorder
- 30 -50 Likely to have a severe disorder

The survey was distributed using Google Forms to various circles of employees from private companies.

Results

Overall 33 responses were collected from the survey out of which 17 were male and 16 were female. The average score of the respondents between the age of 25 and 35 (26) was 27. The average score of respondents of age greater than 35 (7) was 21. The average score of the males was 29. The average score of the females was 22.

TABLE 1: Represents The Following Data Between Age of 25 To 35 Years

Gender	Average Score	Label
Male	30	Likely to have severe disorder
Female	22	Likely to have mild disorder
Overall	27	Likely to have moderate disorder

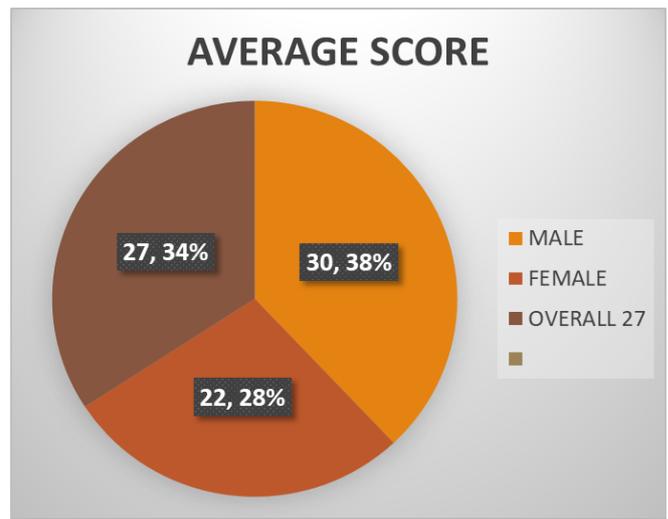


TABLE 2: Represents the additional data of older age employees

Gender	Average Score	Label
Male	54	Likely to have mild disorder
Female/	34	Likely to be well.
Overall	45	Likely to have mild disorder.

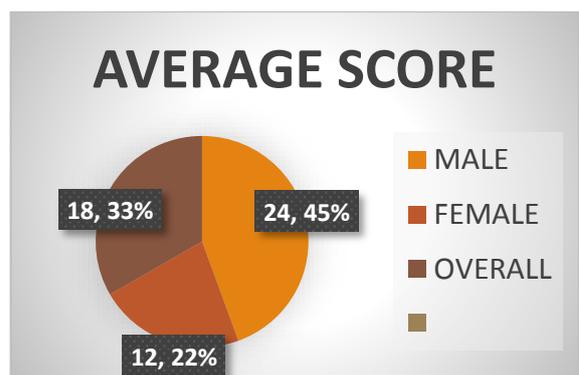
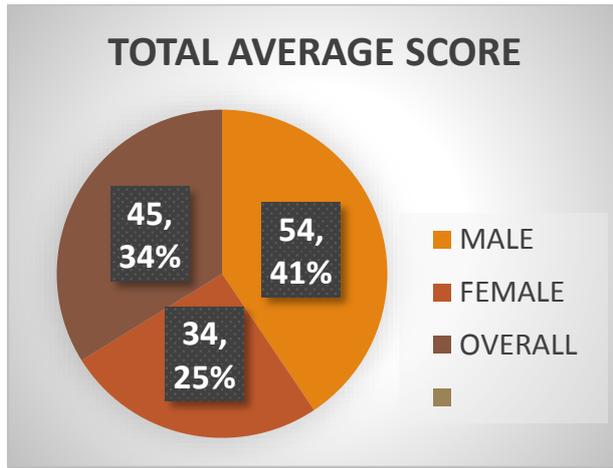


TABLE 3: Represents overall average score of 33 participants' employees.



Conclusion

- We can conclude that Males in general had a Higher Level of Stress than the females in the same field.
- The additional data collected shows that the older age employees had an overall lower level of stress than the younger employees.
- From the collected data, average Anxiety level faced by age group 25-35 is moderate (13/25).
- The depression levels were similar (14/25).

Overall, the stress levels induced by the lockdown in Bangalore, as well as the pandemic in general, caused moderate to high levels of stress among Bangalore's working class residents. As a result, we can infer that the pandemic distress level in the service sector is increasing, as evidenced by the survey, which indicates that despite work-from-home measures, stress levels have not decreased but have increased.

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An Overview: Animation Films by the Virtual Reality Technology

Pratik Pramod Shetane

SE (Comp.), VPKBIET, Baramati
Pune, India
pratik.shetane.computer.2018@vpkbiel.org

Dinesh Bhagwan Hanchate

Comp. Engg., VPKBIET, Baramati
Pune, India
dinesh.hanchate@vpkbiel.org

Abstract—There is a great demand nowadays for traditional cinema animation. The animated films based on Virtual Reality (VR) has made significance change in the narration and audio-visual effect in traditional animation. The journey is from 2D to 3D, to VR. VR film is a multi-perceived film created by VR technology. This new phenomena of the film attracts the attention of the audience and naturally brings the audience into the scene of the story. VR not only improves the visual experience effect of animation with respect to 3D technology, but also brings huge space for the research of content creation method of specific direction, provides an opportunity for innovative content creation, and possibly develops into a new creative expression system based on the existing cinema animation creation. This paper only gives the overview and journey to the VR in Film.

Index Terms—Virtual Reality (VR), 6-DoF (6-Degrees of Freedom), HTC Vive Controllers.

Introduction

Traditional animation usually refers to animation hand-drawn on paper, i.e. an animator draws the characters, layout and background on paper and creating the illusion of movement when everything is put onto film. The first 2D animation ever made was called Phantasmagoria, a short cartoon made by Emile Cohl in 1908. Later, animation is developed by so many studios like Disney, Warner Bros etc. and it is loved by everyone. That is why traditional cinema animation has shows great market possibilities in recent years, but animation films based on Virtual Reality (VR) technology has brought a great impact on the narrative and audio-visual system of traditional animation. Virtual reality is a simulated experience that can be similar to or completely different from the real world. VR animation has following properties

- 1) Imagination
- 2) Immersion
- 3) Interaction

These characteristics determine that VR animation will show its special side on many aspects such as the way of watching, the narrative angle, audio-visual language and so on. The biggest difference between VR viewing and traditional viewing is that the former allows the audience to enter the story as participants. In past 2-3 years, VR

animation works which have won awards in major film festivals.

CURRENT SITUATION OF VR ANIMATION

VR has three main characteristics: immersion, interaction and imagination. The virtuality of animated film can give full play to its media characteristics compared with live panoramic pictures. In terms of technology, in addition to continuing the expression method of traditional animation film, VR animations also covers the game and other new forms of experience [1].

RELATED WORK

A. 2D Animation Approaches

The first type of animation was developed by the mean of making hand drawn paintings. They put this in the cell with slide changes by frame by frame. It, then, were used to transfer on clear acetate sheets. It is called cels for painting. That's why it is called cel animation. Nearly all the studios stopped cell animation and started to do the work on the computer for digital coloring. Now the task of hand drawn went back with the Wacom Cintiq Monitors [3].

Then they started to do it some part on analog and some of them on digital way or mix up of them also. Slide

changes in the pictures is used to made by writing script on the picture.

B. 3D animation approaches

The CGI (Computer Generated Imagery) i.e. 3D becomes nowadays popular for feature films animation. It becomes now usual not only in TV but also in short films. In the live action films and VDO games, the same type of animation is used. An animator uses a tool named digital puppet to make, decide and place the position of the character. Then it uses system of motion paths to define the movement of the object or character between those poses [4].

The interpolation of the frames for the animation in between the two key frames require the particular mathematics model- ing in the tool. The refining of the frames will be done until they are fully precised animated work

This 3 Dimension animation includes

- 1) rigging the bones and control and bones,
- 2) animating it,
- 3) texturing it,
- 4) light effect on the final output.

I. SYSTEM OVERVIEW

We know that the process of animation consists of processes

- 1) designing
- 2) drawing
- 3) making layouts
- 4) making the sequence of photography

Use of Animation VR in user defining the scene.

A. Virtual Camera (VC)

This can be integrated in the gaming and multimedia products. It makes position moving of the object to make fill it feel movement-able. An animator (person) can utilize various computer technologies to snap the still images and then to move in desired and expected sequence. So is the AnivationVR.

- 1) Anivation VR: It is a plugin in the game engine. Any existing multimedia products may be animated using this plugin. It is animated by making the part to the AnimationVR object for the shots of the scene. It makes every object to be included been animated which are in the script [5], [6].
- 2) HTC Vive: It is VR headset developed by HTC and Valve. This handset use scaling of the room. This is

a tracking technology. It gives free environment to move the user in 3D space. It gives motion tracked handheld controllers for interact with environment.

- 1) The room scale which is used as tracking technology in the handset. It let the participant to make free movement in this three dimensional space. It uses controllers which tracks the motion to make conversation and interaction with the existed environment [5]. In the Consumer Electronics Show 2016, this handset was opened by HTC and Valve the next revision of the device, known as HTC Vive Pre. [7].

II. VR SYSTEMS AND SMALL HISTORY

- 1) HTC, tether-less VR, TPCAST (November 2016),
- 2) Google I/O 2017, Standalone VR', made by Vive and Lenovo.
- 3) In June 2017, Vive controller.

III. HARDWARE AND ACCESSORIES

It consists of

- 1) Vive Headset: 90 Hz rate (110 degree field), display resolution of 1080×1200 (2160×1200 combined pixels). It allows the user to see their in around environments and to point out any dynamic and static objects.
- 2) Vive Controllers: 24 infrared sensors to decide the controller's location.
- 3) Vive Base Stations : create a 360 degree virtual space.
- 4) Vive Tracker: to communicate with the accessory. User's or legs are used to attache to see and enable tracking of the body.
- 5) Vive Deluxe Audio Strap



Fig. No. 1 Use of Animantion VR in user defining the scene.

All most all divisions of animated films are seen on regular and traditional screen. The framing becomes important job for the cameraman as it also capture the movement as camera’s image is directly put on display of the camera itself as shown in figure 2. The camera has to be manipulated just like other objects in the scene. The zoom rig allows us to animate the focal range. The Room rig adjust the zoom rig distance from oneself.

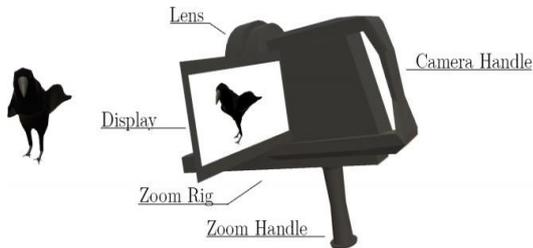


Fig.2

Virtual Camera.

B. 6-DOF HTC Controllers

This controller helps to achieve undisturbed animated flow in VR. The trigger buttons is utilized for grabbing and animating complete scene with animating the objects. For easy access and commands, the touch pads are mounted in controller. User can do the play-back, record with right and undo the animation with left one. User may press the record button and take in animated object. Then, recording of the movements of the grabbed object is loaded and saved into the animated clip.



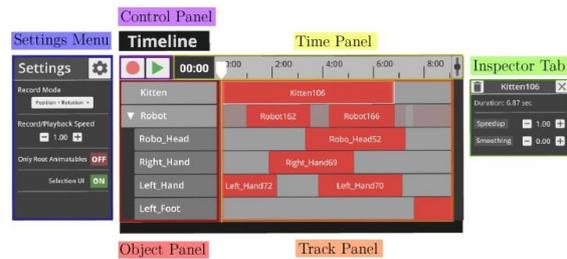
Fig.3 Left and Right Controller for the layout of the function. The functions mentioned on front side is the same as backside.

C. The Timeline for AnimationVR

The timeline of AnimationVR gives the chance to make the movement smoothly on scaled basis and can delete animated clips without getting off from VR. It helps to decrease the playback and speed of the recording. It facilitates the user to animate the slow motion but also

speedy interaction between objects more smoothly.

Fig.4 The Animation VR timeline: labeling and 2 division with different panels.



D. The Representation of the Local scenario

The local representation (as shown in the Fig. 5) table captures the it’s root transformation and freezes it. It is helpful when synchronisation between copy and original are implemented by the position and rotation of the local objects. Furthermore, there are two buttons on the right side. These let the user to spawn gizmos to rotate and scale the object. It has make around the x, y and z axis, We can see it Figure 5.

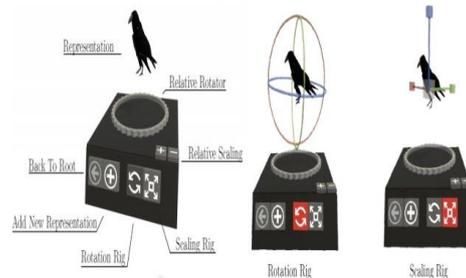


Fig.5 Labeled components for Local Representation Table.

The rotation and scaling gizmos can be seen also

E. HTC Vive VR headset

This is a Head Mounted Display (HMD) which let the users interact with the simulated environment. The HTC Vive is de- veloped by HTC and Valve. This utilizes tracking technology named room scale. It lets the participant to move in three dimensional space. It also uses motion-tracked controllers which is handheld to make the interact with the in and around the space and environment.



Fig.6 HTC Vive VR Headset.

After applying all the required editing tools, a good animated film can be created. Like Unity software, we can use other software like Flash, 3DMax, Blender, Autodesk Maya, Adobe illustrator, Aanimate and so on. By using this we can create a good animated movie using virtual reality technology. It gives a fully immersive experience to the user while watching the film.

Some movies like "Dear Angelica" won the Best VR animation Experience Award at the Sundance Film Festival in 2017. Also, The animated short film "Buddy VR", created by Korean Redrover Animation Studio, won the Best VR Experience Award at the Venice Film festival in 2018.

Conclusion

VR has made us think of more opportunities for the human being. Based on the three characteristics of virtual reality technology, animated films have developed unique audio-visual expression characteristics. This is a new and quickly evolving field that requires study so that VR film producers and directors can provide more effective films in this medium.

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Status of Infrastructure and Library Automation in The Libraries of Management Institutes: Special Reference to Baramati Region

Mrs.P.D.Hanchate

Librarian
Anekant Institute of Management Studies
hanchaepd@gmail.com

Abstract: *This study attempt to examine the status of ICT hardware infrastructure facilities, library automation in the Baramati region of Pune district. The study also analyses and problems faced by librarians during the use of ICT in the libraries. The paper concludes that Management Institute's libraries are in developing stage in its hardware. Lack of inadequate hardware, lack of continuous training, lack of funds and system administrator's support are the basic hurdles in successful development of ICT in the colleges under study.*

Keywords: *ICT, ICT infrastructure, Library automation, Management Institutes*

Introduction

In present period, ICT is widely utilized in library for different day today operations and activities. ICT is utilized to deal with the library's housekeeping tasks, administrations, and data dispersal utilizing different renditions of PCs, electronic media, mechanized hardware, word processors, programming, satellite and telecom advancements, electronic capacity media, and organizing LAN, WAN, and the Web, among other. The rising significance of advanced substance conveyance and the executives of electronic assets, just as the coordination of data set frameworks with the web climate and the parent association's administration data framework, all add to the utilization of data and correspondence innovation (ICT) in libraries. ICT emphatically affects the library world since it is open to every one of the 24 hours per day, seven days per week.

Review of Literature

Tiwari and Sahoo (2011) investigated the infrastructure and use of ICT in Madhya Pradesh university libraries and discovered that the infrastructure and use of ICT in MP university libraries are still in the early stages of growth. The basic obstacles in the effective implementation of ICT in university libraries in MP are a lack of adequate planning and oversight, as well as frequent changes in ICT.

Dhanavandan, Esmail, and Nagarajan (2011) assessed the existence of electronic resources, library automation stage, computerized library services, electronic access points, form of digital libraries, network and topology of network, internet, and intranet in self-financing engineering college libraries in Tamil Nadu.

Kumar (2012) examined the background status of college libraries affiliated with Assam University, Silchar, as well as the initiative taken by the college libraries to develop information infrastructure for ICT application in library and information activities, Internet facilities, collection development of printed and electronic resources, on-line databases access to the ejournals available under UGCINFONET Digital Library consortium and DELCON Programme by the library users.

Mondal and Bandyopadhyay (2014) evaluated the availability of ICT infrastructure in university libraries in West Bengal, India. The findings indicate that the ICT infrastructure in West Bengal's university libraries is still in the early stages of growth. The majority of libraries have the bare minimum of infrastructure for implementing ICT, but they face a manpower shortage.

Reddy and Reddy (2015) analysed the use and availability of ICT facilities in engineering college libraries in S V University area. This research examines and interprets the Hardware specification, Software specification, Library automation, digital library accessibility, Internet connectivity, Library website, Tele

communication facilities, audio visual equipments, Specialized ICT personnel, ICT strategy and policy, and Barriers to ICT use.

Objectives

- 1.To study the ICT infrastructure present in the libraries under study.
- 2.To study library automation status in the libraries under study.
- 3.To identify problems faced by librarians while using ICT

Scope

The study examines the development of infrastructure and library automation in the libraries of SPPU-affiliated Management Institutes in the Baramati region. Anekant Institute Of Management Studies, Shivnagar Vidya Prasarak Mandal's Institute Of Management, Malegaon, and Vidya Pratishthan's Institute of Information Technology, Baramati are the three management institutes in the Baramati area are under study.

Research Methodology

The present study is focused on a survey analysis approach. A structured questionnaire was designed and emailed to collect information about ICT infrastructure and its use in library operations in order to collect data. The responses of the college librarians were examined.

Conclusions.

Findings

The data was gathered and analyzed from different perspectives in order to determine the study's important findings. The findings are drawn from the churning of available data:

Availability of hardware infrastructure in libraries

Table 1: Availability of hardware

Sr. No.	Hardware available	Yes	No
1	Personal computers	100%	00%
2	Servers	100%	00%
3	Printers	100%	00%
4	Scanners	100%	00%
5	Bar code printers	66.66%	33.33%
6	Barcode scanners	100%	00%
7	Digital/Web camera	66.66%	33.33%
8	Speakers	33.33%	66.66%

9	Telephone	100%	00%
10	TV	00%	100%
11	Photocopy Machine	100%	00%
12	CCTV	100%	00%
13	LCD Projector	00%	100%
14	RFID	00%	100%

Table 1 depicts that about 11 types of ICT equipment are available in the college libraries of Baramati. The college libraries are absolving the computers and equipment having old technologies A significant number of hardware is found in the operational condition. Still these libraries is not having TV, CCTV and RFID is not available in the libraries.

Areas of library operations automated

Table 2: Areas of library operations automated

Library operation	Yes	No
Acquisition	100%	00%
Cataloguing	100%	00%
Circulation	100%	00%
Serial Control	100%	00%
OPAC /WEB OPAC	100%	00%
Barcode Generation	100%	00%
Stock Verification	66.66%	33.33%
In/Out Management	33.33%	66.66%

Library operations like acquisition, cataloguing, circulation, serial control, OPAC /WEB OPAC, barcode generation are automated in all three libraries. Stock verification is done by library management software (LMS) in two libraries and in /out management is done by LMS in only one library.

Problems faced by librarians while using ICT

Table 3: Problems faced by librarians while using ICT

Problems	Yes	No
Inadequate Financial Support	33.33%	66.66%
Inadequate Management Support	00%	100%
Inadequate Hardware	33.33%	66.66%
Lack of Continuous Training Facility	100%	00%
Inadequate power supply	00%	100%
Negative attitude of users	33.33%	66.66%
Lack of support from system administrator	66.66%	33.33%

Problems such as inadequate Financial Support, Inadequate Hardware and Inadequate power supply are faced by one institute, all institutes are having support from management and adequate power supply. Two institutes are lacking support from system administrator. Problems such as inadequate Financial Support , Inadequate Hardware and Inadequate power supply are faced by one institute, all institutes are having support from management and adequate power supply. Two institutes are lacking support from system administrator.

Conclusion

Infrastructure and use of ICT in college libraries of Baramati are in developing stage. Implementation of ICT in libraries is going to change the whole environment of the libraries and their users. However lack of inadequate hardware, lack of continuous training ,lack of funds and system administrator's support are the basic hurdles in successful development of ICT Implementation of ICT in libraries under study.

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Defect Analysis of Manufacturing Industry with The Help of Pareto Analysis and Cause and Effect Diagram

Mr. Prashant R. Mahadik
Quality Head, Supertech Shiroli MIDC,
Kolhapur.

Dr. Ganaraj Mane
Bharti Vidyapith
Yashwantrao Mohite Institute of Management, Karad.

Abstract: *In this study, there are various techniques are available to improve and control the product quality of manufacturing industry, This Paper to study the various defect of causes during manufacturing process with the help of fishbone & Pareto diagram. To analyze the various causes through three month collected data. The causes find out with the help of cause & effect diagram. And these cause analyses with the help of Pareto diagram. This analysis divulge that the problem areas are faulty process, miscommunication of people, lack of proper equipment & material, improper environment & co-operation of management*

Key words - *Pareto diagram, Fishbone diagram, continuous improvement, defects of causes.*

Introductions

Industry set up formal quality control department in recognition of its tremendous importance in early 1900s. The World War II requires military supplies to be subjected to quality control which led to the adoption of statically quality control in industry in early 1940s. In 1946, American Society for quality was formed quality movement expanded to include customer needs, total quality control or management (TQM) & continues improvement. Continuous improvement reduces the variability of the product or process. The approach is that of problem solving or revising the design of the product or process itself. Continuous Improvement is effected by using three techniques.

- 1) Pareto analysis.
- 2) Cause & effect diagrams.
- 3) Process capability charts.

QC tools are simple & effective to solve Problems. It is data based approach & supports to take appropriate decision. Every decision is based on data & based on opinion. QC tools are used to take appropriate decisions based on the data. There are seven basic quality tools used in organizations. These tools can provide much information about problems in the organization assisting to derive solutions for the some. The seven tools are flow chart, check sheet, Histogram, Pareto Diagram, cause & effect, scatter diagram, control charts.

Theoretical Background

Pareto Diagram - It is a very simple tool for quality control. Rejections can be reduced by the use of this simple but powerful tool. Pareto diagram discover the economist Wilfredo Pareto. It is also known as 80-20 rule. Here 80% of trouble comes from 20% of the Problems, bar chart arranged in descending order of height Pareto Diagram break big problems into smaller problems.

Cause & Effect Diagram:

Definition: "A graphical tool that helps identify, sort & display possible causes of a problem or quality characteristic" Fishbone diagram Developed by kaoru Ishikawa of Japan. It is also called as Ishikawa or fishbone diagram. It is used to explore potential & real causes, compare relative importance of each cause. It is helps to identify root cause.

Literature Review

The ratio between input & output is called as the productivity. Productivity can be increased by reduce defects & reduce wastage of raw material. The root cause is finding with the help of the cause & effect diagram & their analysis done with the help of Pareto diagram. Perzyk (2007) is focus on the defects of foundry industry. He shows that the reducing defects such as a sand inclusions & Jas holes. Pareto chart use the limited resources & find out the most important problems Mahto & Kumar (2008) uses the cause & effect diagram & find out the dimensional effects in cutting operation in CNC Another Study,

Khekalei (2010) is shows that the waste reduction in belt manufacturing industry is possible with the help of the cause & effect diagram. Khamis (2003) their study focus on the high defect of cross flow from the injection molding process. Find the root cause of the defects through the cause& effect diagram.

Data collection

The data has been taken from supercast machine shop. Seven types of defects were found.

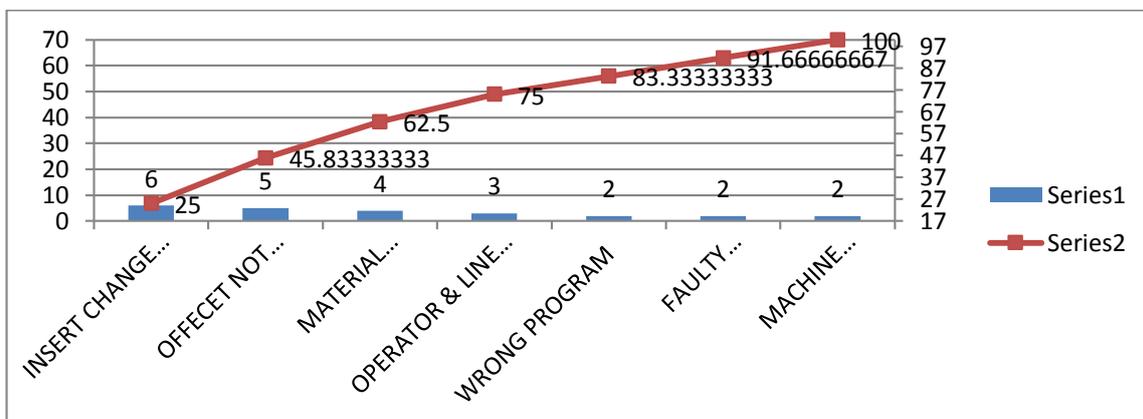
Pareto Analysis

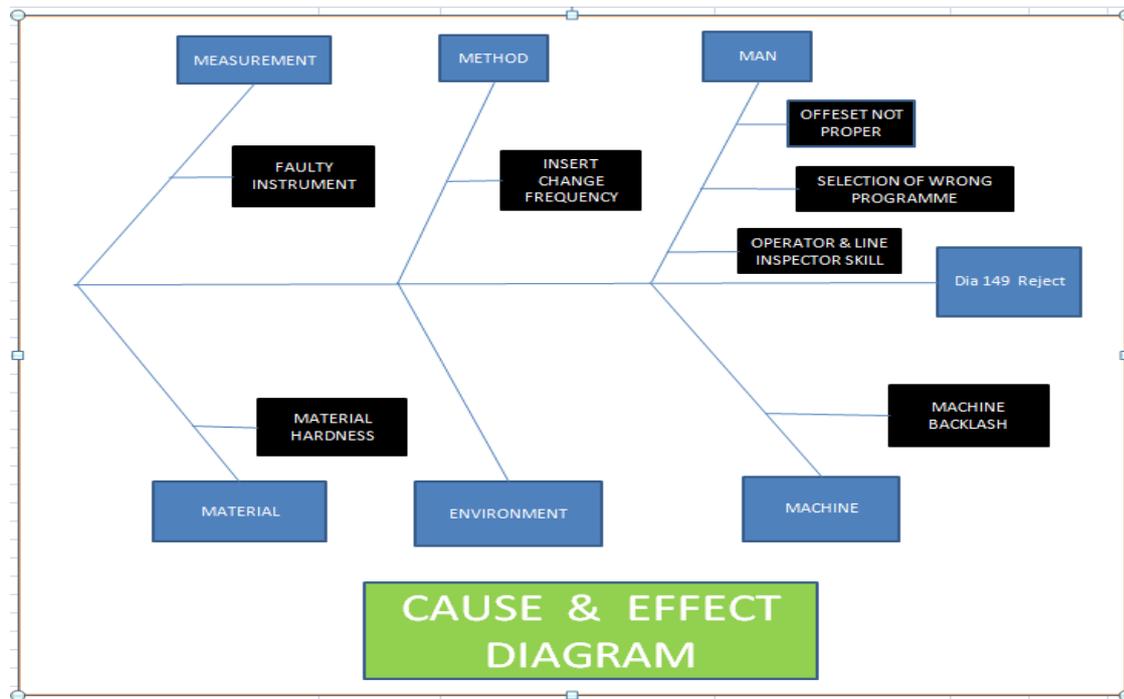
In this study, Pareto analysis based on 3 months data. Data is collected from inspection department. Horizontal axis represents defect type, right vertical axis represents defect amount & right vertical axis represents defect percentage.

Nature of defect occurrence in 3 months production.

- Insert change frequency not followed.
- Offset not proper.
- Material Hardness.
- Operator & line inspector negligence.
- Wrong program.
- Faulty instruments
- Machine Backlash.

Sr No	Defects	Frequency	Cumulative Frequency	Cumulative %
1	Insert Change Frequency Not Followed	6	6	25
2	Offecet Not Proper	5	11	45.83
3	Material Hardness	4	15	62.5
4	Operator & Line Inspector Negliance	3	18	75
5	Wrong Program	2	20	83.33
6	Faulty Instruments	2	22	91.66
7	Machine Backlash	2	24	100
	Total	24		





Observation from Pareto analysis for Top Defect positions

- Insert change frequency is not followed is the most frequent defect with as much as 25% of the total defects.
- Offset not proper are the second most frequent defect.
- Five top defect positions are the vital few which contribute to 83.34% of total defects occur.

Suggestions

Cause type	Causes	Measures
1) Operator awareness (man)	Operator is not give a proper offset & selection of wrong program	Operator should be trained regarding selection of program & taking of proper offset
2) Insert change frequency Sheet is not followed (method)	Insert change frequency Sheet is not implemented	Implemented Insert change frequency Sheet
3) Material hardness (Material)	-	Hardness check by every lot
4) Faulty instrument (material)	Material calibration is not done by frequency	Calibrate all instrument as frequency wise
5) Machine backlash (machine)	Not proper preventive maintenance	Arrange the daily, weekly & monthly preventive maintenance

Results

We found 45% rejection rate can be reduced by mainly concentrating on two areas of defect like insert change frequency & wrong offset taken. Then take a corrective & effective measure it is possible to find out the zero defects.

Conclusions

Main aim of quality is customer satisfaction & continuous improvement. Minimization of rejection is important factor. Increase the productivity & Profitability. This study indicates reduces the cost of rework.

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A Study of Human Resources Policies and Implementation of Kaizen Policy

Dr. Ashish Krishna Vyas

Asst. Prof., Zeal ZIBACAR, Pune
vyas.ashishk@gmail.com

Abstract: *The HR policies help every single person to raise his/her capabilities and performance in all possible areas in an organization by helping him to be secured & satisfied about his present & future. Thus researcher want to focus on the policies of human resource management and kaizen. HR policies mainly deals with the rules and regulations of organizations, implementation of kaizen policy and several benefits which are provided to an employee in the organization. Thus the researcher decided to research on the topic "A study of human resources policies and its implementation."*

Keywords: *Capabilities, Management, Regulation & Implementation*

Introduction:

Human Resource Policies & Practices that produce the employee competencies & behaviors the company needs to achieve its strategic aims. HR Policies constitute guides to action. Today's highly competitive and challenging business world. And the competitive advantage that any firm would enjoy, is directly proportional to its efficiency of utilizing its resources. Human resources have unarguably emerged as the most vital and having the profit potential of all. Those, in order to increase its productivity as well as its competitive, it is important for the organization to have the right kind of people, to perform the right kind of job at the right time. And to acquire the best from among a group of highly competitive professional, the effective implementation of the human resource policies play a vital role. Human Resource Policies refers to principle & rules of conduct which formulating a number of action that govern the relationship with employee in the attainment of the organization objective.

"A policies is a pre-determined selected course established as a guide to word accepted goals & objective." policy of meaning is a plan of action

Objectives of the Study

1. To study awareness about HR Policies of SAMRUDDHI DEVELOPERS.

2. To understand is HR policies maintain sound relation among employees & employer.
3. To find out the personnel satisfaction with the implementation of kaizen policy in the company.

Research Scope

- HR policies are important for the workforce in the Organization.
- It helps to maintain motivation and willing work forces.
- It is an interesting and significant area for conducting research.

Research Methodology

Introduction

Research methodology is a way to solve the problem systematically. It is a science of studying how research is done scientifically. Researcher learn the various steps that all generally embraced by a researcher in studying research problem.

Research

Research is defined as "A systematic & scientific search for relevant information on a precise topic". Research is an art of systematic investigation based on time. Research is an exact effort to achieve new knowledge.

Design of Research

The research design is the conceptual structure within which research is conducted; it constitutes the blue print of the collection, measurement and analysis of the data. The present study is exploratory in nature, as it seeks to discover ideas and insight to bring out new relationship.

Data Collection

There must be data for every research to be analysed. There are no research methods if there is no data. In any research project, data collection is crucial. It can be obtained from a variety of sources.

Sources of Information:

Primary Information:

The respondents' primary data was gathered through the use of a formal questionnaire, as well as evaluation, interview, and conversation with management.

The primary data was gathered through a standardised questionnaire and an interview.

Secondary Information:

Apart from primary data, the analysis relies on information gathered from text books, SAMRUDDHI DEVELOPERS documents, library journals, and the Internet.

Techniques of Sampling

Population of Interest:

There are a total of 80 people employed by the company.

Size of the Sample:

A total of 30 employees were chosen as respondents from the total strength.

Area Sampled:

SAMRUDDHI DEVELOPERS was the site of the study.

Obtaining a Sample:

The survey was used to perform the study, which was performed at the convenience of the employees. As a result, non-probability convenient sampling is used.

Analytical Tools Used:

A standardised closed-end questionnaire is used, with dichotomous and likert scale questions.

Techniques for Data Analysis:

A basic analysis technique is used to analyse the data. The percentage method is the data tool.

When comparing two or more sets of data, the percentage method is used. Relationships are defined using this approach.

The Study's Limitations

- The research is limited to SAMRUDDHI DEVELOPERS.
- Some respondents withheld correct responses due to the confidentiality of some information.
- Any of the respondents' responses could be skewed.

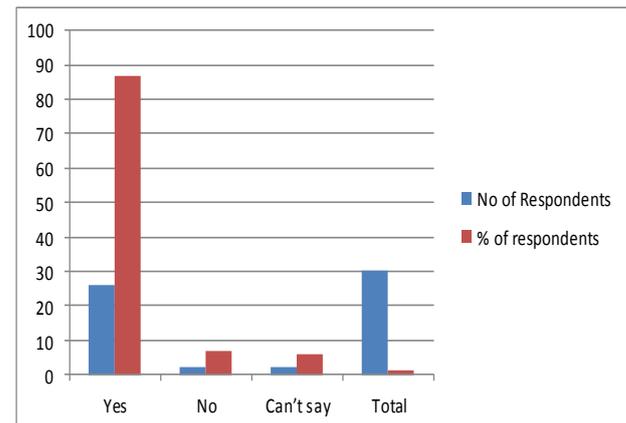
Data Analysis & Interpretation

Table showing awareness about HR Policies:

TABLE-1

Preferences	No of Responded	% of Responded
Sure	26	87
Not at all	02	7
Isn't an option.	02	6
Overall	30	100 percent

(Source: Primary Dara)

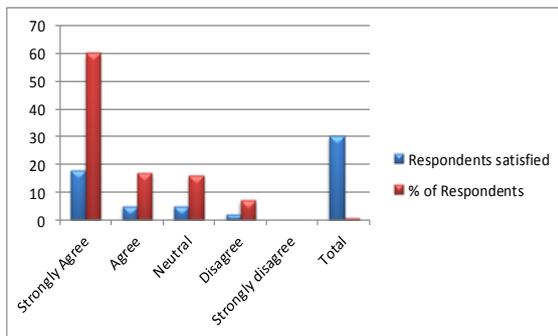


Interpretation: The highest percentage of respondents, 87 percent, was happy with HR policies. Just about 7% of the participants are dissatisfied.

HR Policies help to maintain sound relation among employees & employer:

TABLE-2

Preferences	Respondents	% of Responded
Strongly Approve	18	60
Approve	05	17
NAND	05	16
Not approve	02	07
Strongly Not approve	00	00
Overall	30	100



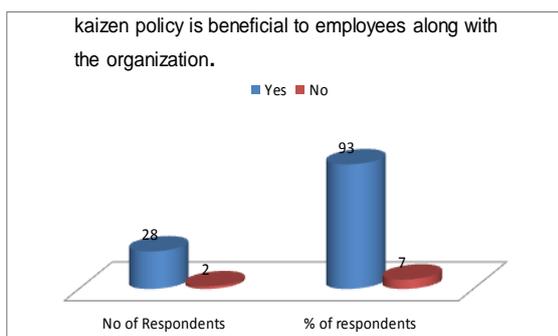
Interpretation: Maximum numbers of employees i.e. 93% are in the favour that HR policies maintain sound relation among employees & employer. Only few members i.e. 07% are not satisfied.

Table showing that Kaizen policy is beneficial to employees along with organization:

TABLE-3

Preferences	No of Responded	% of Responded
Sure	28	93
Not at all	02	07
Overall	30	100 percent

Concept: An effort is made to determine if the kaizen strategy is beneficial to both workers and the company.



Interpretation: 93 percent of respondents are happy with the kaizen policy, according to the findings

Findings

1. Found that 87% are aware about HR policies of organization. Only few members i.e. 07% are not aware.
2. 93% are in the favour that the HR policies maintain sound relation among employees & employer. Only few members i.e. 07% are not in favour.
3. 93 percent of respondents are happy with the kaizen policy, according to the findings.

Suggestions

1. Improve the awareness of the employees about the HR policies.
2. Try to improve and maintain the sound relation among employees & employer.
3. Try to improve the implementation of kaizen policy.

Final Thoughts

The findings and recommendations are focused on the results of the study, and these points will be investigated and measures taken to enforce HR policies.

According to the findings of the study, workers are pleased with HR policies. HR policies are a significant factor in maintaining a positive relationship between workers and employers. According to the report, there is room for progress in the application of the kaizen policy.

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Conference Sequel 2021

Call for Papers

“Fostering Human Resilience: Catalyst for Management, Science and Technology”

Young students live up or down to expectations the elders (Parents, teachers; family, friends, and Institutions) set for them. They need the elders to believe in them unconditionally and hold them to the high expectations of being compassionate, generous, and creative. Dr. Ginsburg, a paediatrician turned social worker from Philadelphia mentions seven imperatives for any institutions ready to make their subjects resilient: Competence, Confidence, Connection, Character, Contribution, Coping and Control. The present conference to be scheduled during second week of October, 2021, shall facilitate deliberations among industry and academia to identify trends, recognize implications, and produce relevant outcomes which can help educational institutes in grooming their students and businesses to manage their resources and thereby build resilient organizations.

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