

3.3.1 Number of research papers published per teacher in the Journals notified on UGC website during the last five years									
	Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the		
							Link to website of the Journal	Link to article / paper / abstract of the article	Is it listed in UGC Care list
2018-19									
1	Impact of Goods & Service Tax (GST) on ease of doing business	Prof.N.M.Nair	MBA	Vidyawarta International Multilingual Refereed Research Journal	2018-2019	2319-9318	https://www.vidyawarta.com/02/?p=5345	https://www.vidyawarta.com/02/?p=5345	NO
2019-20									
2	Digitalisation in Education Sector	Prof.N.M.Nair / Dr. B.M.Londhe	MBA	Research Journey - International Multidisciplinary E-Research Journal	2019-2020	2348-7143			No
3	" An Analytical Study of impact of Entrepreneurship on Economic Empowerment of Women".	1.Dr. V.V.Sable 2. Dr.B.M.Londhe	MBA	Vidyabharati International Interdisciplinary Research Journal 10(2) 166-169	2019-2020	ISSN: 2319-4979	https://www.viirj.org/vol10issue2/27.pdf	https://www.viirj.org/vol10issue2/27.pdf	Yes
4	Digitalisation in Education Sector	Dr. B.M.Londhe /Prof.N.M.Nair	MBA	Research Journey - International Multidisciplinary E-Research Journal	2019-2020	2348-7143	https://www.researchjourney.net/issues	https://www.researchjourney.net/issues	No
2020-21									
	HEALTH CARE SCHEMES IN INDI	Dr.B.M. Londhe & Mr.	MBA	Sambodhi	2020-2021	2249-6661	Print Only Journ	Print Only	Yes
5	A COMPARATIVE STUDY ON IMPACT OF COVID-19 ON GOVERNMENT SCHOOLS AND PRIVATE SCHOOLS STUDENTS WITH PARTICULAR REFERENCE TO AHMEDNAGAR DISTRICT	N.M. Nair and B.M. Londhe	MBA	Vidyabharati International Interdisciplinary Research Journal 11(1)	Sep-20	ISSN- 2319-4979	http://www.viirj.org	http://www.viirj.org/vol11issue1/24.pdf	Yes

6	A STUDY ON STRESS MANAGEMENT OF SCHOOL TEACHERS IN COVID-19 PANDEMIC WITH SPECIAL REFERENCE TO AHMEDNAGAR DISTRICT	N.M. Nair and B.M. Londhe	MBA	Vidyabharati International Interdisciplinary Research Journal 11(1)	Sep-20	ISSN- 2319-4979	www.viirj.org	http://www.viirj.org/vol11issue1/24.pdf	Yes
7	Role of Management functions in enhancing the effectiveness of Modern farming Terchniques	Dr. L D Shah and Dr.B.M.Londhe	MBA	Vidyabharti International Interdisciplinary Journal 11(1)	Sept,2020	ISSN- 2319-4979	http://www.viirj.org/vol11issue1.html	http://www.viirj.org/vol11issue1/30.pdf	Yes
8	CHALLENGES FOR ADOPTION OF POLYHOUSE TECHNOLOGY AMONG FARMERS OF AHMEDNAGAR AND NASHIK DISTRICT	Dr. L D Shah and Dr.B.M.Londhe	MBA	Vidyabharti International Interdisciplinary Journal 11(1)	Sept,2020	ISSN- 2319-4979	http://www.viirj.org/vol11issue1.html	http://www.viirj.org/vol11issue1/25.pdf	Yes
9	An Analytical study of use of an Artificial intelligence in Inventory mgt. with reference to medium scale manufacturing Industries in Nashik Industrial Estate	Mr. Nitin Shivaji Jondhale	MBA	Vidyabharti International Interdisciplinary Research Journal	Sep-20	SSN2319-4979	https://www.viirj.org/vol11issue1/31.pdf	https://www.viirj.org/vol11issue1/31.pdf	Yes
10	Indian Startup 2020:Challenges and Opportunities for Entrepreneur.	Dr.N.N.Dighe	MBA	International Research Fellows Associations RESEARCH JOURNEY International	Nov-20	ISSN-2348-7143 Impact Factor	Print Copy	Print Copy	Yes
11	Study of Consumer Behavior towards Amullassi in Nasik City.	Dr.N.N.Dighe, Dr.R.B.Gawali	MBA	ShodhSarita vol.7,Issue 28 UGC Care Approved, Peer Reviewed Research Journal.	Oct-Dec 2020	ISSN-2348-2397	Print Copy	Print Copy	Yes
12	HEALTH CARE SCHEMES IN INDIA FOR CHILDREN AND PREGNANT WOMEN	Viresh Parkhe and B M londhe	MBA	Sambodhi (UGC Care Journal)	January-March (2021)	Vol-44, No.-1, (III)	Print Copy	Print Copy	Yes
13	The Innovative Trends for Sustainable Agriculture: A Systematic Review	Mrs. Brototi Mistri and B M londhe	MBA	Sambodhi (UGC Care Journal)	January-March (2021)	Vol-44, No.-1, (III)	Print Copy	Print Copy	Yes
14	SUSTAINABLE FARMING PRACTICES IN INDIAN AGRICULTURE	Mrs. Brototi Mistri and B M londhe	MBA	INTERNATIONAL RESEARCH e-CONFERENCE on	Dec-20	ISSN No.(E):2581-4230	www.journalnx.com	Print Copy	Yes
15	“Sustainable investment through initial public offer: a case study of India”	Dr. L D Shah and Dr.B.M.Londhe	MBA	Juni Khyat Research Journal, Vol-12 Issue-09 No.02	Sep-22	ISSN:2278-4632	http://junikhyatjournal.in/index.html	http://junikhyatjournal.in/index.html	Yes
16	“Financial Technology a way to success for Banking Sector in India”	Dr. L D Shah and Dr.B.M.Londhe	MBA	Juni Kyat A Multidisciplinary Journal of Research, Vol-12 Issue-10	October 2022.	ISSN:2278-4632	http://junikhyatjournal.in/index.html	http://junikhyatjournal.in/index.html	Yes

17	A study on E learning startups in India	Prof.N.M.Nair / Dr. B.M.Londhe	MBA	Research Journey - International Multidisciplinary E-Research Journal	2020-21	2348-7143	http://researchjourney.net/admin/uploads/special_issue/20201122124629.pdf		NO
18	Study of Consumer Behavior towards Amullassi in Nasik City.	Dr.N.N.Dighe, Dr.R.B.Gawali	MBA	ShodhSarita vol.7,Issue 28 UGC Care Approved, Peer Reviewed Research Journal.	Oct-Dec 2020	ISSN-2348-2397	http://seresearchfoundation.in/shodhsarita/	https://drive.google.com/file/d/11S5HedogDQWHDKoQUoF82BJgEh1rEQV/view?usp=sharing	yes
19	" Entrepreneurship : An enabler for social empowerment of women".	1.Dr.V.V.Sable 2. Dr.B.M.Londhe	MBA	Vidyabharati International Interdisciplinary Research Journal 11(1) 127-130	2020-2021	ISSN: 2319-4979	https://www.viirj.org/vol11issue1/18.pdf	https://www.viirj.org/vol11issue1/18.pdf	Yes
20	CHALLENGES FOR ADOPTION OF POLYHOUSE TECHNOLOGY AMONG FARMERS OF AHMEDNAGAR AND NASHIK DISTRICT	Dr.L.D.Shah Dr.B.M.Londhe	Management	Vidyabharati International Interdisciplinary Research Journal 11(1) 169-179	Sep-20	ISSN 2319-4979	http://www.viirj.org/vol11issue1.html	http://www.viirj.org/vol11issue1/30.pdf	Peer Reviewed and Refreed Journal.
21	ROLE OF MANAGEMENT FUNCTIONS IN ENHANCING THE EFFECTIVENESS OF MODERN FARMING TECHNIQUES	Dr.L.D.Shah Dr.B.M.Londhe	Management	Vidyabharati International Interdisciplinary Research Journal 11(1) 203-211	Sep-20	ISSN 2319-4979	http://www.viirj.org/vol11issue1.html	http://www.viirj.org/vol11issue1/25.pdf	Peer Reviewed and Refreed Journal.
22	A study on E learning startups in India	Prof.N.M.Nair / Dr. B.M.Londhe	MBA	Research Journey - International Multidisciplinary E-Research Journal	2020-2021	2348-7143	http://researchjourney.net/admin/uploads/special_issue/20201122124629.pdf		NO
23	A COMPARATIVE STUDY ON IMPACT OF COVID-19 ON GOVERNMENT SCHOOLS AND PRIVATE SCHOOLS STUDENTS WITH PARTICULAR REFERENCE TO AHMEDNAGAR DISTRICT	Prof.N.M.Nair / Dr. B.M.Londhe	MBA	Vidyabharti International Interdisciplinary Research Journal 11 (1)	2020-2021	2319-4379	https://www.viirj.org/	https://www.viirj.org/vol11issue1/24.pdf	YES

24	A STUDY ON STRESS MANAGEMENT OF SCHOOL TEACHERS IN COVID-19 PANDEMIC WITH SPECIAL REFERENCE TO AHMEDNAGAR DISTRICT	Prof.N.M.Nair / Dr. B.M.Londhe	MBA	Vidyabharti International Interdisciplinary Research Journal 11 (1)	2020-2021	2319-4379	https://www.viirj.org/	https://www.viirj.org/	YES
2021-22									
25	CHALLENGES IN SERVICES PROVIDED BY PRIMARY HEALTH CENTERS FOR CHILDREN AND PREGNANT WOMEN HEALTHCARE MANAGEMENT IN INDIA	Dr.B.M. Londhe & Mr.Parkhe V.B.	MBA	JOURNAL OF MANAGEMENT & ENTREPRENEURSHIP	2021-2022	2229-5348	Print Only Journal	Print Only Journal	Yes
26	PRIMARY HEALTHCARE IN INDIA: ISSUES AND PROSPECTS	Dr.B.M. Londhe & Mr.Parkhe V.B.	MBA	JOURNAL of THE ASIATIC SOCIETY OF MUMBAI	2021-2022	0972-0766	Print Only Journal	Print Only Journal	Yes
27	PRIMARY HEALTHCARE IN INDIA: ISSUES AND PROSPECTS	Dr. B. M. Londhe	MBA	JOURNAL OF THE ASIATIC SOCIETY OF MUMBAI	2021-22	0972-0766	Print	Print	YES
28	HEALTH CARE SCHEMES IN INDIA FOR CHILDREN AND PREGNANT WOMEN	Dr. B. M. Londhe	MBA	Sambhodhi	Jul-05	2249-6661	Print	Print	YES
29	PRIMARY HEALTHCARE IN INDIA: ISSUES AND PROSPECTS	Dr. B. M. Londhe	MBA	Current Scenario of Innovative Research in Higher Education - (CSIRHE-2022)	8-9 April, 2022		Print	Print	No
30	CHALLENGES IN SERVICES PROVIDED BY PRIMARY HEALTH CENTERS FOR CHILDREN AND PREGNANT WOMEN HEALTHCARE MANAGEMENT IN INDIA	Dr. B. M. Londhe	MBA	JOURNAL OF MANAGEMENT & ENTREPRENEURSHIP	January-March 2022	2229-5348	Print	Print	YES
31	AN ANALYTICAL STUDY OF ROLE PLAYED BY MANAGEMENT INFORMATION SYSTEMS ON ORGANIZATIONAL PERFORMANCE OF PRIVATE HOSPITALS IN AHMEDNAGAR REGION	Dr.N.S.Bhand	MBA	Vidyabharati International Interdisciplinary Research Journal 13(1)	Sept. 2021	2319-4979	http://www.viirj.org/vol13issue1.html	http://www.viirj.org/vol13issue1/37.pdf	YES
32	MANAGEMENT INFORMATION SYSTEM IN PRIVATE HOSPITAL- A LITERATURE REVIEW	Dr.N.S.Bhand	MBA	Vidyabharati International Interdisciplinary Research Journal 13(1)	Sept. 2021	2319-4979	http://www.viirj.org/vol13issue1.html	http://www.viirj.org/vol13issue1/48.pdf	YES

33	IMPACT OF E- LEARNING ON STUDENT LEARNING AND EMPLOYABILITY-A STUDY IN MAHARASHTRA	Dr.N.S.Bhand	MBA	Juni Khyat (UGC Care Group I Listed Journal)	Oct.2021	2278-4632	Juni Khyat (print only)	http://juniikhayatjournal.in/	YES
34	IMPACT OF HEALTH ISSUES ON EMPLOYEE PRODUCTIVITY	Dr.N.S.Bhand	MBA	THE JOURNAL OF ORIENTAL RESEARCH MADRAS [UGC Care Approved, Group I, Peer Reviewed and Referred Journal]	Oct.2021	0022-3301	[Print only]	The Journal of Oriental Research Madras [Print Only]	YES
35	Under Online Resources and Technologies: National Digital Library of India: A Study and Model for Digital Ecosystem of Learning: NDLI Club	Mr Kahandal C.B and DR.N.S.Bhand.	Library	Book Name: Modern Education and Resources	Jan-22	ISBN 978-93-92425-55-4	https://prashantpublications.com/	https://prashantpublications.com/	YES
36	Project Management Challenges and Opportunities in 21st century-A Study of Medium and Small scale industries	Dr. Nitin Shivaji Jondhale	Operation & SCM	Juni khyat	Apr-22	2278-4632	<editor.junikhayat@gmail.com	Print	YES
37	A study on service marketing mix used in private hospitals of Ahmednagar District.	Dr N.N.Dighe	MBA	The Journal of Oriental Research Madras	AUGUST : 2021	ISSN 0022-3301 Vol.XCII,No.3	https://portal.issn.org/portal/issn/0022-3301	https://drive.google.com/file/d/1VP7ExWFrcthsaQcaMBT8Wgg00-oboF1N/view?usp=sharing	YES
38	MANAGEMENT INFORMATION SYSTEM IN PRIVATE HOSPITAL- A LITERATURE REVIEW	Dr.Nitin Sopan Bhand,Dr N.N.Dighe	MBA	Vidyabharati International Interdisciplinary Research Journal 13(1)	Sept. 2021	ISSN:2319-4979	http://www.viiri.org/vol13issue1.html	http://www.viiri.org/vol13issue1/48.pdf	YES

39	Do Marketing Mix and Debtor Management Issues Responsible for Milk Plant Failure? An Analysis	Dr. Ravindra B. Gawali & Dr. Navnath N. Dighe	MBA	The Journal of Oriental Research Madras[ISSN 0022-3301],UGC Care Approved,Group I,Peer Reviewed & Referred Journal	October 2021	ISSN 0022-3301 Vol.XCII, No. 3	http://www.southasiaarchive.com/Content/sarf.120059	https://drive.google.com/file/d/1_bjFm5y8fTGIGV2BCDsDSXir9r7vs6xx/view?usp=sharing	YES
40	Study of Consumer Behavior towards Amul Lassi in Nasik City.	Dr.N.Dighe &Dr.R.B.Gawali	MBA	Shodh Sarita ISSN-2348-2397 International	Oct-Dec 2020	ISSN:0972-7175ol. : XXIV, No. :1(VIII), 2022	http://seresearchfoundation.in/shodhsarita/	https://drive.google.com/file/d/1155HegDQWHDKoQUoF82BJgEh1rEQV/view?usp=sharing	YES
41	Do Marketing Mix and Debtor Management Issues Responsible for Milk Plant Failure? An Analysis	Dr. Ravindra B. Gawali & Dr. Navnath N. Dighe	MBA	The Journal of Oriental Research Madras[ISSN 0022-3301],UGC Care Approved,Group I,Peer Reviewed & Referred Journal	October 2021	ISSN 0022-3301	http://www.southasiaarchive.com/Content/sarf.120059	https://drive.google.com/file/d/1_bjFm5y8fTGIGV2BCDsDSXir9r7vs6xx/view?usp=sharing	YES
42	Sales, Cost and Profit Performance Analysis of Selected Cooperative & Private milk Processing Plants in Ahmednagar District of Maharashtra	Dr. Ravindra B. Gawali	MBA	Zeichen Journal [UGC CARE Approved Group II' Journal,ISSN:0932-4747,Scientific Journal Impact Factor-4.7]	September 2021	ISSN:0932-4747	http://www.ezeichen.com/	http://www.ezeichen.com/volume-7-issue-8-2021/	YES
43	Liquidity Management Efficiency Analysis of Small Milk Processing Plants in Private and Cooperative Sectors in Ahmednagar District of Maharashtra	Dr. Ravindra B. Gawali	MBA	GIS SCIENCE JOURNAL [UGC -CARE Approved Group II' Journal,ISSN NO: 1869-9391,Scientific Journal Impact Factor-6.1	September 2021	N NO: 1869-9391	http://www.gisscience.net/	http://www.gisscience.net/VOLUME-8-ISSUE-9-2021/	YES

44	Sustainable Consumption & Production :Issues, Challenges, Strategies and way forward	Dr. Ravindra B. Gawali	MBA	Mukt Shabd Journal UGC Care Group-I Journal Vol X,Issue VIII, Page 698-706 [ISSN NO:2347-3150 (Impact Factor:4.6)]	August 2021	SN NO:2347-3	http://shabdbooks.com/Vol-10-Issue-8-2021/	http://shabdbooks.com/Vol-10-Issue-8-2021/	YES
45	Causes of Poor Financial Literacy in India	Dr. Ravindra B. Gawali & Prof. Jayraj Javheri	MBA	Mukt Shabd Journal UGC Care Group-I Journal Vol X,Issue VIII, Page 698-706 [ISSN NO:2347-3150 (Impact Factor:4.6)]	July 2021	SN NO:2347-3	http://shabdbooks.com/Vol-10-Issue-7-2021/	http://shabdbooks.com/Vol-10-Issue-7-2021/	YES
46	How Digital Transformation Can help Indian MSMEs in Overcoming Constraints and Improving Performance?-An Analysis and Way Forward	Dr. Ravindra B. Gawali	MBA	The Management Accountant Journal(The Institute of Cost Accountants of India, Statutory Body under an Act of Parliament Kolkata:700016) ISSN 2230-9241 (The Global Impact and Quality Factor:0.563)	July 2021	SSN 2230-924	http://icmai-rni.in/index.php/maj	http://icmai-rni.in/index.php/maj/issue/view/9490	YES
2022-23									
47	Role and Opportunities of NEP 2020 Policies in India with Perspective of Management Education	Dr.B.M. Londhe & Mr.Parkhe V.B.	MBA	RESEARCH JOURNEY	2022-2023	2348-7143	https://www.researchjourney.net/special-issues	https://www.researchjourney.net/special-issues	No
48	A Study Of Arjuna's Qualities And Their Implications In Today's Management Scenario	RohanKelkar, Pavel Mokracek,Dr. Sandip K. Nimbalkar, Dr. Ninad Gandhi	MBA	Journal of Positive School Psychology	2022-2023	Scopus	http://journalppy	https://jou	Scopus
49	A study on fundamental analysis of slected steel companies listed in NSE	Dr N.M.Nair / Dr. B.M.Londhe	MBA	Juni Khyat Journal	2022-2023	2278-4632	http://junikhyatjournal.in/		YES
50	A study on mutual fund risk & Return : A comparative anlysis of large cap, mid cap & small cap	Dr N.M.Nair / Dr. B.M.Londhe	MBA	Juni Khyat Journal	2022-2023	2278-4632	http://junikhyatjournal.in/		YES

51	A study on emergence of Artificial Intelligence:Issues & Future prospect	Dr.N.M. Nair	MBA	IBMRD's Journal of Management & Research	2022-2023	2277-7830	https://www.ibmrdjournal.in/index.php/ibmrd/research/authors/view?firstName=N.%20M.&middleName=&lastName=Nair&affiliation=Amrutvahini%20Institute%20of%20Management%20and%20Business%20Administration%2C%20Sangamner&country=IN		NO
52	Study on Challenges related to NEP 2020 in India	Dr N.M.Nair / Dr. B.M.Londhe	MBA	Research Journey - International E- Research Journal	2022-2023	2348-7143			NO
53	A study on service marketing mix used in private hospitals of Ahmednagar District.	Dr N.N.Dighe	MBA	The Journal of Oriental Research Madras	AUGUST : 2021	ISSN 0022-3301 Vol.XCII,No. 3	The Journal of Oriental Research Madras.UGC Care Approved Group I, Peer Reviewed & Indexed Journal	https://portal.issn.org/resource/ISSN/0022-3301	https://drive.google.com/file/d/1VP7ExWFrcrhSaQcaMBT8WqgO0-oboF1N/view?usp=sharing
54	MANAGEMENT INFORMATION SYSTEM IN PRIVATE HOSPITAL- A LITERATURE REVIEW	Dr.Nitin Sopan Bhand,Dr N.N.Dighe	MBA	Vidyabharati International Interdisciplinary Research Journal 13(1)	Sept. 2021	ISSN:2319-4979	Vidyabharati International Research Journal. UGC Care Approved Journal	http://www.viirj.org/vol13issue1.html	http://www.viirj.org/vol13issue1/48.pdf

55	Do Marketing Mix and Debtor Management Issues Responsible for Milk Plant Failure? An Analysis	Dr. Ravindra B. Gawali Dr. Navnath N. Dighe	MBA	The Journal of Oriental Research Madras[ISSN 0022-3301],UGC Care Approved,Group I,Peer Reviewed & Referred Journal	October 2021	ISSN 0022-3301 Vol.XCII,No. 3	The Journal of Oriental Research Madras.UGC Care Approved Group I, Peer Reviewed & Indexed Journal	http://www.southsiasaarchiv.e.com/Content/sarf.120059	https://drive.google.com/file/d/1bjFm5y8fTGIGV2BCDsDSXir9r7vs6xx/view?usp=sharing
56	" A Study of Problems faced by women in starting their Entrepreneurial ventures in Small Scale Agro Processing Industry".	1. Dr.V.V.Sable 2. Dr.B.M.Londhe 3. Dr.S.S.Gunjaj	MBA	Shodha Prabha : A Refereed & Peer Reviewed Quarterly Research Journal Vol. 47,Issue. 01,No.15: 2022	2022-2023	ISSN: 0974-8946	www.slbsrsv.ac.in	Yes	
57	"Financial Technology a way to success for Banking Sector in India"	Dr.L.D.Shah Dr.B.M.Londhe	Management	Juni Kyat A Multidisciplinary Journal of Research, Vol-12 Issue-10 No.01	October 2022.	ISSN:2278-4632	http://junikhayatjournal.in/index.html	http://junikhayatjournal.in/index.html	Yes
58	A Bibliometric analysis of emotional intelligence and performance	Vidyavati H. Ramteke, Dr. B. M. Londhe	Information Technology	Juni Khyat	2022-2023	2278-4632	http://junikhayatjournal.in/index.html	http://junikhayatjournal.in/index.html	Yes
59	Exploring qualitatively the awareness of emotions and coping mechanism of the midlevel IT employees based on emotional intelligence theory	Vidyavati H. Ramteke, Dr. B. M. Londhe	Information Technology	Juni Khyat	2022-2023	2278-4632	http://junikhayatjournal.in/index.html	http://junikhayatjournal.in/index.html	Yes



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Impact of Goods & Service Tax (GST) on Ease of Doing Business

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ABSTRACT:

Goods and Services Tax (GST) is an indirect tax levied in India on the sale of goods and services. The implementation of GST has impact on each sector like Agriculture sector, Industrial sector and Service sector. Various business organizations like Micro, small and medium Enterprises (MSME) and also large organizations faced lots of difficulties in understanding and implementing GST into their business. Although implementation of GST is a radical steps towards globalization, still their some people who are facing the problem of doing their business easily. Through this research paper researcher want to find out impact of Goods and service tax on Ease of Doing Business specially in Sangamner MIDC in Ahmednagar district

Key words: Goods & Service Tax (GST), MSME, Ease of doing business

INTRODUCTION:

The Goods and Service Tax Act was passed in the Parliament on 29th March 2017. The introduction of Goods and Services Tax on 1st of July 2017 was a very significant step in the field of indirect tax reforms in India. By amalgamating a large number of Central and State taxes into a single tax, the aim was to mitigate cascading or double taxation in a major



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a Research Paper, in Two days National Seminar On "**Digital Marketing Beyond
Metros-Challenges & Opportunities**" on 7th - 8th February 2020.

He/She contributed research paper (s) entitled DIGITALIZATION IN
EDUCATION SECTOR- AWAY AHEAD.


Prof. R. B. Satpute
Seminar Coordinator


Dr. B. M. Londhe
Director

Amrutnagar, Nashik - Pune Highway, Sangamner - 422 608, Dist.: Ahmednagar (M.S.)

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Digitalization in Education Sector : A Way Ahead

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Abstract :

Innovation and technology are predominant in every sector in India with each undergoing vast change within the past few years. Technology and digitalization has made every single work much easier and we can do it much faster, leaving no option for various sectors of the economy but to adapt to vary or fear to become obsolete. In this scenario of digitalization, it's a requirement for the education sector to also adapt to a dynamic environment because it allows it to stay pace with a competitive world. Through this research paper researcher want to know the impact on digitalization in education sector and future of digitalization in education sector. Over a period of your time many changes have occurred in several sectors of economy including the education system. Education sector unlike the other sector has seen many stages in its evolution. From Gurukul system of Guru-Shishya of conducting the learning in open environment with any roof on top to the inbound class room within the four walls .Lectures, presentation sort of teaching with the help of LCD touch-screen projector to online notes and now instant WhatsApp messages is that the buzzword among the scholars . Therefore from this research paper the research wants to find out the importance of digitalization in educational sector

Keywords : Digitalization, Technology, Educational Sector

Introduction

What is Digitalization?

It is the process of converting information into a digital (i.e. computer-readable) format, in which the information is organized into bits. The result is the presentation of ansound, picture, thing, sign or document (generally an analog signal) by presenting a set of numbers that describe a different set of points or samples

Digitalization in Education Sector

The days where most students, parents, or teachers flip through newspaper ads to scour for a superb institution are gone. Also, scrolling through the telephone book to look for an academic organization's contact information have vanished. Most of Generation Y has become too hooked in to technology. And one thing is for certain though — technological invasion is at its peak. The education industry is one among the foremost important sectors in society. It's high time now that the traditional education system should bring their top efforts in digital marketing. The education industry has changed significantly within the past few years. Students' learning approach nowadays is different from the primitive classrooms we were wont to. Back within the day, one has got to await his or her address use the only personal computer during a classroom. Now, an educator can sync a slide presentation for the day's academic lesson to student iPads and laptops. With the introduction of technology and its wide spread technology and familiarity





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A STUDY ON STRESS MANAGEMENT OF SCHOOL TEACHERS IN COVID-19 PANDEMIC WITH SPECIAL REFERENCE TO AHMEDNAGAR DISTRICT

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ABSTRACT

Covid-19 Pandemic has affected every sector of the world; the education sector is one of the severely affected sectors. Teachers who were engaged in their classroom were suddenly asked to take their classes online, especially the school teacher who did not have all resources and infrastructure to take the online classes had to face lots of difficulty in the initial stages of the covid-19 pandemic outbreak. The researcher would like to study the School teacher's work stress in this covid-19 crisis through this research paper. School teachers did not have the proper training for taking online classes, and they also did not have proper resources like Laptops, Mobiles, Smart Boards, Internet connectivity, etc., which resulted in increased workload and stress in the minds of the teachers. Stress can influence the teacher's performance and their effects, which may ultimately impact the school's overall performance, which may compromise students' education. Teachers are also facing financial problems in this covid-19 Pandemic as most teachers are receiving only half of their actual salary or even less than that. Hence through this research paper, the researcher will try to determine the work stress of teachers and measures they adopt to minimize stress.

Keywords: Pandemic, Stress, Workload, Financial Problem.

Introduction

Normally teaching is considered a stress-free job, but due to continuous digitalization and industrialization, the teacher's job and especially school teachers have become more challenging and stressful. This situation became worse when the covid-19 Pandemic struck the world, and the whole world stopped. Because of lockdown, all over the industries were closed, the malls were closed, and even the schools were closed. The teachers were asked to take the classes through online mode, and with any proper training and limited infrastructure, the teacher's Work became more stressful.

What is Stress?

Definition – "Stress may be outlined as any variety of amendment that causes physical, emotional, or psychological strain. Stress is your body's response to something that needs attention or action."

Stress could be a feeling of emotional or physical tension. It will come back from any event or thought that creates you are feeling annoyed, angry, or nervous. Stress is your body's reaction to a challenge or demand. Briefly bursts, stress may be positive, like once it helps you avoid danger or meet a point. However, once stress lasts for a protracted

time, it should damage your Health. There are two main varieties of stress:

- **Acute stress.** This can be short-run stress that goes away quickly. You feel it after you put on the brakes, have a fight along with your partner, or ski down a steep slope. It helps you manage dangerous things. It additionally happens after you do one thing, new or exciting. All individuals have acute stress at just once or another.

- **Chronic stress.** This can be stress that lasts for an extended amount of your time. You will have chronic stress if you have cash issues, a sad wedding, or a hassle at Work. Any variety of stress that goes on for weeks or months is chronic stress. You will become thus will not to chronic stress that you do not understand it is a tangle. If you do not notice ways in which to manage stress, it should cause health issues. Stress can lead to various types of Mental, emotional and physical problems. Many times, you may not know that these problems or issues are caused by stress. Here are some signs that stress may be affecting you:

1. Weight loss or gain
2. Headaches
3. Diarrhea or constipation
4. Tiredness
5. Forgetfulness

A COMPARATIVE STUDY ON IMPACT OF COVID-19 ON GOVERNMENT SCHOOLS AND PRIVATE SCHOOLS STUDENTS WITH PARTICULAR REFERENCE TO AHMEDNAGAR DISTRICT

N.M. Nair¹ and B.M. Londhe²

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ABSTRACT

With the outbreak of Pandemic Covid-19, every sector has been badly affected, whether in the manufacturing or service sectors or the agricultural sector. The educational sector has also been severely impacted, where students cannot learn and study in a normal situation. The online classes are conducted, which has become THE NEW-NORMAL in this challenging phase. To follow social distancing norms, the pandemic has forced the schools and colleges to close down to fight against the spread of Coronavirus. With this covid-19, the student community has been affected very badly. The central government and state government have taken various measures to neutralize the pandemic's effect on the educational sector. Schools also are taking special efforts to evaluate the students. The students' assessment has also changed drastically, and this outbreak may severely impact the future of the students and their careers. From this research paper, the researcher would like to determine the significant challenges and difficulties faced by students of Government schools and private schools. This paper will try to study the various initiatives and measures taken by the state government and central government to revive the educational sector.

Keywords: Pandemic, The New Normal, Government schools, Private schools

Introduction

The World came to stand still when the Pandemic Covid-19 struck. The virus, which originated from China, spread rapidly worldwide, which resulted in the temporary closing down of all educational institutes globally. As of date round, about 1 billion students have got affected due to shut down of schools. Closure of schools have not only impacted students but have also impacted teachers and families, this impact was additionally severe for underprivileged kids and their families, resulting in disturbance in learning, lower nutrition, child care issues, and resulting in economic loss to families who couldn't work. In reply to school closures, UNESCO suggested the utilization of distance learning programs and open academic applications and platforms that teachers and school authorities will have to use to reach students living in remote areas and lower education disturbance. For schools and colleges to reopen, it may take a lot of time. Still, some measures can be taken to minimize the spread of the infection, such as cancelling morning prayers, cancelling or postponing field visits, banning meals in canteen/cafeteria, increasing space between the student benches, differed in-time and out-time for the students,

limited outside visitors in school time, keeping health care office continuously to check any symptoms in the students, use of face mask, hand sanitizer and frequent sanitization of the classrooms. If these measures are taken continuously, then may result in a substantial reduction in the number of infected cases. Apart from schools being closed down, the students' assessment, the evaluation, and ultimately the exams of various courses have also been cancelled. Many institutes started adopting online methods and ways to evaluate the students, but that was not full proof. Due to its lesser authenticity, most of the online assessment has been cancelled. The shift of school education from the usual way to the online has exposed the inequality that exists in our society. The poor and underprivileged students or low-income students found it very difficult to cope with the demand for online teaching. The families who could not afford a computer, laptop, internet, or Wi-Fi were kept away from learning. According to a United Nations report, the lockdown has also severely impacted the girl child education, where girls are more exploited, and the number of early marriages, sexual harassment, and teenage pregnancies have increased drastically.

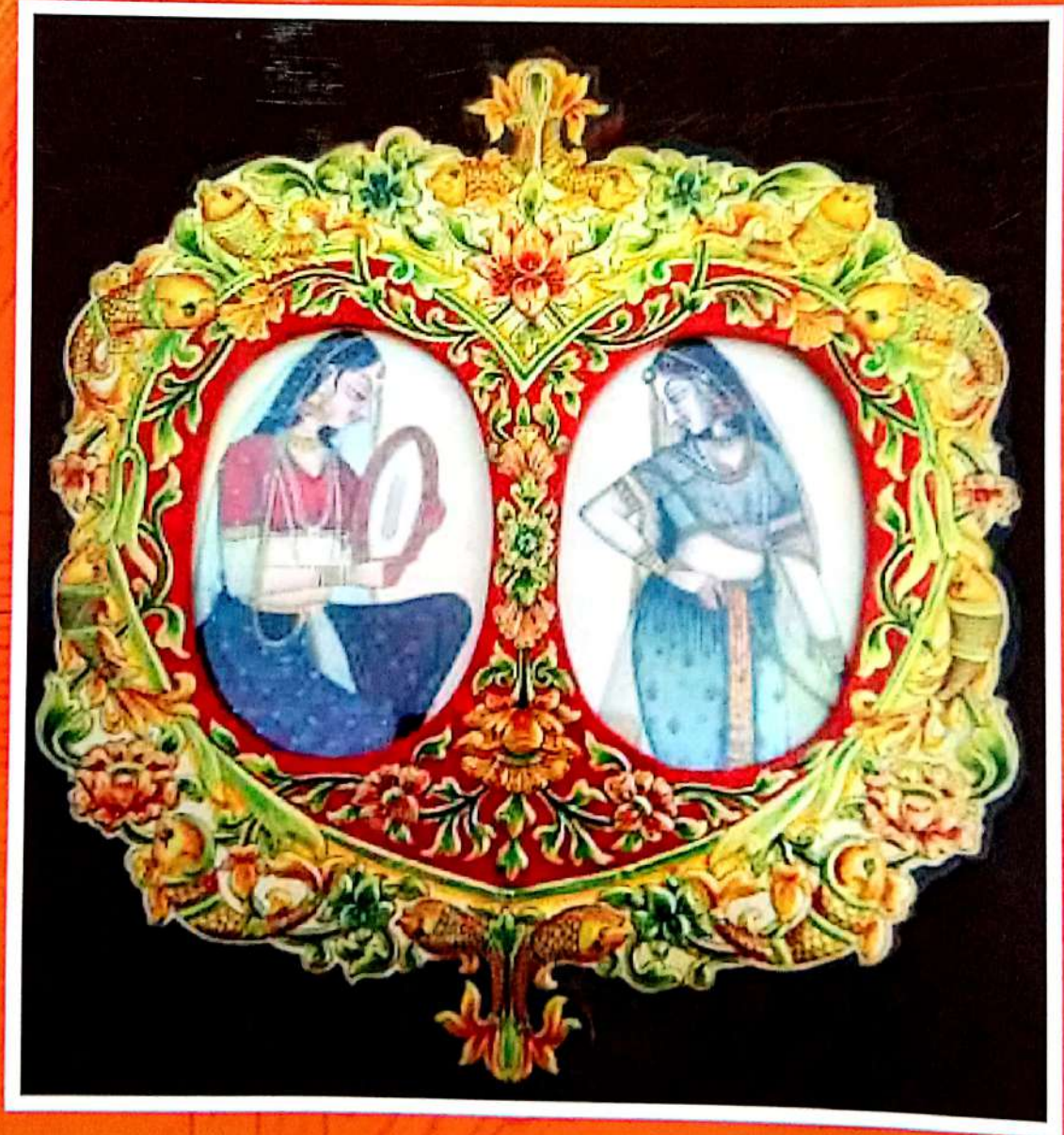


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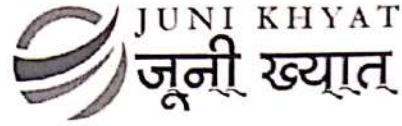
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ANALYSIS OF LARGE CAP, MID CAP AND SMALL CAP FUND**

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**A STUDY ON MUTUAL FUND RISK & RETURNS: A COMPARATIVE ANALYSIS OF
LARGE CAP, MID CAP AND SMALL CAP FUND**

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Abstract:

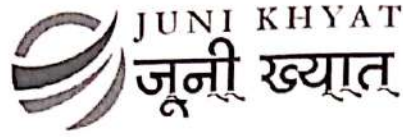
There are investment avenues to the investors provided in Indian capital market to various investors, which enables them to invest in various companies, organizations, industries and ensure the good fruitful and profitable return. Among various investment, there is one investment alternative i.e. mutual fund which ensures minimum risks and maximum return to the investor. In India from last 8-10 years this mutual fund industry has grown extensively and has become a one of the most famous and attractive option for investment. There are varieties of schemes available to the investor based on capitalization of the company such as large cap, mid cap and small cap funds. This study attempts to measure the performance of large cap, mid cap and small cap funds based on different parameters and to find out which fund has performed better and led to better wealth creation for an investor. For this purpose, ten different Asset Management Companies have been chosen for the study and under each Asset Management Company, three funds- one large cap fund, one midcap and one small cap fund have been studied. Based on the study conducted, it is clear that small cap funds have shown better performance than Large cap funds and mid cap funds.

Key words: Large-cap and Mid-cap mutual funds, Absolute returns, Performance, Risk.

1. Introduction:

"Mutual Fund are collective financial savings and funding investment wherein financial savings of small or huge investors are pooled collectively for their mutual advantage and returns allotted proportionately". Mutual fund schemes are a professionally controlled investment agrees with that pool the money of numerous traders and uses the amassed cash for investment in exceptional avenues inclusive of stocks, bonds, money market units etc. The profits earned via these investments and the capital preferred found out by way of the scheme are shared via its unit holders in percentage to the number of units owned by way of them. Mutual fund scheme are invested in numerous investment avenues which permits the investor obtain a properly- varied portfolio, optimize his dangers and acquire a balanced growth. Inside the case of mutual finances, professional fund managers manipulate finances on behalf of the investor's in exchange for a certain rate. The fund managers regularly examine the marketplace and feature sound knowledge of while and wherein to invest and make investment selections on behalf of investors. This allows passive management of funds and reduces the need for investor to pay regular interest to the market and hence serves as a super funding street especially for new traders. This paper is specifically focused at the evaluation of Large cap Mid cap and small cap mutual fund considering majority of the investors invest in large cap businesses are the ones groups with a market capitalisation greater than 10,000 crores, which have been in existence for many years and feature proper popularity and were capable of generate strong returns or even pay-out dividends frequently to the investors, making it a great choice for those traders with slight hazard appetite and who are looking for normal income. But the state of affairs has changed and buyers today have a higher risk taking ability and investing in mid cap organizations which can be essentially corporations with a market capitalisation starting from 5000 to 10,000 crores. These corporations are still growing and able to generating awful lot better returns in assessment to Large cap fund. Also apart from large cap and Mid Cap, Small-cap companies have a market cap of below Rs 5,000 crore. As a result these three sorts of fund had been chosen for analysing their performance and to find out which fund has completed higher and led to higher wealth creation

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A STUDY ON FUNDAMENTAL ANALYSIS OF SELECTED STEEL COMPANIES LISTED
AT NSE

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Abstract:

Fundamental analysis is the technique of calculating the intrinsic value of a stock to know and find out long term investing opportunities. In Simple words Fundamental analysis is a process of finding out a stocks real or fair market value. There are two types of analysis which can be done of capital market that is Fundamental analysis and Technical analysis. This research paper focusses on the Fundamental analysis of selected steel companies. The main objective was to conduct a comparative analysis for the five selected companies under steel sector and to suggest the better suitable stock to the investors. Fundamental analysis comprises of three components which consist of; Economic analysis which includes fundamental factors like GDP, Inflation rate, FOREX reserve, Interest rates, and Current account to GDP etc. The second component is Industry analysis, in this analysis all the steel sectors are evaluated on the bases of Porter's five force model which takes in to consideration, Threat of substitutes, Bargaining power of suppliers, Threat of new potential Entrants, Bargaining power of buyers and the competition among the existing companies in the market. The third and the last components is Company analysis which deals with various ratios such as Dividend pay-out ratio, EPS, P/E ratio, Net profit margin, ROE, ROA, and Debt to Equity which was calculated from company's annual report. Based on the calculations of the ratios in the study it is found that after covid-19 impact, since 2020 majority of the stocks are having increasing trend in various ratio and it is suggested such stocks may be favorable for the long term investment, and with the help of comparative analysis between five steel companies, researcher has suggested the better suitable stocks for the investors to. At last it can be concluded that every investor should have adequate knowledge about the stock market and also do proper analysis before making any investment decisions.

Key words: Fundamental analysis, Technical analysis, Economic analysis, Industry analysis, Company analysis, Comparative analysis.

I. Introduction

Fundamental analysis is that process in which the underlying forces that affect the well-being of the economy, industry and company are analyzed. Just like most analysis, the Focus is to develop a forecast and prediction of future price movement. At the corporate level fundamental analysis may include analyzing the economic data, management and competition. At the industry level, there can be studying the interaction of supply and demand forces of the products. Under the economy level, it give priority on economic data to find this and future growth of the economy.

Fundamental analysis is considered as a tool of researching the basics, that doesn't convey the entire within the absence of data about what fundamentals are. The major obstacle in defining fundamentals is that it can include anything related with the economic well-being of an organization. Hence, fundamentals include everything and anything starting from a company's market share to the standard of its management. While studying fundamental analysis there are always some questions which are continuously asked arise like: What is the company's revenue? Whether it is profitable? Can the company beat out its competitors within the future? Is it ready to repay its debts? In fact, these are very involved questions and there are actually many others one may need a couple of company. It all really boils right down to one question, i.e. whether the company's stock an honest investment? Fundamental Analysis could be a toolbox to assist us answer this question.



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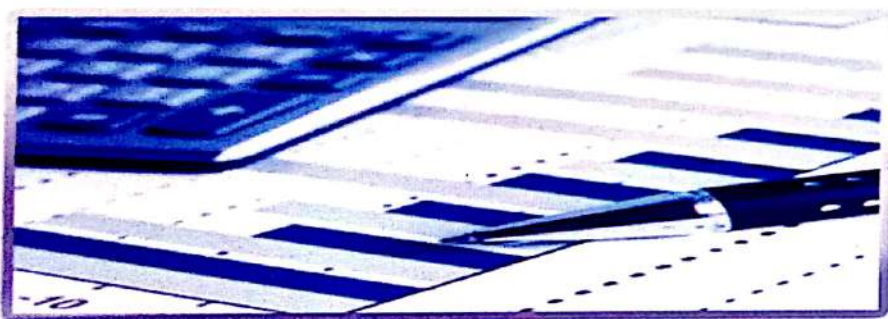
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He/She contributed research paper (s) entitled A Study on Challenges
related to NEP 2020 of India


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A Study on Challenges Related to New Education Policy 2020 of India : A Theoretical Review

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Abstract:

Education has a important and significant position in nation building & prosperity. The NEP 2020 has put forward a number of recommendations and initiatives that aim to modernize and reform the Indian education system. It has sought to increase access to quality education, improve the quality of teaching and learning outcomes, and provide greater autonomy for institutions. The policy has also proposed the introduction of technology-driven learning as well as the strengthening of vocational and technical education. Finally, the policy has proposed the establishment of a robust regulatory framework that is focused on ensuring quality and accountability. The researcher have critically examined the policy in this paper and identified some challenges in them. The researcher has also recommended some suggestion based on their analysis and review of NEP 2020. Various suggestions are made for the design and effective implementation and working of NEPs at national level, state level and also in each Higher Education institutes

Keywords: Higher Education Policy, National Education Policy, Learning Outcome

1. Introduction:

The National Education Policy 2020 (NEP 2020) is a landmark document that outlines the vision of the Indian government for the education system of the country. It is the first education policy of India in over 34 years, and aims to transform the country's education system by 2030. The policy outlines a holistic vision for education in India, covering aspects such as curriculum, pedagogy, assessment, teacher education, vocational training, and technology-driven learning. It seeks to ensure that every child has equitable access to quality education and that the educational system is geared towards developing the country's human capital. The NEP 2020 also puts forth initiatives to strengthen the regulation of the education sector and ensure that all institutions are held accountable for their performance. The National Education Policy 2020 (NEP 2020) is a new education policy that aims to address the many growing developmental imperatives of India.

[1] The Policy proposes a vision and revamping of all aspects of the education structure, including its regulation and governance, to create a new system that is aligned with the aspirational goals of 21st century education.

[2] The Policy also aspires to offer students across the nation an equitable and inclusive learning environment.

AN ANALYTICAL STUDY OF IMPACT OF ENTREPRENEURSHIP ON ECONOMIC EMPOWERMENT OF WOMEN

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ABSTRACT

Investing in women's economic empowerment offers an exact route to gender equality, poverty eradication, and sustainable economic development. The research paper is an attempt to check the impact of entrepreneurship on the monetary authority of women. To check the suitability of data, research has used the Jarque-Bera test to confirm data normality. To compare the change in women entrepreneurs' economic condition before and after the commencement of business, t-tests for two independent samples were applied on a sampled data set of 30 respondents. Based on the research results, it was found and concluded that Entrepreneurship has led to women's economic empowerment.

Keywords: Entrepreneurship, Economic Empowerment, Women Empowerment.

Introduction

Women (n/d) have reported that "Investing in the economic empowerment of women is a clear road to gender equality, the eradication of poverty and sustainable economic development. Women make tremendous contributions to markets, whether in corporations, on farms, as entrepreneurs or workers, or by doing unpaid care work at home.

However, poverty, inequality, and abuse remain overwhelmingly affected. Gender inequality means that women often end up in low-wage, dangerous jobs, and make up a small minority of senior positions. Access to economic assets such as land and loans is limited. It inhibits involvement in shaping economic and social policies. Moreover, since women do much of the household work, there is also little time left for them to seek economic opportunities."

Furthermore, the United Nations Development Program (n/d) elaborated that "to achieve gender equality and sustainable growth, women's economic empowerment is crucial. As food producers, managers of natural resources, and entrepreneurs and workers, women are essential contributors to economies. Additionally, women are the primary providers of unpaid care and domestic work - women do 2.6 times the unpaid care and domestic work that men do globally.

Active action is required to resolve systemic barriers and gender-discriminatory practices in a comprehensive manner, which deny women their socio-economic rights, limit their economic, social, and political opportunities, and weaken their resilience to all types of shock. It includes addressing the disproportionate burden of unpaid care work for women, including the participation of men in care work, ensuring equal opportunities for women to property, credit, land and natural resources, decent work and equal access to social services, including health care".

The government of India's Startup India Initiative states that "Women entrepreneurs are women who organize and manage an organization, mostly a corporation. The growing role of women as entrepreneurs has led to a shift in the demographic features of the country's market and economic development. Women-owned businesses play a prominent role in empowering others in society and creating more job opportunities.

Sustainable growth of female entrepreneurs is required to foster balanced growth in the country, and Start-up India is committed to strengthening the ecosystem of female entrepreneurship through policies and initiatives and the development of enabling networks".

Literature Review

Madan et al. (2014), in their paper 'Women Empowerment through Entrepreneurship,' found that Entrepreneurship, through growing family, economic, social, and financial status, is an essential tool for empowering women in the country. It was concluded from this study that empowerment brings equality between the sexes and also improves women's overall status in the family, community, and country. Banik and Bai (2018), in their research 'Women Empowerment through Entrepreneurship With Special reference to Vendors in Agartala' found that the study ends with the findings that much growth is seen in consciousness, self-reliance, and freedom of women due to participation in entrepreneurial activities, the socio context including variables, form, and mode of operation, training programs are the significant problems. Kavitha and Rajan (2014), in their article', Empowering Women through Entrepreneurship: Challenges and Advantages,' found that the need of the hour is economic freedom. Participation in income-generating activities helps concentrate this paper on women's overall advancement and offers an insight into the obstacles and benefits they face. Dhillon (2017), in a paper on 'Challenges faced by Women Entrepreneur in India,' found that the growing success rate of women entrepreneurs indicates that, despite the odds, they are creative and willing to succeed. By building strong business networks, learning new techniques to maintain work-life balance, taking inspiration from other prosperous women entrepreneurs, and keeping them up-to-date, women entrepreneurs will reach new heights of success.

Palanivelu and Madhupriya (2014), in the paper on "Strategies for Empowering Rural Women through Viable Entrepreneurial Ventures through Micro Credit," found that entrepreneurial ventures as a new development paradigm to achieve gender equality among rural women in India by creating opportunities for self-employment through micro-credit. Mishra and Kiran (2014), in the paper on 'Rural Women Entrepreneurs: Concerns & Importance', found that entrepreneurship among rural women increases the prosperity of the country in general and of the family. It is

important to provide rural women with training to develop their entrepreneurial skills and provide rural women with a path to success. Onwurafor and Enwelu (2013), in the paper on 'Rural Women Entrepreneurship in Agro-Food Processing InEnugustate,' found that the study concluded that participation of rural women in post-harvest agro-food processing activities in the state of Enugu was low. Satpal et al. (2014), in the paper on "Women Entrepreneurship: Challenges in the Present Technological Era," found that "Women entrepreneurs have been stimulated and funded by government programs, incentives, and subsidies. As the number of women receiving education increases, there is considerable knowledge among women of being self-employed, leading to a shift in women's position in society".

A study in recent times in a semi-urban set-up is not seen and hence this research.

Research Methodology

- **The objective of the study**

'To analyze whether entrepreneurship has led to economic empowerment of women.'

- **Data collection**

The study is based on primary data that has been collected from women entrepreneurs using a questionnaire and secondary data that has been collected through journals and other published information

- **Sample**

A sample of 30 women entrepreneurs from Sangamner has been selected for the survey on the basis of judgmental sampling.

- **Tools of analysis**

Jarque-Bera test, t-test for two independent samples were the tools used. T-test was used as a substitute for z-test since the population's standard deviation is not known, Statistics How To. (2020) Moreover, in this case, the sample's standard deviation is assumed to be that of the population.

- **Hypothesis**

Null: Entrepreneurship does not affect the economic empowerment of women

Alternate: Entrepreneurship has led to the economic empowerment of women.

Analysis and Data Testing

• Data Overview

Table 1 Descriptive statistics (Quantitative data):

Statistic	Before	After
Nbr. of observations	30	30
Minimum	1.133	2.133
Maximum	1.867	2.800
1st Quartile	1.267	2.267
Median	1.367	2.333
3rd Quartile	1.533	2.600
Mean	1.393	2.422
Variance (n-1)	0.038	0.045
Standard deviation (n-1)	0.194	0.213

• Data Normality Testing

H0: The variable from which the sample was extracted follows a Normal distribution.

Ha: The variable from which the sample was extracted does not follow a Normal distribution.

Jarque-Bera test		
	Before	After
Jarque-Bera Observed value	1.377	2.337
Jarque-Bera Critical value	5.991	5.991
Degrees of Freedom	2	2
p-value (Two-tailed)	0.502	0.311
alpha	0.05	0.05
	Accept H0	Accept H0

The variable from which the sample was extracted follows a Normal distribution.

• Testing of Hypothesis

t-test for two independent samples / Two-tailed test:

95% confidence interval on the difference between the means: [-1.134, -0.924]

Difference	-1.029
t (Observed value)	-19.601
t (Critical value)	2.002
Degrees of Freedom	58
p-value (Two-tailed)	< 0.0001
alpha	0.05

As the computed p-value is lower than the significance level alpha=0.05, one should reject the null hypothesis H0, and accept the alternative hypothesis Ha.

t-test for two independent samples / Two-tailed test:

95% confidence interval on the difference between the means: [-1.132,-0.926]

Difference	-1.029
t (Observed value)	-19.601
t (Critical value)	1.960
p-value (Two-tailed)	< 0.0001
Alpha	0.05

As the computed p-value is lower than the significance level alpha=0.05, one should reject the null hypothesis H0, and accept the alternative hypothesis Ha.

Discussion and Conclusions

The research's chief aim was to analyze whether entrepreneurship has led to the economic empowerment of women. Data were collected from 30 women entrepreneurs and analyzed using appropriate statistical tests. To check the normality of data, the Jarque-Bera test was applied to the content. Based on the analysis, the collected data was found to be normally distributed. Hence for further hypothesis testing, parametric tests were applied.

For hypothesis testing, the first test applied was a t-test for two independent samples. It was used to compare the change in women entrepreneurs' economic condition before and after the commencement of business. The results of the t-test for two independent samples suggest that Entrepreneurship has led to the economic empowerment of women. The results of another t-test for two independent samples displayed that one should reject the null hypothesis H0 and accept the alternative hypothesis Ha. Thus, it can be concluded that Entrepreneurship has led to the economic empowerment of women.

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A COMPARATIVE STUDY ON IMPACT OF COVID-19 ON GOVERNMENT SCHOOLS AND PRIVATE SCHOOLS STUDENTS WITH PARTICULAR REFERENCE TO AHMEDNAGAR DISTRICT

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ABSTRACT

With the outbreak of Pandemic Covid-19, every sector has been badly affected, whether in the manufacturing or service sectors or the agricultural sector. The educational sector has also been severely impacted, where students cannot learn and study in a normal situation. The online classes are conducted, which has become THE NEW NORMAL in this challenging phase. To follow social distancing norms, the pandemic has forced the schools and colleges to close down to fight against the spread of Coronavirus. With this covid-19, the student community has been affected very badly. The central government and state government have taken various measures to neutralize the pandemic's effect on the educational sector. Schools also are taking special efforts to evaluate the students. The students' assessment has also changed drastically, and this outbreak may severely impact the future of the students and their careers. From this research paper, the researcher would like to determine the significant challenges and difficulties faced by students of Government schools and private schools. This paper will try to study the various initiatives and measures taken by the state government and central government to revive the educational sector.

Keywords: Pandemic, The New Normal, Government schools, Private schools

Introduction

The World came to stand still when the Pandemic Covid-19 struck. The virus, which originated from China, spread rapidly worldwide, which resulted in the temporary closing down of all educational institutes globally. As of date round, about 1 billion students have got affected due to shut down of schools. Closure of schools have not only impacted students but have also impacted teachers and families, this impact was additionally severe for underprivileged kids and their families, resulting in disturbance in learning, lower nutrition, child care issues, and resulting in economic loss to families who couldn't work. In reply to school closures, UNESCO suggested the utilization of distance learning programs and open academic applications and platforms that teachers and school authorities will have to use to reach students living in remote areas and lower education disturbance. For schools and colleges to reopen, it may take a lot of time. Still, some measures can be taken to minimize the spread of the infection, such as cancelling morning prayers, cancelling or postponing field visits, banning meals in canteen/cafeteria, increasing space between the student benches, differed in-time and out-time for the students,

limited outside visitors in school time, keeping health care office continuously to check any symptoms in the students, use of face mask, hand sanitizer and frequent sanitization of the classrooms. If these measures are taken continuously, then may result in a substantial reduction in the number of infected cases.

Apart from schools being closed down, the students' assessment, the evaluation, and ultimately the exams of various courses have also been cancelled. Many institutes started adopting online methods and ways to evaluate the students, but that was not full proof. Due to its lesser authenticity, most of the online assessment has been cancelled. The shift of school education from the usual way to the online has exposed the inequality that exists in our society. The poor and underprivileged students or low-income students found it very difficult to cope with the demand for online teaching. The families who could not afford a computer, laptop, internet, or Wi-Fi were kept away from learning. According to a United Nations report, the lockdown has also severely impacted the girl child education, where girls are more exploited, and the number of early marriages, sexual harassment, and teenage pregnancies have increased drastically.

Literature review

Schleicher has discussed repercussions of Covid-19 in the areas of international student mobility; public financing of education in OECD countries; teachers' preparedness to support digital learning; the loss of instructional time delivered in a school setting; measures to continue students' learning during school closure; when and how to reopen schools; vocational education during the COVID-19 lockdown; and class size, a major parameter for the reopening of schools.

Marinoni et al., (2020) have expressed their concern stating that the effects will be felt way into the future. To understand the long-term and medium-term scenarios, it is significant to assess what is happening in the present, and also project the consequences for international and national students, and the staff.

Burgess and Sieversten (2020) predicted that the world-wide lockdown of education institutions was going to lead to a big interruption in students' learning; problems in internal assessments; and the also the cancellation of public assessments for qualifications.

Sintema (2020), in his study, discovered that there is probably going to be a drop in the pass level of optional school students in the current year's public assessments of the COVID-19 scourge isn't contained in the most limited conceivable time thinking about that the school scholastic schedule was unexpectedly upset by the early inauspicious conclusion of all schools in the nation.

Tran et al. (2020) dissected overview information from 420 K6–12 students in Hanoi, Vietnam; this work shows the distinctive learning propensities for students with various financial statuses and word related desires during the sickness' flare-up. Specifically, we highlighted the distinctions in students' learning practices between private schools and public schools, just as between students who intend to follow STEM-related vocations and the individuals who plan to participate in social science-related professions.

Okebukola et al. (2020) found an instructor limit shortage for conveying on the web education, helpless web access, an inconsistent force supply, and extreme insufficiencies in the foundation for open and distance education. Together with helpless educator inspiration prompted by low and unpredictable wages, these difficulties are depressants to quality science instructing during the COVID-19 period. We predict that these difficulties will continue.

Emon et al. (2020) found that albeit, developed nations (first and second world) are making acceptable steps with internet instructing while battles are found in rest (underdeveloped nations). Their article features how COVID-19 is influencing the education area and students in Bangladesh. Without a doubt, the most prompt effect of the Covid-19 on students of Bangladesh is abruptness in learning openings with various perspectives. Despite sincere government endeavors, COVID-19 is unfavorably influencing students in Bangladesh for a few critical reasons. Aggregate reactions and examination uncovered that not advances but rather, additional details are expected to run the education framework adjacent to this pandemic circumstance efficiently.

Studies in the Indian context are relatively less and hence considered as a research gap.

The government of India takes initiatives in the Education Sector.

Indian Government also has taken various steps for the educational sector in the lockdown, the initiative taken by MHRD like online portals, radio and television channels for students for uninterrupted learning. Students and schools for teaching-learning are primary tools used by Zoom, Microsoft Team, Google Meet, Youtube, etc. Some of the initiatives by the Indian government are:-

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 5. SwayamPrabha—it has several TV channels providing continuous educational information ranging from school levels to college levels.

Effects of Covid-19 on Educational Sector

Positive Effects

1. An increase in usage of learning management systems like google classroom and many others have drastically increased.
2. Helped students and teachers to become technically updated. The majority of students and teachers were unaware of Zoom, Google meets, and various other apps.
3. Increase usage of soft copy as learning material, which will surely help in environmental conservation point of view
4. Effective use of social media for sharing study material, notes, books, etc.
5. International exposure to teachers and students. While sitting in their home, the students can now listen to experts all around the world.
6. Increase in Dual teaching Method (2 or more Teachers taking one class). Teachers have now started to innovate teaching methodology.
7. There has been a substantial increase in online/virtual meetings.

Negative Effects

1. Classes and examination have been suspended or postponed due to the outbreak of pandemic
2. The unemployment rate increased due to the postponement of recruitment by the majority of the companies

3. Students and teacher were unaware of the online teaching-learning process
4. Students are getting lesser employment opportunities in foreign countries
5. Nowadays, students are not going to schools; therefore, parents need to more aware and responsible for their child
6. Government schools cannot provide mid-day meals, which have an impact on the students' health and safety due to unbalanced nutrition.
7. The majority of parents have lost their jobs; therefore, non-payment of fees may impact teachers' salaries.

Research Methodology

Objectives

1. To know the effects of Covid-19 on the educational sector
2. To study the initiatives taken by the Government of India in the educational sector after pandemic covid-19
3. To know the impact of Covid-19 on students of government schools and private schools.

Scope

The scope of the study is limited to Ahmednagar district only (Maharashtra State)
 Research design - Researcher has collected a database through the exploratory research design.

Sources of Data Collection – Primary data is collected from a structured questionnaire, and secondary data is collected from journals, magazines, and websites. Various studies on this subject have also been referred to in this study.

Sample Size – the data is collected from 100 parents from government schools and 100 parents from private schools randomly selected from the Ahmednagar district.

Sampling Technique – Simple Random Sampling

Hypothesis - H0: Effect of Covid-19 on government school students is comparatively less than Private school students.

H1: Effect of Covid-19 on government school students is comparatively more than Private school students.

Data analysis & interpretation

It was found that 52% of the respondents from government schools are in the secondary phase of education and 61% of the respondents from private schools are in the secondary phase of education.

It was analyzed that 42% of parents from government school strongly agreed that covid-19 had affected their child’s academic progress, and only 9% of parents from the private school said that covid-19 had affected their child’s academic progress

89% of government schools are not conducting online classes, and 98% of private schools conduct online classes.

54% of parents from the government are highly dissatisfied with the online classes; on the other

hand, 50% of parents from private schools are highly satisfied with the online classes.

71% of parents from government school said the cost of purchasing mobile, laptop and computer had affected their budget, whereas 53% of parents from the private school said that it had not affected their budget

69% of parents from government schools agreed that online classes affect their child’s health, whereas 87% of parents from private schools agreed that online classes are affecting their child’s health.

87% of government schools think that the teachers are not guiding their child properly; on the other hand, 91% of parents of private schools think that the teachers are guiding the child in a proper way.

Hypothesis Testing

Table 1: Testing of Hypothesis

Effect of Covid-19 on various aspects like	Government School		Private School	
	Affected	Not affected	Affected	Not affected
Homework	61	39	9	91
Seriousness towards study	81	19	5	95
Interaction with teachers	89	11	7	39
Involvement in classroom discussion	75	25	12	88
Attentiveness during Class	93	7	19	81
Co-Curricular & Extra Curricular Activities	79	21	7	93
Outdoor Games / Sports	65	35	8	92
Social activities / participation	91	9	13	87

H₀: Effect of Covid-19 on government school students is comparatively less than Private school students.

H₁: Effect of Covid-19 on government school students is comparatively more than Private school students.

Table 2: Chi-square test

Chi-square (Observed value)	72.217
Chi-square (Critical value)	28.869
DF	18
p-value	< 0.0001
alpha	0.05

Inference from the testing of hypothesis:

From the above table, it is clear that the p-value is less than 0.05; hence the null hypothesis is rejected, and the alternative hypothesis is accepted. The critical value is

less than the observed value, i.e., $28.869 < 72.217$. Therefore the null hypothesis is rejected, and the alternative hypothesis is accepted. It is proved that the effect of Covid-19 on government school students is comparatively more than private school students.

Findings

1. The academic progress of students from government schools are more affected
2. Private schools are more concerned towards their students in regards to taking online classes
3. Parents of private are more satisfied than parents of government schools about the online classes
4. Because of the lower-income of parents from a government school, their budget has

- been affected mainly for purchasing a laptop, computer, or mobile
5. Parents from government schools and private schools agreed that online classes are affecting their child's health.
 6. Teachers from private schools are guiding their students more efficiently & adequately as compared to government schools.

Conclusion

From the above study, the researcher wants to conclude that every sector has been affected because of this covid-19 pandemic, especially the educational sector. From this study, the researcher tried to determine the degree of

impact on the students of government schools and private schools; because of poor infrastructure at government schools, their students are more affected than private school students. The lower-income level of the parents of government schools also affects learning. Governments are taking various efforts to bring normalcy to the education sector. More efforts should be taken towards the underprivileged students who do not have a proper internet connection, mobile, or computer. Teachers from government schools also should take the initiative so that their students are not kept apart from learning.

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ABSTRACT

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3. Increase usage of soft copy as learning material, which will surely help in environmental conservation point of view
4. Effective use of social media for sharing study material, notes, books, etc.
5. International exposure to teachers and students. While sitting in their home, the students can now listen to experts all around the world.
6. Increase in Dual teaching Method (2 or more Teachers taking one class). Teachers have now started to innovate teaching methodology.
7. There has been a substantial increase in online/virtual meetings.

Negative Effects

1. Classes and examination have been suspended or postponed due to the outbreak of pandemic
2. The unemployment rate increased due to the postponement of recruitment by the majority of the companies

3. Students and teacher were unaware of the online teaching-learning process
4. Students are getting lesser employment opportunities in foreign countries
5. Nowadays, students are not going to schools; therefore, parents need to more aware and responsible for their child
6. Government schools cannot provide mid-day meals, which have an impact on the students' health and safety due to unbalanced nutrition.
7. The majority of parents have lost their jobs; therefore, non-payment of fees may impact teachers' salaries.

Research Methodology

Objectives

1. To know the effects of Covid-19 on the educational sector
2. To study the initiatives taken by the Government of India in the educational sector after pandemic covid-19
3. To know the impact of Covid-19 on students of government schools and private schools.

Scope

The scope of the study is limited to Ahmednagar district only (Maharashtra State)
 Research design - Researcher has collected a database through the exploratory research design.

Sources of Data Collection – Primary data is collected from a structured questionnaire, and secondary data is collected from journals, magazines, and websites. Various studies on this subject have also been referred to in this study.

Sample Size – the data is collected from 100 parents from government schools and 100 parents from private schools randomly selected from the Ahmednagar district.

Sampling Technique – Simple Random Sampling

Hypothesis - H0: Effect of Covid-19 on government school students is comparatively less than Private school students.

H1: Effect of Covid-19 on government school students is comparatively more than Private school students.

Data analysis & interpretation

It was found that 52% of the respondents from government schools are in the secondary phase of education and 61% of the respondents from private schools are in the secondary phase of education.

It was analyzed that 42% of parents from government school strongly agreed that covid-19 had affected their child's academic progress, and only 9% of parents from the private school said that covid-19 had affected their child's academic progress

89% of government schools are not conducting online classes, and 98% of private schools conduct online classes.

54% of parents from the government are highly dissatisfied with the online classes; on the other

hand, 50% of parents from private schools are highly satisfied with the online classes.

71% of parents from government school said the cost of purchasing mobile, laptop and computer had affected their budget, whereas 53% of parents from the private school said that it had not affected their budget

69% of parents from government schools agreed that online classes affect their child's health, whereas 87% of parents from private schools agreed that online classes are affecting their child's health.

87% of government schools think that the teachers are not guiding their child properly; on the other hand, 91% of parents of private schools think that the teachers are guiding the child in a proper way.

Hypothesis Testing

Table 1: Testing of Hypothesis

Effect of Covid-19 on various aspects like	Government School		Private School	
	Affected	Not affected	Affected	Not affected
Homework	61	39	9	91
Seriousness towards study	81	19	5	95
Interaction with teachers	89	11	7	39
Involvement in classroom discussion	75	25	12	88
Attentiveness during Class	93	7	19	81
Co-Curricular & Extra Curricular Activities	79	21	7	93
Outdoor Games / Sports	65	35	8	92
Social activities / participation	91	9	13	87

H_0 : Effect of Covid-19 on government school students is comparatively less than Private school students.

H_1 : Effect of Covid-19 on government school students is comparatively more than Private school students.

Table 2: Chi-square test

Chi-square (Observed value)	72.217
Chi-square (Critical value)	28.869
DF	18
p-value	< 0.0001
alpha	0.05

Inference from the testing of hypothesis:

From the above table, it is clear that the p-value is less than 0.05; hence the null hypothesis is rejected, and the alternative hypothesis is accepted. The critical value is

less than the observed value, i.e., $28.869 < 72.217$. Therefore the null hypothesis is rejected, and the alternative hypothesis is accepted. It is proved that the effect of Covid-19 on government school students is comparatively more than private school students.

Findings

1. The academic progress of students from government schools are more affected
2. Private schools are more concerned towards their students in regards to taking online classes
3. Parents of private are more satisfied than parents of government schools about the online classes
4. Because of the lower-income of parents from a government school, their budget has

- been affected mainly for purchasing a laptop, computer, or mobile
5. Parents from government schools and private schools agreed that online classes are affecting their child's health.
 6. Teachers from private schools are guiding their students more efficiently & adequately as compared to government schools.

Conclusion

From the above study, the researcher wants to conclude that every sector has been affected because of this covid-19 pandemic, especially the educational sector. From this study, the researcher tried to determine the degree of

impact on the students of government schools and private schools; because of poor infrastructure at government schools, their students are more affected than private school students. The lower-income level of the parents of government schools also affects learning. Governments are taking various efforts to bring normalcy to the education sector. More efforts should be taken towards the underprivileged students who do not have a proper internet connection, mobile, or computer. Teachers from government schools also should take the initiative so that their students are not kept apart from learning.

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ROLE OF MANAGEMENT FUNCTIONS IN ENHANCING THE EFFECTIVENESS OF MODERN FARMING TECHNIQUES

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ABSTRACT

The agriculture sector can and must face an important mission of supporting food security within the country and worldwide. It is sophisticated attributable to the sharp misbalance between agricultural segments caused by imperfect management. With success managing, farming activity is the goal of farm homeowners. Innovation and entrepreneurial activities play a vital role in promoting rural economic progress. The standard of the selections created by management is a very important part of determining the business's longevity. Prudent managers square measure regularly, trying to find management resources that improve the standard of their choices. Each day, new data and technology become accessible that needs a minimum of challenges, management to re-evaluate previous choices to work out if the advantages outweigh the prices. Managing a farm could be a 24/7/365 responsibility. If managing a farm is necessary, it will describe by the decision-making method to meet the vision, mission, and goals of the business. All choices created by management square measure centered on the economical allocation of production land, labor, capital, and management. The analysis methodology was centered on rising management functions involving coordination, control, planning, organization, and motivation in Modern farming techniques to fulfill this challenge.

Keywords: Management Functions, Modern Farming, Organic Farming, Greenhouse Technology.

A. Introduction

Agriculture has perpetually been the backbone of the Indian economy, and despite involved in the industry within the last six decades, agriculture still occupies an area of pride. It employs around sixty percent of the entire hands within the country. Agricultural development is central to the economic development of the country. The Asian nation is understood as the Land of Villages regarding sixty-seven of India's population lives in villages. The most occupation of them is agriculture and different activities associated with agriculture. Agriculture is the largest and dominant sector of our economy, providing a living to regarding seventieth of the population of Asian nation. Agriculture is that the backbone of the Indian economy. Agricultural turn out has been the principal supply of the stuff. This shows the relative importance and dominance of agriculture within the Indian economy. Agricultural development is important for the economic process, rural development, and poorness alleviation in low-income developing countries. It is a good driver of the economic process and to develop the other entire agriculture related sectors. It is vital to understand that modern business management principles will assist the farmer or

farm manager, regardless of however little his farm could also be and meager his capital. This can be attributable to the two major tasks facing today's farm managers that square measure.

- a. However, best to include new technologies into the farming enterprises;
- b. The way to be sufficiently versatile, mentally and financially, to adjust.

If farmers apply correct management principles and techniques' square measure, it helps them fulfill these and alternative challenges with some sensible level of success. There square measure real benefits in utilizing farm management concepts and new technical Advances and capital, all things being equal. There are forever wide variations in net farm incomes per area unit between those farms wherever Modern management concepts square measure used and people wherever they're not. Some dramatic enhancements are created on farms that have engaged management specialists to help their technical and economic coming up. Most farmers who have used management recommendations have recorded an increase in profit, relative to farmers who haven't done, therefore. Once the rationale for the poor money performance of a farm is

analyzed, it's found that: activities (e.g., crops and animal productions) aren't being meted out within the best way; different activities aren't well-coordinated, and; wrong activities square measure being conducted. A farm manager will confirm the value, in terms of loss or unsuccessful financial gain, of the current method of organizing and managing his farm. This may oft stimulate the farmer to require a keener interest within the technical aspects of however he carries out his farming activities; it's going to conjointly arouse his interest in new activities, which might increase his net income.

What is Organic farming?

It is a crop production system that excludes artificial compounds like fertilizers, pesticides, growth regulators, and placental mammal food additives. It will sustain the health of soils, ecosystems, and folks by combining tradition, innovation, and science as result of it combines crop management and farming within the agro-ecosystems that square measure socially acceptable and ecologically property. Therefore, this method minimizes the utilization of external inputs and data and aims to optimize crop productivity instead of its maximization through the renewal and strengthening of farm ecosystems' ecological processes and functions. Organic farming's key domains are improved packages of practices, market network, organic standards, and certification/regulatory mechanism.

What is Greenhouse farming?

The distinctive farms follow growing crops inside protected structures coated by a clear, or partly clear, material. The most purpose of greenhouses is to produce favorable growing conditions and shield crops from unfavorable weather and varied pests. Greenhouse Farming is that the method of cultivating crops and vegetables during a greenhouse ecosystem setting. Cultivation in greenhouses could be a follow that has allowed farmers to extend their performance, whereas, up the standard of product, analytic than in micro-ecosystems have the best conditions for plants to grow healthy, robust, and delightful.

B. Objectives of the Study

1. To understand the role and importance of management functions in contract farming and organic farming.
2. To study the existing performance of Greenhouse farming and organic farming.
3. To study various factors affecting the performance of Greenhouse farming and organic farming.

C. Methodology

Research is the systematic study of the problem. Through this research, the working researcher wants to study the impact of government schemes on farmer well-being. In the Ahmednagar and Nashik district, there are maximum farmers has taken benefits of this scheme. Therefore researcher wants to study the impact of farm pond on the farmers of both districts.

The hypothesis of the study

Ho1: Management functions do not play a vital role in increasing yield and productivity under modern farming techniques

Ha1: Management functions are playing a vital role in increasing yield and productivity under modern farming techniques.

Ho2: Organic farming and greenhouse farming are not giving significant contributions to the economic development of farmers.

Ha2 Organic farming and greenhouse farming are giving significant contributions to the economic development of farmers.

Type of Research Design

For this research, the study researcher would like to use exploratory and descriptive research design.

Exploratory Research Design is the design conducted for a problem that has not been studied more clearly, establishes priorities, develops operational definitions, and improves the final research design. Through this topic, the researcher would like to explore the problem existing in the Ahmednagar district.

Descriptive Research Design: *Descriptive* studies aim to find out "what is," so observational and survey methods are frequently used to collect *descriptive* data. For this study, the researcher would like to use the

structured questionnaire, observation, and Personal interview techniques.

Sources of data collection

Primary sources: researcher would like to collect the primary data by using the following sources:

1. Questionnaire
2. Interview
3. Observation

Secondary sources:

The secondary data will be collected by using the following sources:

1. Books
2. Journals
3. Websites
4. Annual records

Sample Design

i. Population/Universe of the study:

The population of the study includes all farmers using modern farming for agricultural activities.

ii. Sample Area: The researcher has Select the district of such as Ahmednagar District. From this district, the researcher would like to collect the data from the following tehsils.

1. Sangamner
2. Akole

From these two talukas researcher wants to study the role of management functions and their efficiency.

Sample Size: The researcher would like to collect data from 100 farmers cultivating their land using modern farming technologies such as organic farming or Greenhouse farming.

Sampling Technique: The researcher would like to use stratified sampling, convenience sampling, and simple random sampling for the study.

Statistical Tools for data analysis and Testing of Hypothesis

The researcher would like to use tables, charts, and graphs for the systematic representation of the data.

For testing of hypothesis, the researcher would use various hypothesis testing methods like:

- a. Chi-square,
- b. Factor Analysis and
- c. ANOVA test.
- d. Correlation analysis.

Scope of the study

The study is confined only to the management functions which the farmer uses to develop modern farming techniques in organic farming and greenhouse farming. The study will give information about the role of management function under organic farming and greenhouse farming, which will help the economic development of farmers in Sangamner and Akole taluka of Ahmednagar districts.

Limitations of the study

The researcher collects data from the farmers using only organic farming and modern farming techniques under modern farming to cultivate farmland. The study is limited to understanding the role of management function in enhancing economic development.

D. Conceptual Background

Management functions in Modern farming techniques: Management functions area unit enjoying a significant role in Modern farming Techniques. But it's pertinent to notice that Farm management is especially involved with the choices that affect the farm business's target performance. A cardinal objective performs of farm management is that of profit maximization. If the farmer desires to run his farm as an Associate in the nursing economic entity, his aim should be to provide an output that the whole worth exceeds the whole worth of input used. This ends up in profit for the farm. On the opposite hand, there will be a loss if the whole worth of the inputs is above the output's whole worth.

Farm management is thought of as a call-creating method; it's a continuous method thanks to the continual changes going down within the economy and in a private agri-business. The choices area unit involves allocating the restricted resources of land, labor, and capital among different and typically competitive uses. This allocation method forces the farm manager to spot goals and objectives to guide and direct deciding within the farm.

Need and Importance of Management functions in Agriculture

Development: Agriculture has achieved satisfactory growth since previous few decades, however presently, thanks to the varied national and international factors, the expansion of agriculture is comparatively stagnated. Up-gradation is required right from harvest home the agricultural manufacture until it reaches shopper level. The majority of the farmers and little entrepreneurs are not well versed concerning customary practices needed throughout preharvest, likewise as post-harvest operations, that beyond any doubt plays an important role in overall productivity. On the alternative aspect, too several intermediaries within the selling channel are a serious reason behind concern.

Additionally to those, the growing international population has resulted in inequality between market demands and provides an aspect of agricultural manufacture. Thus, special thought is needed to follow correct management practices, reduce staple wastages at farm and process level, effective selling ways like advertising, whole positioning at the national and international level, etc. Finally, correct management of all the agriculture activities right from planting the seed to obtaining the particular reward at market place is needed. These problems are expected to be self-addressed by management education in the agricultural sector, which has the hidden potential of making the second wave of modern farming.

Modern farming

Modern farming technology is utilized to enhance the wide forms of production practices employed by farmers. It uses hybrid seeds of chosen style of one crop, technologically advanced instrumentality, and plenty of energy subsidies within the type of irrigation water, fertilizers, and pesticides. Modern farming means that farming with the assistance of recent and advanced techniques and technology. Which means farming with the facilities of recent science and technologies? Victimization of science and technologies in farming increases total production. Farming is the cultivation of livestock, fish, birds, plants, crops, etc., for the aim of food, artifact, and

different products essential for sustain life. Farming is taking part in an important role within the development of human civilization.

The development of agriculture and farming technology has greatly accrued farming productivity. Varied styles of trendy farming strategies that square measure used these days' square measure commercial enterprise, intensive farming, organic farming, and property agriculture, etc. Farmers square measure currently able to purchase and sell their product within the world markets. With the accrued use of pesticides with artificial N, mechanization, and well-mined rock phosphate, crop production has greatly accrued. It has channelized revolution in cereal production like rice, wheat, corn, etc. Previously, farmers will not get to plow to dig the soil. On the opposite hand, farmers of late use trendy instrumentality like multi facilities tractor to dig the soil. Within the past, farmers were addicted to natural climatic conditions and fertilizers and wont to have low productivity. Currently, the items have been modified; with artificial fertilizers, high productive breeds, and farming productivity has accrued plenty. As we tend to all understand, the world population is increasing speedily. We want much product like food, cloth, etc., that completely depends on farming production. As a result, we need more production in farming, which is quite difficult in traditional farming. Hence, modern farming is a must to get more production according to rapid population growth.

Organic Farming productivity and Profitability

Organic farming works harmonically with nature instead of against it. This involves victimization techniques to realize sensible crop yields while not harming the natural atmosphere or the life and add it. Associate degree organic farmer produces vegetables, fruit, cereal crops, or ethereal mammal whiles, not utilizing chemical fertilizers, pesticides, or herbicides. In our way, organic farming is quite agricultural that offers the customers fresh, tasty, and reliable food, whereas concerning natural life cycle systems. Additionally to the health advantages of organic products for customers, there square measure important

environmental advantages for the world. Associate degree organic farming keeps multifariousness and scales back environmental pollutions such air, water, and soil. Organic agriculture has adult out of the acutely aware efforts by galvanized individuals to form the most effective doable relationship between the world and men. Organic agriculture promotes property compared to standard agriculture. However, the multifunctional property advantages of organic farms may be mediated by landscape context. Assessing landscape context, however, affects property might aid in targeting organic production to landscapes that promote high multifariousness, crop yields, and profit. We tend to self-addressed this employing a meta-analysis spanning sixty crop sorts on six continents that assessed whether or not landscape context affected multifariousness, yield, and profit of organic vs. standard agroecosystems. We tend to thought-about landscape metrics reflective landscape composition (percent cropland), integrative no uniformity (number and variety of canopy types), and plan no uniformity (spatial arrangement of canopy types) across our study systems. Organic sites had bigger multifariousness (34%) and profits (50%) than standard sites, despite lower yields (18%). Multifariousness gains magnified as average crop field size within the landscape magnified, suggesting organic farms offer a "refuge" in intensive landscapes. In distinction, as crop field size magnified, yield gaps between organic and standard farms magnified and profit advantages of organic farming shrunken. Profit of organic systems that we tend to live for studies conducted within us solely varied across landscapes compared to production prices and value premiums, suggesting socioeconomic factors mediate profit. Our results show that the advantages of organic farming in landscape context are compared to yield and profit advantages, suggesting this property metrics square measure decoupled. Generally, our results show that the ecological, however not the economic, property advantages of organic agriculture square measure most pronounced in additional intensive agricultural landscapes.

Benefits of Organic Farming

a. Promotion of Bio-Diversity

Crop rotation to create soil fertility and raising animals naturally helps promote diverseness that promotes larger health across all living species. As organic farms give safe havens to life, native ecosystems conjointly improve.

b. Reduction of Farm Pollution

While "farm smog" is not real, ancient farming will produce its sorts of pollution about runoff from artificial fertilizer and chemical pesticides that damage the encompassing areas. That runoff seeps into the native groundwater provide as harmful chemicals are eliminated from use through organic farming, the atmosphere edges. Organic farming improves the soil, removes the chance of groundwater pollution, and rehabilitates soil in areas wherever water harm provides has already occurred.

c. Better-tasting Food

It is not your imagination: organic food tastes higher than a product that returns from standard farms and ways. Organic turn out tends to possess lower nitrate content than non-organic varieties, resulting in fruits that not solely style sweeter however even have higher inhibitor levels. Science shows that organic farming is not simply tastier however higher for you, too.

d. Fewer Environmental Toxins

At present, but one 1/2 common fraction of farmland area within the US is dedicated to organic farming. This suggests that over 900 million acres of farmland are being treated with chemical fertilizers, pesticides, and different ototoxic substances needed by stock farming. Because the proportion of organic farms will increase, the atmosphere conjointly edges.

e. Job Creation

Studies compiled by the Organic Farming Research Foundation have shown that there are more than 10,000 certified organic producers in America than almost two million traditional farms. However, organic farms tend to bring in more profits, despite requiring more employees. It is easy to see the economic benefits derived from job creation resulting from an increase in organic farming.

f. Better Soil Quality

According to Cornell University's research, forty billion dollars are lost annually due to topsoil destruction caused by conventional farming's dependency on chemical fertilizers. If organic farming methods replaced those fertilizers and ammonia, topsoil health would improve. The healthier soil would, in turn, produce vegetables and fruits with higher amounts of minerals and micronutrients.

g. Helping in the Fight against Climate Change

Organic farming reduces the use of nonrenewable energy because it avoids using chemical pesticides and fertilizers, which require large amounts of fossil fuel to produce. Organic farming also returns more carbon to the soil, lessening the greenhouse effect and global warming.

h. Preservation of the Culture of Agriculture

Around the world, every culture has at least one thing in common: food. Organic farming celebrates biodiversity and good health, and it removes harmful toxins from our environment and our food. That is something to encourage and celebrate.

Greenhouse Farming

Crop production could be a risky business. The foremost powerful advantage of greenhouse farming is that it permits effective management and reduces risks caused by the unfavorable atmospheric condition. A lot of concretely, greenhouse farming optimizes growing conditions and protects the crops from extreme weather events. Also, some greenhouse farming varieties (greenhouses with managed heating) extend the season or perhaps enable farmers to grow crops outside of the standard season. Greenhouses that are also equipped provide the possibility to require complete crop production management that results in quicker growth and better yields.

Benefits of Greenhouse Farming**1. Increased production**

Greenhouse farming is taken into account associate degree implementation of intensive agriculture and may increase crop production. This is because you have much management for making the optimum climate conditions

required for plant growth associate degree square measure able to grow many plants per sq. feet compared to growing crops in an open field.

2. Minimizing production risks

Being in an internal area will facilitate forestall crops from suffering harm from global climate change connected events like abrupt will increase or temperature drops, likewise keeping crops far from birds and alternative animals.

3. Maximizing profits

Multiple studies have expressed that the profits per crop per sq. feet are often even doubly or thrice as huge once implementing greenhouse farming as another to open-field agriculture and combining the observation with alternative methods like tank farming. By utilizing resources in an exceedingly a lot of economical manner, you can produce less waste that will translate into larger profits.

4. Increased pests, weeds, and malady management

A handy and optimally engineered greenhouse will stop issues like pests and weeds, also offer additional management against alternative diseases. An inside area will be restricted to solely the mandatory personnel, and fewer individuals stepping into and out suggest that a lesser risk of transportation unwanted components on the crops' point.

5. Ability to grow year-round manufacture, even off-season

A greenhouse is comparatively freelance to the globe outside, eliminating the limitation of growing crops solely on a selected season. Even within the harsh winter or intense summer temperatures, prime quality crops will be adult, provided you've got the mandatory suggestions that to make the proper climate within the greenhouse.

6. More stability and security

Since you do not depend upon climate conditions, a rising instability and security, not just for the crops however conjointly for the staff, will be obtained by greenhouse farming.

E. Results and Discussions

Modern farming techniques for cultivating land.

Table 1 shows the how management functions are important and the farmers are used in

Table 1: Importance of management functions

Sr. No	Function	O	E	(O-E)	(O-E) ²	(O-E) ² /E
1	Planning	76	100	24	576	5.76
2	Controlling	72	100	28	784	7.84
3	Directing	66	100	34	1156	11.56
4	Organizing	68	100	32	1024	10.24
Calculated Value						35.4

During the analysis we found the value from table of Critical chi-square is= 7.81 & Calculated Chi-square value is=35.4, it is cleared that the association between management functions and Modern farming techniques. Therefore it is cleared that calculated value is greater than critical value

hence null hypothesis is rejected and alternative hypothesis is accepted. Following table shows the Correlation analysis between management functions and enhancing effectivity through modern farming techniques with various factors and it is proved that:

Table 2: Correlation analysis

Analysis of variance (Y):						
Source	DF	Sum squares	Mean squares	F	Pr > F	
Model	1	2166.000	2166.000	55.538	0.002	
Error	4	156.000	39.000			
Corrected Total	5	2322.000				
<i>Computed against model Y=Mean(Y)</i>						
Model parameters (Y):						
Source	Value	Standard error	t	Pr > t	Lower bound (95%)	Upper bound (95%)
Intercept	69.000	3.606	19.137	< 0.0001	58.989	79.011
Increase yield - 33	-38.000	5.099	-7.452	0.002	-52.157	-23.843
Increase yield - 67	0.000	0.000				

Table 2 shows p value is less than 0.001. It is less than 0.05 hence null hypotheses is rejected and alternative hypothesis is accepted. From the Annova table it is cleared that critical value is 5.30. Calculated value is 55.53 hence calculated values is greater than table value

therefore null hypothesis is rejected and alternative hypothesis is accepted. Economic development of farmers through the organic farming and greenhouse farming are getting cleared through the following table no.3.

Table 3: Organic and Greenhouse farming

Sr.No	Impact	O	E	(O-E)	(O-E) ²	(O-E) ² / E
1	Strongly agree	54	25	29	841	33.64
2	Agree	22	25	-3	9	0.36
3	Disagree	14	25	-11	121	4.84
4	Totally Disagree	10	25	-15	225	9
						47.84

From the table researcher got the Critical chi-square value is = 7.81 and Calculated Chi-square value is 47.84. Therefore it is cleared that calculated value is greater than critical value hence null hypothesis is rejected and alternative hypothesis is accepted.

Importance of Management functions in functioning of different factors in organic farming and greenhouse farming for cultivating land using these techniques are more profitable and productive for the farmers.

Table 4: Importance of management functions in Organic & Greenhouse farming

Sr.No	Role of management functions in Different factors	Most Important	Important	Less Important	Not Important
1	Land selection and utilization	44	24	19	13
2	Crop selection	56	24	13	7
3	Capital Management	46	23	20	11
4	Proper Irrigation practices	52	23	13	12
5	Use of Pesticides	48	13	28	11
6	Use of Fertilizer	46	22	28	4
7	Technological Innovations	47	21	26	6

Table 5: Factor Rotation Matrix

Factor rotation Matrix			
	F1	F2	F3
Obs1	0.799	0.062	0.140
Obs2	0.001	0.073	0.926
Obs3	0.775	0.186	0.039
Obs4	0.440	0.471	0.089
Obs5	0.417	0.583	0.000
Obs6	0.588	0.412	0.000

Factor Analysis

From Table 5 researcher has collected opinion of the respondents about importance of management functions in functioning of different factors in organic farming and greenhouse farming. It is observed that in the first rotation matrix observation-1, observation-3 and observation-6 has shown maximum loadings. Hence management functions are playing an important role in land selection, capital management and use of fertilizer.

F. Conclusion

Present-day farm operations have become a lot of and a lot of business homeward-bound. Farming is quite simply manufacturing crops; it needs farmers and landowners to deal with gain, fertility, conservation, and tax problems to call simply several. Being a decent producer is not any longer adequate to stay in business.

The key to changing into a productive farmer is a decent producer, as a decent farm manager. The use of management functions is one of all the foremost vital resources in operative farms. Farm management determines the farm-life however is going to be organized, resources allotted, and activities performed. It deals with varied ways and ways to stay a farm productive, property, resistant and profitable. It is cleared that The very important importance of food to physical, economic, and cultural development, with that the importance of economic, property production makes trendy techniques crucial—in truth, there's robust proof that solely such approaches have any important likelihood of meeting the world's basic food desires within the next few decades and it's doable if the farmer's area unit used the management functions in modern farming techniques.

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CHALLENGES FOR ADOPTION OF POLYHOUSE TECHNOLOGY AMONG FARMERS OF AHMEDNAGAR AND NASHIK DISTRICT

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ABSTRACT

Polyhouse is one of the emerging modern farming technique which is very much popular in India in recent years. The modern farming technique is one of the ways through which the situation of the farmers can be improved. Through the present study, the research wants to focus mainly on polyhouse as one of the recent farming techniques and its contribution to the improvement of the condition of the farmers. Polyhouse is one of the modern techniques still maximum farmers are not taking initiative for the implementation of the same in their farming methods. Therefore, the researcher has undertaken this study. The study was directed at 120 farmers from two districts, viz. Ahmednagar and Nashik to outline the imperatives in the adoption of polyhouse. The farmers confronted environmental, technical, labor, financial, and advertising requirements in outfitting productivity and maintainability of this technology. The significant requirements in quick selection were high introductory capital, helpless accessibility of value planting material and data sources, poor post-harvest infrastructure, and absence of price policy measures. Farmers of Ahmednagar were discovered to be better positioned for market access and accessibility of value planting material. Farmers' capacity to effectively coordinate this technology to suit their socio-economic and agro-ecological conditions would additionally influence its productivity, supportability, profitability, and sustainability.

Keywords: Adoption, Market access, Polyhouse technology, Post-harvest infrastructure, Price strategy

I. Introduction

“Everything else can wait, but not agriculture”- Jawaharlal Nehru, 1947, India is a country where Agriculture is the backbone of more than 70% of livelihood but now a day's Indian farming is having a major impact on the environment. The green revolution was one of the revolutions through which the productivity of the crop has increased. The white revolution has also supported the agriculture sector to increase the livelihood of farmers, every side of the coin has two sides hence green revolution also has a positive and negative impact. Because of the adverse impacts of the green revolution on soil fruitfulness, the rise of new insect pests and diseases declining of water table level enticed the farmers to consider substitute strategies for development which could control the unfavorable impacts of the green revolution and give a chance to develop crops consistently. Ensured Cultivation Technology was one such elective which was promising to the farmers. Environmental change and helpless water accessibility will require developing more food with less and less water. The extent of zone development under the development of vegetables and blossoms is practically nothing. The main alternative is a vertical extension through

expanded profitability and editing power utilizing secured cultivating with climate control measures, quality seeds, composts and plant assurance estimates Plastic mulching, ensured nursery creation, utilization of green/polyhouses/ shade net houses for the slow time of year creation of vegetables and flowers have reliably given great outcomes both at research farms and farmers' fields In the ongoing years expanding consideration has been centered around a few earth safe strategies for pest management, including polyhouse development to lessen pesticide use primarily because of growing concern over food safety issues and environmental concerns. India has gone into a period of nursery vegetable development all the more as of late and the total area under protected vegetable production is not more than 100000 ha. India being a tremendous nation with differing and outrageous agro-climatic conditions, the protected cultivation technology can be utilized for year-round off-season production of, high worth, low volume vegetables, creation of infection-free quality seedlings, creation of value crossbreed seeds, and as well as for disease resistance breeding programs. Be that as it may, adoption of polyhouse technology shifts generally over the states in India. The

ensured developed advances particularly polyhousetechnology required a high starting venture and that significant adopters of these advances were huge farmers. In this unique circumstance, it is significant and effective to depict the challenges that farmers face in the adoption of polyhousetechnology. This would help in discovering the determinants of adoption which play a significant role in devising strategies to overcome the challenges.

II. Literature Review

There several studies on Polyhouse technology for farming. A select few recent examples are given below.

According to Potghan et al. (2020), a Polyhouse is where plants are developed. Polyhouses are regularly utilized for developing blossoms, vegetables, foods grown from the ground plant. Basic factors affecting plant development are sunlight, the water content in the soil, the PH level of water, etc. These physical elements are to control physically inside a Polyhouse and a requirement for robotized configuration emerges. Consequently, controlling all the elements that influence plant development is likewise a troublesome undertaking as it is costly and some physical variables are inter-related. The system also allows transmission of process parameters, including emergency alarm signals via e mail client server or alternatively sending a SMS on a mobile phone using GSM Module. This bidirectional pump is used for inlet and outlet water. Water siphoning has a long history; such a large number of techniques have been created to siphon water. Individuals have utilized an assortment of intensity sources, to be specific human vitality, creature power, hydropower, wind, solar, and power such diesel for little generators. The most common pump is used in remote communities are Solar submersible pumps, Hand pumps Direct drive diesel driven borehole pumps, Electric submersible pumps with a diesel generator.

Tripathy and Dash (2020), have argued that agriculture department have a major role in India to develop towards farming which is about 70% of population. India's development relies on farming, the capital income in farming department is 33% of total nation's

capital income. Presently the agricultural field plays an important role due to the demand in increasing population globally. Poly house is a way of protecting cultivation on agriculture, the plastic is used to cover the structure and it enables to cultivate high value crops in the farming structure. Soil condition is genuinely necessary asset for an efficient agriculture production. To improve the soil condition, we have introduced a line follower Robotic car which will move and sense the soil condition and supply water based on soil condition on the field. This project provides a solution in terms of reducing human labor on farming sector. One of the most beneficial idea is that decreasing the human physical efforts.

Mishra et al. (2020), have posited that higher farming is considered lucrative and highly profitable agro-industry. This case was registered in MAHOG village of SOLAN, Himachal Pradesh, India for a flower farming family. The findings showed that flower growing is a lucrative business however in many respects it presents challenges. The flower growing family insists that the floral company should be diversified into eco flower farming in order to ensure a stable and sustainable future. Two buildings have been fabricated, and the two high-value cultivations have been cultivated with Naturally Ventilated Poly House (NVS). The work was carried out in "Quality in natural playhouses for both Capsicum and Gerbera." In order to promote technology, departmental authorities provided technical support and all other information regarding farming practices and other logistics support from time to time. The conclusions were drawn in accordance with the yield and value of crops with open production, the increases in income or in particular farmers ' use of this innovation. They included several aspects.

As per Kishore et al. (2020), the current examination on Performance assessment of drip irrigation system and profitability analysis of verdant vegetables under polyhouse was directed to consider the presentation boundaries of the drip irrigation systems identifying with crop execution. This was finished by taking existing drip tapeline, new drip tape line and new inline drip irrigation system under the Polyhouse at the school of

Agricultural Engineering, Kandi, Sangareddy, Telangana during the year 2018. Profitability of five green verdant vegetables viz. Palak, Sorrel, Methi, Amaranths and Coriander was likewise assessed. The outcomes uncover that the three drip line systems in line got more uniform coefficient of 98% followed by new drip tape with 96% and preinstalled drip tape with 95%. Among the five green verdant vegetables methi has recorded most noteworthy gross (306000Rs section of land 1) and net returns (285833) and benefit cost ratio (14.2) trailed by Palak, Sorrel while Amaranthus has recorded least benefit cost ratio (7.6). As far as execution qualities, drip tape and in line system performed better in keeping up consistency release and the planned drip irrigation worked fantastically. Methi, Palak and tawny found appropriate and beneficial in polyhouse where all year development of vegetables is plausible contrasted with open field in which crop foundation was exceptionally poor and couldn't be raised effectively due the weighty downpours and improvement characters of the verdant crops.

Despite wide research on this topic, a contextual gap exists. Our research focused on Nashik and Ahmednagar districts attempts to fill that gap.

III. Research Methodology

a. Objectives of study

- i. To study the role of polyhouse as a modern pharming technique.
- ii. Study challenges faced by farmers in poly house technique.
- iii. To suggest measures for increasing usage of polyhouse as a modern farming technique.

b. Research Design

Research design is the method and strategy of the data collection, analysis, and interpretation of inferences so that valuable findings of the study can be generated. For this study, the researcher has used exploratory and descriptive research design.

c. Sources of Data Collection

The researcher has used the following sources of data collection:

- i) Primary data

For this research work researcher has used the following sources of primary data:

1. Interview
2. Observation
3. Discussion with the respondents

- ii) Secondary data

For this research work researcher has collected data by using the following sources:

1. Books
2. Journals
3. Websites
4. Magazines
5. Other published sources

d. Sampling Design

- i. Sample unit: The existing study researcher has undertaken with the help of farmers of polyhouse.
- ii. Sample area :
 1. The researcher has undertaken the study for Ahmednagar and Nashik region for the study
- iii. Sample size: 120 Farmers
- iv. Sampling technique: for this study researcher has used
 1. Stratified sampling
 2. Simple random sampling

e. Scope of the study

The study was conducted in two Districts in particular. Ahmednagar and Nashik during 2020. These Districts were purposively picked since these are the main Districts in the region under secured development. Two talukas from each district, viz. Sangamner and Rahata from Ahmednagar and Sinner and Niphadtalukas from Nashik were picked purposively as a result of the most elevated territory under secured development in these talukas. In all out 120 farmers (30 farmers from each taluka) who had received polyhouse technology were selected by using a stratified random sampling technique.

Therefore, this study is one of the attempts through researcher want to focus on challenges in the usage of the polyhouse as an important tool for modern farming technique. Nowadays most of the products of polyhouses are having maximum demand due to their quality and

standard. Farmers can get an optimum return through this technique. Therefore this study is important.

f. Limitations of the study

During this study, the researcher has faced the following limitations:

1. Secrecy of information: most of the respondents were reluctant to share their genuine opinion. Some of the respondents have not shared real opinions due to business strategy.
2. Less time for the discussion with respondents: During the personal discussion with the respondents, they were busy in their work so that they couldn't give enough time for the discussion. Hence this

is also one of the important limitations during the study.

3. Lack of involvement of the respondents: Some respondents were does not have any interest in the research study so that they have not shown proper involvement in the research discussion.

IV. Data Analysis and Interpretation

An exhaustive list of constraints was prepared and the respondents' opinion in the study area on constraints was measured on a five-point continuum scale of least severe, not so severe, severe, quite severe, very severe and with a score of 1, 2, 3, 4 and 5. Relevancy Ranking Technique was used with the following formula:

$$RC_i = \frac{\text{Total score of all the respondents for } i^{\text{th}} \text{ constraint}}{\text{Maximum on the continuum} \times \text{Total number of respondents}}$$

RC_i refers to Relevancy Coefficient for the i^{th} requirement. The ranking of every limitation was made by its relevancy coefficient with the end goal that the imperative having the most elevated relevancy coefficient is positioned first and ensuing position is offered by the scores got in a specific order. The methodologies to defeat the difficulties looked by farmers in the selection of polyhouse innovation were pooled dependent on conversations with all the respondents of the examination. Procedures were organized and examined utilizing Garrett's ranking strategy.

V. Results and discussion

Difficulties in the selection of polyhouse technology

Environmental constraints

The ecological constraints looked at by farmers in the selection of polyhouse in Ahmednagar and Nashik have been introduced in Table 1. Over-misuse of supplements from soil has prompted their decrease in fertility status, particularly in Ahmednagar. Shortage of water for the water system was another serious

issue for farmers of Ahmednagar and Nashik. Exceptionally erratic climate conditions outside the polyhouse lead to higher consideration and better administration of yields inside the polyhouse and inturn greater expense of development. The event of pest and diseases inside the polyhouse once in a while surpass when contrasted with open development as a result of ideal climatic conditions (high dampness and stickiness) inside the polyhouse. Continuous irrigation system to the soil through drip or mist irrigation system or water shower inside the polyhouse has likewise prompted helpless waste conditions. Farmers of Ahmednagar and Nashik moreover uncovered major in progress considering physiological issues. the significant imperatives in the creation of green crops in India are temperature (hot or cold), daylight duration and quality, water inadequacies or abundances, barometrical dampness (relative mugginess), weeds, insufficiency of supplements, substantial breezes, carbon dioxide, and host of diseases and bug pests.

Table 1 Environmental constraints as perceived by farmers in the adoption of polyhouse technology (n=120)

Constraint	Ahmednagar		Nashik	
	Relevancy coefficient	Rank	Relevancy coefficient	Rank
For the most part higher perishable capacity of	0.91	I	0.93	I
Deficiency of water for irrigation under	0.64	IV	0.79	II
Profoundly fluctuating climate conditions	0.62	V	0.76	III
Helpless seepage of the dirt	0.59	VI	0.69	IV
Low soil ripeness status	0.75	II	0.64	V
Event of nuisance and diseases	0.72	III	0.59	VI
Event of physiological issues	0.46	VII	0.49	VII

Technical constraints

The creation of crops under polyhouse conditions is exceptionally information and skill intensive. Be that as it may, farmersthink that it's hard to get the most recent data and strategies of yield creation under polyhouses, especially in their regional languages. Accessibility of value planting material at reasonable costs is a challenge. The way that planting material is provided distinctly by hardly a few private players has come about into farmers being totally dependent on them. The technical constraints looked at by farmers have been introduced in Table 2. Farmers of Nashik regions communicated that accessibility of bundle of practices for the development of yields under polyhouse is either restricted or requires parcel of alteration to suit their agro-natural and socio-economic conditions.

Accessibility of value seed and planting material of required cultivar is an extreme

limitation looked by farmers by virtue of expanded reliance on formal area particularly private seed organizations likewise detailed that no particular breeding work had commenced for improvement of suitable varieties/ hybrids for greenhouse or protected cultivation, even in significant vegetables, viz. cherry tomato, sweet pepper, tomato and cucumber.

However, it was interesting to note that the limited power supply was the major constraint for the farmers of Ahmednagar. Farmers of Ahmednagar have gone into the high level phase of polyhouse development and are currently expanding the region under polyhouse development. Subsequently, the force supply goes about as a basic information. Farmers of Nashik are as yet in the underlying period of polyhouse innovation selection wherein the accessibility of quality planting material and information sources are significant issues.

Table 2 Technical constraints as seen by farmers in the adoption of polyhouse technology (n=120)

Constraint	Ahmednagar		Nashik	
	Relevancy coefficient	Rank	Relevancy coefficient	Rank
Absence of consistent data about yield creation under polyhouse	0.72	V	0.89	I
Amount and quality planting material at ideal time	0.66	VI	0.77	II
Restricted and unpredictable force supply	0.93	I	0.69	III
Non-accessibility of quality information sources like pesticides and insect sprays showers at correct time	0.45	VIII	0.64	IV
Non-accessibility of quality polyhouse supplies at close by market	0.55	VII	0.59	V
Absence of specialized direction/course about creation strategies	0.82	III	0.56	VI
Absence of important data in nearby language	0.83	II	0.48	VII
Inconveniences in after the proposed rehearses	0.76	IV	0.30	VIII

Labour related constraints

Polyhouse development is labor-intensive and talented work consistently. Of course, the availability of skilled labor is a basic issue for farmers in both Ahmednagar and Nashik (Table 3). Migration of rural folk to metropolitan regions looking for better positions, elective business openings at the town level (counting MNREGA conspire) and indifferent attitude of youth towards agribusiness has prompted intense lack of talented work particularly in the pinnacle periods of planting/ sowing and harvesting. This has normally raised the compensation paces of skilled labor required for polyhouse

cultivation. The normal everyday wage rates in the pinnacle period of Sowing/ planting and harvesting in the open field conditions in the study region was ' 200 for ladies and ' 250 for men, while in the polyhouse the everyday wage rates went between ' 250–300 for ladies and ' 300–400 for men. It was assessed that normal yearly consumption on wages and compensations in the initial three years of foundation of polyhouse is ' 77000/unit. A unit is a standard proportion of region under polyhouse development and is identical to 1008 sq meters.

Table 3 Labor imperatives as seen by farmers in the adoption of polyhouse technology (n=120)

Constraint	Ahmednagar		Nashik	
	Relevancy coefficient	Rank	Relevancy coefficient	Rank
High price to be paid for skilled labour	0.72	II	0.96	I
Limited availability of labour during peak seasons	0.91	I	0.76	II
Non- availability of skilled labour	0.53	III	0.44	III

Economic constraints

The economic constraints of the farmers in the selection of polyhouse introduced in Table 4 shows that the underlying cost required setting up a polyhouse is still exceptionally high and is past the compass of small and medium farmers. The fund brought about by farmers in setting up polyhouse, cost of planting material, and its maintenance is given in Table 4.

The expense of the foundation of polyhouse shifts between 1.2 million to 1.4 million. Polyhouse cultivation requires quality planting material, inputs, and so on which adds financial weight to the farmers. The fundamental expense of creation and the operational expense of the atmosphere controlled greenhouses are high, which are not reasonable to the growers in India.

Seeds of business crops and low-volume, high-esteem crops were costly due to consideration of sovereignty/attribute charge in the retail

cost. Assurance, requirement, and upkeep of IPRs over seed and hereditary material by private seed organizations through PPVFRA 2001 will likewise include cost and these expenses are given to purchaser farmers. The dismal accessibility to subsidies and absence of a pricing policy including that of crop insurance has further added to the risks of polyhouse cultivation. The upper roof cutoff of subsidy changes from plan to plan, largely extended between 20 to 50 percent of the expense of erection of polyhouse. Indeed, even the ceiling on the area under polyhouse for availing subsidy benefits is the limit of one unit (1008 sq m).

The farmers of both Ahmednagar and Nashik communicated that it took at least eight months after application, to benefit from loans from financial institutions, commercial banks, and business banks.

Table 4 Economic constraints as seen by farmers in the adoption of polyhouse technology (n=120)

Constraint	Ahmednagar		Nashik	
	Relevancy coefficient	Rank	Relevancy coefficient	Rank
High beginning interest being developed of poly house	0.83	I	0.89	I
Especially cost of planting material	0.36	VIII	0.83	II
Significant expense of plant insurance synthetic compounds	0.62	V	0.65	III
Absence of satisfactory and ideal dispensing of advance from monetary establishments and banks	0.81	II	0.59	IV
Significant expense of transportation	0.28	IX	0.53	V
An excess of records needed for advance system	0.72	III	0.46	VI
Less data about credit and sponsorship offices	0.42	VI	0.42	VII
Helpless availability to endowment	0.65	IV	0.35	VIII
Nonattendance of crop protection conspire for security of blossoms and vegetables	0.41	VII	0.30	IX

Marketing constraints

The marketing constraints faced by the farmers have been introduced in Table 5.

The Indian farmer is a price taker and not a price fixer. It is all the more so in crops where price policy is totally missing as if there should arise in the case of flowers and vegetables. Thus, the unfavorable market price may cause enormous monetary losses. Farmers got great costs from worldwide business sectors when contrasted with the domestic market. Indeed, even in the domestic market, farmers brought great prices during the months of January-April and the season is commonly slack during September to December. Stressed the significance of Government involvement in the price policy instrument to prevent price fluctuation. The inadequacies in the foundation, for example, poor evaluating and transport offices and cold chain the board joined with market acts of neglect add to the danger part of farmers in India. The markets for polyhouse products are generally exclusive

and far, sometimes crossing the boundary of the Districts. The average distance from the nearest market (Pune) for farmers of Sangamner and Rahata in Ahmednagar ranged between 125 to 150 km, whereas it was less than 50 km for farmers of the Nashik Rural district. The average distance from the nearest market (Pune) for Sinner farmers is more than 200 km and hence they had to incur very high expenditure on transportation costs.

The Pune Flower Market is a public division market selective for flowers and is closest for the farmers of Ahmednagar Rural district. However, farmers from the Nashik Rural area communicated that this market is out of reach as a result of its area in the center point of the city. Hence, they wanted to sell their produce in another market for example nearby market Shirdi. It showed that area of the market is likewise significant as it influences the cost of transportation.

Table 5 Marketing constraints as perceived by farmers in the adoption of polyhouse technology (n=120)

Constraint	Ahmednagar		Nashik	
	Relevancy coefficient	Rank	Relevancy coefficient	Rank
Changes in market costs	0.61	IV	0.77	I
Absence of promoting offices at neighborhood place (block/area central command)	0.44	V	0.68	II
Absence of elite business sectors for blossoms/vegetable become under polyhouse	0.37	VI	0.52	III
Presence of center men (dalal) misbehaviors	0.83	I	0.44	IV
Absence of particular stock chain In management including cold chain	0.34	VII	0.39	V
Trouble in reviewing the produce at the creation level	0.74	II	0.36	VI
Challenges emerges because of quick need of cash	0.71	III	0.32	VII

Strategies to facilitate the pace of adoption of polyhouse technology

The systems reflect the needs as seen by different partners to improve appropriation of polyhouse technology among farmers. The strategies as seen by farmers to build the pace of adoption of polyhouse technologies are introduced in Table 6.

It is finding that some low quality produce with pesticide residues has involved incredible concern. These issues can without much of a stretch be tended to by production and protection practices including location-specific designing and construction of the polyhouses for efficient input use. Efforts such as investment in marketing facilities and creating new markets for polyhouse products will enhance the profitability of polyhouse cultivation.

Farmers likewise need to take suitable and logical measures in the determination of area and site for polyhouse cultivation and its proper administration. Utilization of certain Indigenous Technical Knowledge (ITKs) and locally accessible resources may demonstrate

useful for expanding the effectiveness and supportability of polyhouse cultivation and relief from risk. Working Group Report on Development of Protected Cultivation in Haryana and recommended that innovative marketing approaches, for example, cluster and cooperative based marketing will build the negotiations chance to farmers in this manner giving them the capacity to fix the price of their items in the market Government support needs to be extended for self-fabrication module of temporary low-cost structures like insect-proof net houses, shade net houses, walk-in-tunnels, and self-fabricated low-cost protected structures for the production of vegetables and flowers. There is a requirement for normal continuous power supply to keep up ideal developing conditions inside ensured structures. To give a better return to the farmers, there is a need to offer help with appropriate market linkages, market intelligence, and supply chain management including cold chain.

Table 6 Strategies to facilitate the rate of adoption of polyhouse technology as seen by farmers

Strategies	Ahmednagar		Nashik	
	Garrett Mean Score	Rank	Garrett Mean Score	Rank
Policy activities				
Value Strategy system	64.88	II	89.525	I
Normal and standard force supply (three stage)	77.53	I	78.025	II
Perfect Time accessibility of quality planting material locally	61.89	III	64.875	III
Higher appropriation for secured development under polyhouse	55.41	IV	43.088	IV
Formation of essential preparing offices at ranch entryway level	45.49	V	28.231	V
Research and development activities				
Diminishing the especially high beginning venture	78.63	I	79.625	I
Decreasing the cost of development	61.82	III	68.562	II
Standardization of plans and Plans of ease polyhouse for various agro-climatic locales of the nation	77.57	II	65.451	III
Improvement of simple to utilize Package of Practices	50.63	V	50.698	IV
Standardization of developing innovation under polyhouse	36.55	IV	48.854	V
Marketing activities				
Accessibility of crude material of required quality at close to advertise	42.48	IV	79.250	I
Advancement of direct promoting and forward publicizing of the produce	58.55	III	61.587	II
Production of independent payload trips for public and global business sectors to send out the crop	75.54	I	56.258	III
Formation of a specific brand for the produce and thought market for the produce	63.59	II	41.658	IV
Famer level activities				
Bunch and helpful based methodology underway and Promoting of created crop	61.66	II	86.578	I
Suitable decision of zone and site for polyhouse establishment	77.65	I	71.865	II
Foundation of downpour water collecting procedure to lessen irrigation cost	49.83	IV	52.598	III
Usage of native specialized information for control of temperature and moistness	43.66	V	48.962	IV
Diminishing polyhouse portion cost by utilizing privately made material	58.55	III	41.857	V

IV. Findings of the Study

The high beginning venture costs, absence of accessibility of value planting materials and information sources, helpless post-gather framework, and nonattendance of value strategy have prompted restricted selection of this innovation by couple of farmers in specific pockets of the state.

Great strategy estimates, for example, expanding the degree and measure of appropriation; arrangement of value planting material and contributions at moderate costs; interest in framework to plug post-collect misfortunes and evaluating strategy would improve the profitability and supportability alongside expanding the reception of this innovation.

The re-innovations in plan and structure of polyhouse by farmers likewise credit due acknowledgment and consideration of exploration and augmentation organizations. Innovative work activities should target growing minimal effort plans and lessening the cost of erection of polyhouse and cost of development. High initial venture, nonattendance of accessibility of value planting materials and information sources, helpless post-collect framework, and nonappearance of value strategy have prompted extremely restricted selection of this innovation by couple of farmers in explicit pockets of the state.

V. Conclusion

However, the needs of marketing organizations spin around improving the availability of technologies and contributions to farmers and the requirement for the foundation of promoting framework by Government. They in like manner imagined that interest in making an establishment should be made to prod the appropriation of polyhouse innovation. Reception of Good Agricultural Practices by farmers would moreover assemble the market worth and charge ability of their produce. Innovative work activities should target growing minimal effort plans and diminishing the cost of erection of polyhouse and cost of development. The re-developments in plan and structure of polyhouse by farmers likewise credit due acknowledgment and consideration of exploration and expansion offices. The accomplishment of the selection of this innovation likewise relies upon how well the farmers incorporate this innovation on their homesteads to suit their financial and agro-environmental conditions.

High basic investment, nonattendance of accessibility of value planting materials and information sources, helpless post-collect framework, and nonappearance of value strategy have prompted extremely restricted

reception of this innovation by couple of farmers in explicit pockets of the state. Great procedure gauges, for instance, developing the degree and proportion of endowment arrangement of value planting material and contributions at reasonable costs; interest in framework to plug post-reap misfortunes and evaluating strategy would improve the profitability and supportability alongside expanding the reception of this innovation. Imaginative work exercises should target developing insignificant exertion designs and reducing the cost of erection of polyhouse and cost of development. The re-manifestations in the arrangement and structure of polyhouse by farmers in like manner credit due affirmation and consideration of exploration and expansion workplaces. The achievement of the determination of this innovation moreover depends upon how well the farmers organize this innovation on their homestead to suit their financial and agro-environmental conditions.

VI. Suggestions of the Study

The opportunities existing with the Protected Cultivation to improve the overall productivity and profitability of agriculture must be realized by small and marginal farmers as well, who are deprived of such issues because of lack of financial resources, lack of information, and fear of approaching Governmental agencies / or financial institutions. Improving access to credit, technology, and markets to the farmers and make them acquainted about the benefits and opportunities associated with Protected Cultivation through small scale and low investment requiring technologies, such farmers are slowly getting into the interventions and improving their income from a small patch of lands owned by them. Farmers are constantly threatened by adverse weather and environmental conditions make them aware of this thing so they change their farming style.

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AN ANALYTICAL STUDY OF USE OF AN ARTIFICIAL INTELLIGENCE IN INVENTORY MANAGEMENT WITH REFERENCE TO MEDIUM SCALE MANUFACTURING INDUSTRIES IN NASHIK INDUSTRIAL ESTATE

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ABSTRACT

Industries are using innovative strategies for maintaining the cost of production at different stages of supply chain management. Today, artificial intelligence is one of the technological advantages widely used by service industries and manufacturing industries. The role of manufacturing management is very important for developing any country for which India is also not an exception. Manufacturing the product in every qualitative aspect itself is a challenge for the developed country and developing and developing countries. Quality management is an important aspect of customer satisfaction. Delivery of customer value through quality management is one crucial aspect for which every firm is trying their level best. Artificial intelligence includes a wide range of machine learning activities that are working with human control. It is one of the helpful tools in manufacturing industries. In this research, the paper researcher would like to focus on one of the important aspects of manufacturing management, i.e., inventory management.

Keywords: Artificial intelligence, inventory management, manufacturing industries Nashik Industrial Estate.

Introduction

Any manufacturing industry's success depends on various parameters such as cost of production, customer satisfaction, demand and supply of the goods, forecasting of the market trends, etc. Demand and supply are one of the chains in which the satisfaction of the customer is dependent. If a firm has strong qualitative value among the product, then demand the product at an optimum price, possibly very high, it is challenging for the firm to maintain a proper balance between demand and supply. For smooth flow of demand and supply, it is required to maintain optimum production units. Inventory is the core requirement of the production. Inventory is interlinked between the distribution channel and the production house. In a simple context, Inventory is a stock of goods that always facilitate smooth flow of production.

Inventory management includes various ingredients. Therefore following are the crucial ingredients of Inventory:

a. **Raw Material Inventory:** The quality of production is dependent on the raw material. For any business, the optimum balance of raw material is an important one because some industry raw material is easily available, while for some industry it

is a challenge to make available raw material at the proper time.

- b. **WIP or Work In progress:** On raw material, when different processes initiate, it is called work in progress. It is conducted with the help of different machinery, equipment, and workforce. It is an earlier step of finished goods.
- c. **Finished Goods-** After work in progress, the final goods are all galled as finished goods, ready for sale. It may require different value addition activities such as packaging, finishing, labeling, etc. again, these finished goods may store in the warehouse for sale, and according to market demand, and they may be sold in the competition.
- d. **Spare parts components:** generally, processing of raw material is done with the help of machinery. Different value-added material is required at the time of various processing activities, such as spare parts, equipment, lubricants, switches, oil, etc. maintenance is also an important activity in the industry; therefore, proper Inventory is also necessary required in this stage.

Generally, the role of Inventory is important due to the following motives; these are as:

- i. Transaction motive
- ii. Precautionary motive
- iii. Speculative motive

- i. **Transaction motive:** to maintain a proper balance between demand and supply role of Inventory is important. For stable and smooth production, industries are generally needed. Inventory. Different kinds of sales operations are also dependent on supply; therefore, such kinds of transactions become needed in industries.
- ii. **Precautionary Motive:** uncertainty is one of the challenges as well as risks for the industry. Sometimes due to unavoidable incidents such as strikes, lockouts, natural calamities, if the raw material is not available at the proper time, it may create hurdles in the production process; therefore, for such precaution holding of Inventory is very much important.
- iii. **Speculative motive:** price fluctuation is one of the industry's benefits through the sale of goods. Speculation in the raw material price, such as a decrease in the price, may benefit the organization through cost benefits. Therefore such kinds of speculations can give benefit the organization.

In the industry, two important costs effect on inventory process. These are procurement costs and carrying costs. Procurement cost is relevant to the collection of material from various sources. Sources may be near or away; therefore, this research is trying this research to enhance the quality of education.

Artificial intelligence

Artificial intelligence is an area of computer science that focuses on creating intelligent machines programmed to work and react like we humans. AI computers are designed for learning, planning, and problem-solving. With such methodologies as time series prediction and reinforcement learning that can be applied, AI helps companies predict consumer demand, manage supplier backorders, and optimize inventory stock levels.

Role of Artificial Intelligence in Inventory control

1. **Forecasting of Demand:** Artificial Intelligence can work efficiently for the

prediction of the demand. It is one of the challenging tasks where it can work more efficiently and easily minimize risk and uncertainty.

2. **Reduce wastages and increase profit:** Artificial intelligence can work more efficiently and effectively in the management of Inventory at various levels such as raw material, work in progress, finished stock management.
3. **Effective check on Human activities:** Artificial intelligence can work more effectively and efficiently so that manual or human errors can be minimized. To control manual activities, artificial intelligence can work more effectively.
4. **Effective utilization of the Inventory:** AI creates a mechanism of effective planning, coordination, organization, and direction for the Inventory; therefore, effective utilization of the Inventory can be possible.

Literature Review

1. Rupa Dash, Mark McMurtrey, et al., (2019) Use of AI has transformed the manufacturing sector, from virtual assistants to advanced robotics, has enabled the manufacturing companies to produce more with fewer errors to adept demand. Using AI helped them in rapid growth as they can shorten development cycles, improve engineering efficiency, prevent faults, increase safety by automating risky activities, reduce inventory costs with better supply and demand planning, and increase revenue with better sales lead identification and price optimization, etc.
2. Tom Jose V reported that Inventory management is the integrated functioning of an organization dealing with the supply of materials and allied activities to achieve the maximum co-ordination and optimum expenditure on materials. Inventory control is the most important inventory management function, and it forms the nerve center in any inventory management organization. An Inventory Management System is an essential element in an organization. It is comprised of a series of

processes, which provide an assessment of the organization's inventory. For example, we consider the inventories in a company that makes washing machines in all these analyses.

3. Tereza Sustrova (2016) The constructed model of an artificial neural network can be used for further order cycle optimization. The future order amount can be planned based on predicted demand, and thus the inventory management can be improved as a part of supply chain management. The article presents artificial neural networks as very useful and bringing many opportunities for further research.
4. Lawrence Imeokparia (2013), inventory management approaches imply that customers are frequently waiting for stock to fulfill their requirements through inventory postponement, and in turn puts added pressure on the third-party logistics provider who faces these inventory management issues directly with the customers. The implications of this can be negative feedback and negative customer relationships, as opposed to positive customer relationships if the inventory management approach adopted a level of inventory speculation, where forecasting would increase the inventory and would be more likely be available to fulfill the customer's requirements.
5. Ndlala Phindile and Mbohwa Charles concluded that The paper reveals that employing inventory control comes with a big price. There are many problems that an organization needs to attend to. Ineffective inventory control is the main problem. Furthermore, companies in developing countries do not use the basic inventory control techniques. In many cases means the ROP is always related to the extent of working capital available. Companies in developing countries tend to order a massive quantity of stock subject to the amount of working capital available.
6. Serhii Zhukov, (2015) Economic Production Quantity model (EPQ) determines the quantity a company or retailer should order to minimize the total inventory costs by balancing the inventory holding cost and average fixed ordering cost. E.W. Taft developed the EPQ model in 1918. This method is an extension of the EOQ model. The classical economic production quantity model (EPQ) has been widely used. Numerous research efforts have been undertaken to extend the basic EPQ model by releasing various assumptions or adding new so that the model conforms more closely to real-world situations. Recently, re-work activities have attracted considerable attention because of the reduction of natural resources and the rise in raw materials' cost.
7. Obiri-Yeboah Hanson, David Ackah & Makafui R. Agboyi (2015) Efficient inventory control can be done by introducing different measures to prevent the company from incurring unnecessary losses made by different departments. Measures can be put in place, for example, stock-taking, which is the accounting of stock at every end of the month, to record the lost and available stock, etc. The company should set up strict rules for procurement officers and store managers to follow during purchasing and storing of material to avoid loss. Therefore, an organization needs to have a sound, effective and well-coordinated inventory management system because the business environment is rapidly changing, highly competitive, and drastically affects its performance.

Research Methodology

For this research work researcher has used the following research methodology:

Objectives of the study

1. To study the role of inventory management systems in the manufacturing industries.
2. To study the need and role of artificial intelligence in the medium scale industries of Nashik industrial estate.
3. To study Impact of artificial intelligence on the overall productivity and performance of the organization.

The hypothesis of the study

H01: Artificial Intelligence cannot have a Significant Impact on the overall performance of an organization.

Ha1: Artificial Intelligence has a significant impact on the overall performance of an organization.

H02: Artificial Intelligence cannot have a Significant Impact on the productivity of an organization.

Ha2: Artificial Intelligence has a Significant Impact on productivity and organization

Sources of Data Collection

For this research work researcher had collected data through primary as well as secondary sources. These sources are as follows:

Primary sources

The researcher has collected data by using the following sources :

1. Discussion
2. Observations
3. Interview
4. Questionnaire

Secondary sources

1. Websites
2. Journals
3. Books

Types of Research Design: for this research purpose researcher is used exploratory and descriptive research design.

Sample size: 60 respondents

Sampling technique: simple random sampling

Statistical Test: The researcher has used the ANOVA test for testing of hypothesis.

Scope of the study

Maintaining the cost of production is one of the greatest challenges for every industry in today's competition. Industries are using innovative strategies for maintaining the cost of production. Today, artificial intelligence is one of the technological advantages widely used by service industries and manufacturing industries. This research paper researcher wants to study the scope for artificial intelligence in the medium scale manufacturing industries of Nashik industrial estate.

Limitation of the study

The researcher has collected by using primary data such as questionnaires, discussion, and

observation. Some of the respondents were not easily shared information due to secrecy. The researcher also had collected secondary data that are lacking the primary touch of the information. With this, both limited researchers tried to collect the maximum database for this research study.

V. Data Analysis and Interpretation

Table 1: Need of Artificial Intelligence

Sr.No	Particulars	Number
1	Yes	38
2	No	14
3	Can't say	08
	Total	60

Analysis and Interpretation: Above table shows need of artificial intelligence in manufacturing industries. 64% respondents are agreed with need of artificial intelligence, 23% are not agreed and 13% became neutral. Therefore it is clear that maximum respondents are agreed with this need of artificial intelligence in manufacturing industries.

Table 2: At which level it is useful

Sr.No	Particular	Number
1	Raw material	7
2	WIP	29
3	Finished Goods	02
	Total	38

Analysis and Interpretation: from the above table it is clear that 76% respondents said that artificial intelligence can be useful at Work in Progress, 19% said that procurement of Raw material and 5% said that finished goods.

Table 3: Whether it can increase roductivity of an organization

Sr.No	Particulars	Number
1	Agreed	38
2	Not agreed	14
3	Can't say	08
	Total	60

Analysis and Interpretation: The above table indicate role of inventory in increasing productivity. 64% respondents agreed with increasing productivity, 23% not agreed and 13% became neutral. Maximum respondents

are agreed with artificial intelligence can increase productivity of an organization.

Table 4: Impact of Artificial Intelligence on overall performance of an organization

Sr.No	Particulars	Yes	No
1	Increase productivity	38	22
2	Smooth functioning	35	25
3	Saving of time	45	15
4	Decrease cost of production	43	07

Analysis and Interpretation: From the above table it is clear that artificial intelligence can have positive impact on saving of time, decrease cost of production, increase productivity and smooth functioning of the manufacturing processes.

Table 5: Effect on employment:

Sr.No	Particulars	Number
1	Agreed	45
2	Not agreed	08
3	Can't say	07
	Total	60

Analysis and Interpretation: from the table and pie-chart it is clear that 75% respondents are agreed with artificial intelligence can effect on employment.75% respondents agreed with this while 13% are not agreed with this.

Table 6: Need of the training for implementation of AI

Sr.No	Particulars	Number
1	Yes	47
2	No	08
3	Can't say	05
	Total	60

Analysis and Interpretation: from the above table it is clear that 78% respondents said that it is need for the training of the artificial intelligence, 14% said not required while 8% cant not said anything. Therefore it is clear that maximum respondents said that need of the training is essential for implementation of the Artificial intelligence.

Testing of Hypothesis

Hypothesis-1

H₀1: Artificial Intelligence cannot have significant impact on overall performance of an organization.

Ha1: Artificial Intelligence is having significant impact on overall performance of an organization.

Table 7: Testing of H1

Sr.No	Particulars	Yes	No
1	Increase productivity	38	22
2	Smooth functioning	35	25
3	Saving of time	45	15
4	Decrease cost of production	43	07

Table 8: ANOVA H1

Anova: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
38	3	123	41	28		
22	3	47	15.66667	81.33333		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	962.6667	1	962.6667	17.60976	0.013736	7.708647
Within Groups	218.6667	4	54.66667			
Total	1181.333	5				

Analysis and Interpretation: From the above tables it is clear that p-value is less than 0.05. F value table value at 5% level of significance is 9.013 and calculated value is 17.60. Therefore it is clear that $F_{\text{table Value}} < F_{\text{calculated value}}$ hence we reject null hypothesis and accepted alternative hypothesis i.e Artificial Intelligence is having significant impact on overall performance of an organization.

Hypothesis-2

H₀2: Artificial Intelligence cannot have significant impact on productivity of an organization.

Ha2: Artificial Intelligence is having significant impact on productivity an organization

Table 9: Testing of H2

Sr.No	Particulars	Number
1	Agreed	38
2	Not agreed	14
3	Can't say	08
	Total	60

Table 10: Chi-square for H2

Sr.No	Particulars	Observed Value(O)	Expected Value (E)	O-E	(O-E) ²	(O-E) ² /E
1	Agreed	38	20	18	324	16.2
2	Not agreed	14	20	-6	36	1.8
3	Can't say	8	20	-12	144	7.2
	Total	60				25.2

Analysis and Interpretation: from the above table of hypothesis testing it is that Chi-square Table Value < chi-square calculated value. Chi square table value is at 5% level of significance & one degree of freedom is 5.99 and calculated value is 25.2. Therefore it is clear that null hypothesis is rejected and alternative hypothesis is accepted i.e. Artificial Intelligence is having significant impact on productivity an organization.

Findings, Conclusion, and suggestions of the study

Findings of the study

Most of the respondents agree with artificial intelligence as the need for today's competitive environment, especially inventory management. Work in progress is an important inventory management level where artificial intelligence can play an important role. Artificial intelligence can play an important role in an organization's overall performance, such as increasing productivity, smooth functioning, and saving time and cost. It is also found that the use of artificial intelligence can effect on decreasing employment. Training is an essential need for the effective

implementation of artificial intelligence in medium scale manufacturing industries.

Conclusions

Every sector is facing the problem of maintaining the cost of production at every level of production. Competition is increasing at every level of inventory management. Inventory includes raw material inventory, work in progress, and finished goods inventory. This study researcher would like to conclude that artificial intelligence can play an important role in cost reduction through effective inventory management.

From this study, it is clear that artificial intelligence is the need of today's competition. Artificial intelligence can be more effective at work in progress inventory. Industries should understand the role of AI to increase productivity, smooth functioning, and reduction in time and saving of cost. Training of Artificial intelligence is need of the today's competition.

The Conclusion from hypothesis testing

The researcher has used the ANOVA test for testing the hypothesis-I. It is clear from the respondent's opinion that artificial intelligence

can play a vital role in the increased overall performance of the organization.

For testing hypothesis-II researcher has used the Chi-square test. From this test, it is clear that artificial intelligence can play an important role in increasing the organization's productivity.

Suggestions

1. Industries should understand the importance & need for artificial intelligence.
2. Industries should increase awareness of Artificial Intelligence in their organizational premises and to all stakeholders.
3. Implementation of AI is one of the costlier propositions so that industries should search for better alternative sources from the Indian or overseas market of Artificial intelligence model with the optimum cost to be affordable for medium scale industries.
4. The industry should undertake research and development activities to develop better AI systems according to their need for preferred job activities.
5. Training is one of the important and essential needs for the effective implementation of Artificial intelligence.

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जूनी ख्यात JUNI KHYAT जूनी ख्यात JUNI KHYAT

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Abstract

Innovation and Technology have guided a complete change in traditional financial services. Now, Technology seems a necessary key for the expansion of digital economy. Over the year's Indian banks and financial service providers have cautiously adopted technology to reinforce reach to the customers, provide services to and operational efficiency with growing demand in the market and technological advances. But still, the momentum of technology adoption isn't equivalent to its potential. Accordingly, there are gaps within the belief of economic services. Traditional Banks and Financial Institutions have noticed technology as a possible to empower the business propositions, rather than originating new business propositions themselves. Financial Technology (FinTech) Companies however are changing that role by gratifying digital technologies to see new business propositions and target new market segments which precedently weren't possible. Even, RBI is enabling the event of fintech sector to multiply the reach of banking services for unbanked and rural population.

FinTech is that the legitimate sight within the employment of technology to produce new financial products and services to new market segments in an economically feasible manner. From a business model perspective, the Fin Tech sector is manifest by technology companies that either attempt to disintermediate, or partner with incumbent Banks and Financial Institutions open up to on strategic account and market landscape. Hence, FinTech is progressively becoming a foremost center of attraction for all the key stakeholders in India's Financial Services industry – Regulators, Traditional Banks, NBFCs, Payment Banks, Investors, Payment Service Providers, Broking and Wealth Management Companies, Insurance providers and pure play FinTech players. So, this paper is describe about to confer various aspects and benefits of Fin Tech in India.

Keywords: Financial Technology, Fin Tech, economy, digital, initiatives

Introduction: Financial Technology is that the up to the minute technology and innovation that directs the normal financial methods to deliver the financial services. The operation of smart phones for mobile banking, investing and crypto currency are instances of technologies that make financial services extra comprehensible to the final public. Financial technology companies subsist of both startups and established financial and technology companies demanding to succeed or strengthen the employment of monetary services provided by existing financial companies. In other words, "fintech could be a new financial industry that applies technology to improve financial activities." Fintech is that the new applications, processes, products or business models within the financial services industry, composed of 1 or more complementary financial services and provided as an end-to-end process via the internet.

Internationally, technology propel a wave of innovation in finance that's changing the way that markets are structured and services are delivered. Computer science and machine learning build a more accessible trading system which is cheaper, more innovative and efficient. In the developing country, India is following early leaders like Kenya and also the Philippines as a pivot for financial service innovation and experimentation. The inclusion of fintech in India is that the integration of spirit of state policy, strong base in technology and innovation and also the abundance of demand for financial services, which influenced the investment of over \$2.5 billion in Indian fintech businesses. The government policy of demonetization announced in November 2016 has directly sight to impel consumers from cash towards digital transactions,

has directed the economy to grow faster. The motive of this research paper is to produce an overview of the fintech landscape in banking sector of India.

The country of 1.3 billion natives, India is growing marketplace for fintech. Even, India may be a young nation and therefore the sizable amount of its population is unbanked or under banked makes high growth in digital penetration, makes India an exciting global space for Fintech. The initiative of startup in India, the fintech startups are rapidly increased in last three years and therefore the segment is predicted to grow further with over half a billion dollars flowing into startups. Banks and financial institutions are that specialize in fintech sector and contracting collaborations with different fintech startups and are actively participating within the ecosystem. The Government. And regulators have also taken several initiatives to spice up the Fintech ecosystem and supply startups with new opportunities to launch competitive products.

The Evolution of Fin Tech in India

The foundation of the fintech sector in India had been began by liberalizing its banking industry post-1990 with the introduction of technology-savvy banks. The government also took legislative action to boost the banking system and pushed new technology such as MICR, electronic funds transfer and other electronic payments that revolutionized the banking system which resulted in the great digital revolution in the Indian economy. However, for two decades from 1991, the technological innovation in financial services and banking were government driven and witnessed slow growth.

The Indian government has started the penetration of fintech startups in India for the consumer offerings from the mid-2000s by mimicking the global trend. One of the initial offerings, which came up at around 2005, was the banking correspondent (BC) model, which leads the penetration of financial services to the rural household also. The model was promoted to perform financial transactions through agents. Agents having basic technological knowledge offer a lowered cost alternative to setup a full featured bank branch for financial institutions to serve the rural population which also improve the regional development. FinoPay Tech and Eko India were the major startups that are built on the BC model and availed the initiative opportunity. The emergence of e wallets or famously known as mobile wallets startups has witnessed in 2010 which is designed for e bill payment and mobile recharge services. Major Fintech startups such as Oxigen, MobiKwik, Paytm and Freecharge originated between 2005– 10. From 2010, there have been multiple Fintech startups that have groomed in different segments such as lending (100+ startups), personal finance management (40+ startups) and investment management (90+ startups). The profit maximizer Venture Capitalists had also gained the keen interest in 40% growth in investments in fintech sector and perform major funding activity in this between 2014 and 2016. Another visible trend in Fintech ecosystem is the growing number of collaborations between banks and Fintech startups. For instance, HDFC Bank and the Fintech startup „Tone Tag“ has partnered to provide phone-based proximity services and Yes Bank partnered with Ultracash Technologies to enable sound-based proximity payments. Such collaborations that help banks to provide effective services to their customers digitally and more cost effectively, these startups are also more expected to adopt the digital and smart city initiatives of the government to build the last mile digital connectivity.

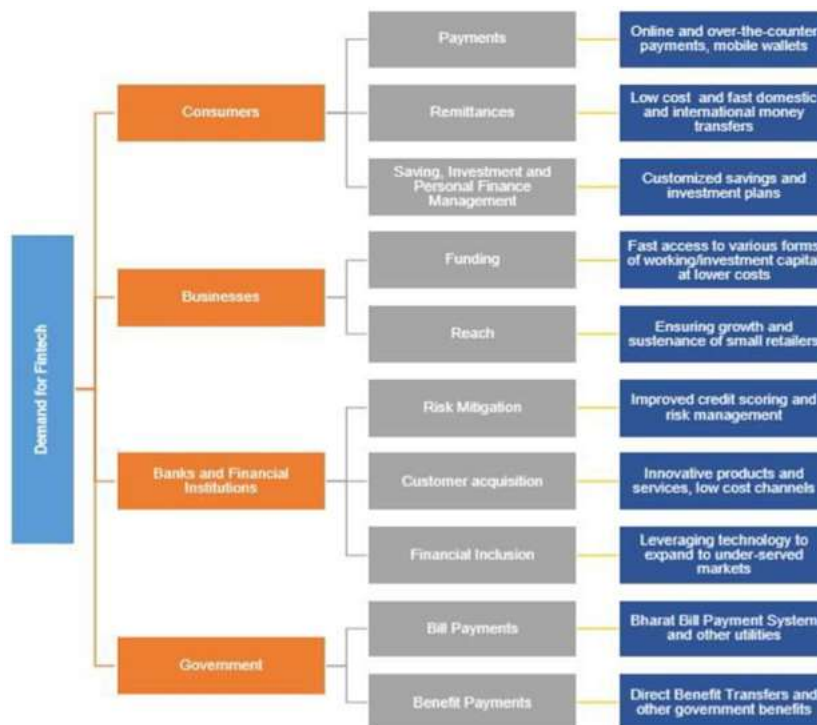
For the best digital connectivity, Banks have also launched solutions with the help of their in house teams to improve the digital financial infrastructure.

Some of the initiatives include:

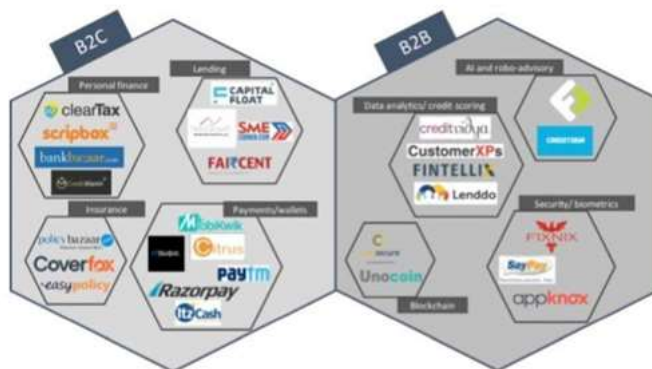
- ICICI bank launched a contactless mobile payment system which could enhance NFC payments in India
- Axis Bank presented the „Invoice to Payment“ feature that provide end-to-end digital invoicing and payment solutions
- DBS introduced the first mobile bank that allows customers to open accounts digitally with their PAN card and Aadhaar card

• Union Bank launched the *99# mobile application in partnership with NPCI that allows basic services like balance inquiry, fund transfers and mini statements to its customers even when there is no internet. These new solutions will enable Fintech startups to leverage the infrastructure created by banks to enable their solutions or enhance existing offerings with superior product experience.

Demand for FinTech



Segmentation of Fin Tech:



GOVERNMENT ROLE:

The government is taking various initiatives and acting as catalyst for the success or failure of fintech in a heavily regulated financial industry. The financial regulators SEBI, RBI and Government of India are importantly supporting the aim of the Indian economy to grow as a cashless digital economy and emerge as a strong fintech ecosystem via both funding and promotional initiatives. The funding support: to accredit penetration of the digitally license financial platforms to the institutional and public communities,

Funding Support is as follows:

- The Start-Up India initiative launched by the Government of India in January 2016 includes USD 1.5 billion fund for start-ups financial inclusion and enablement
- Jan Dhan Yojana: added over 200 million unbanked individuals into the banking sector
- Aadhaar has been extended for pension, provident fund and the Jan Dhan Yojana

Tax and surcharge relief: A few notable initiatives on this front are:

- Tax rebates for merchants accepting more than 50 percent of their transactions digitally.
- 80 percent rebates on the patent costs for start-ups.

- Income tax exemption for start-ups for first three years.
- Exemption on capital gains tax for investments in unlisted companies for longer than 24 months (from 36 months needed earlier).
- Surcharge on online and card payments for availing of government services proposed to be withdrawn by the Ministry of Finance.

Infrastructure support

- The Digital India and Smart Cities initiatives have been launched to promote digital infrastructure development in the country as well as attract foreign investments.
- The government recently launched a dedicated portal to provide ease in registration to startups. Startups will get support from the government in expenses of facilitators for their patents filing, trademark and other design work.

Regulators

In India, RBI is authorized to empower the development of fintech sector and embrace a careful approach in addressing concerns around consumer protection and law enforcement. The main aim of the regulator is to create an environment and discover the unhindered innovations by fintech, to enlarge the reach of banking services for rural unbanked or underbanked population, regulating an efficient electronic payment and providing alternative options to the consumers. Fintech simplify the payments, lending, and security/biometrics and wealth management. These have been the prime focus areas for RBI and we have seen significant approaches published for encouraging fintech participations. Examples:

- Introduction of “Unified Payment Interface” with NPCI, which holds the potential to revolutionize digital payments and take India closer to objective of “LessCash” society, Approval to 11 entities for setting up Payments Bank and approval to 10 entities for setting up Small Finance Banks that can significantly run in favor of cause for Financial Inclusion.
- Release of a consultation paper on regulating P2P lending market in India and putting emphasis for fintech firms and financial institutions to understand the potential of block chain. One of the areas with a huge scope is around managing P2P remittances in India. In India, the smaller the remittance size, the higher is the transaction cost percentage, which makes it extremely expensive for beneficiaries involved in transactions. This massive problem is a big opportunity for any fintech firm committed to address it well, as has been guided in the mature markets. Example:
- Some of the fintech firms such as Transfer Wise in UK, have come up with a remittance platform; and with the rising acceptability of the same, the firm has touched a valuation of USD 1.1 billion. Around 370 million internet users in India that is the growing digital population. The Internet penetration still lies at less than 40%. This is expected to grow in the near future continuing the 2x growth witnessed in 2015 in rural population coupled with government initiatives such as „Digital India“ aimed at penetrating digital services. The growth is expected to increase the penetration of current Fintech startups as well as provide a new market for potential new solutions and new players.
- Promoting non-cash transactions: In order to reduce the amount of paper cash being used in day-to-day transactions, the government has taken certain proactive steps like tax rebates for merchants accepting more than 50% as electronic payment.
- Biometric identification database: for the individual’s unique identity, Aadhaar card, the government’s initiative to create a central identification database, now contains the information of over 1 billion Indian citizens. This identification system also leverages the E-KYC and financial benefit transfer schemes. It also helps firms to reduce the time and effort required for first-time customer verification. DBS, a global bank, has launched their mobile-only banking platform called Digi bank, which leverages Aadhaar for customer verification.

Some of the key characteristics of the Indian market that make it exciting and interesting for Fintech startups are:

- India is the only Fintech hub that provides ample opportunity to target large unbanked population. Coupled with the growing young population who readily accept new technologies, India makes an attractive destination for Fintech startups.
- The difficult exercise to change consumer behavior towards accepting Fintech solutions is already underway.
- The broad level of technical education provides India with a strong talent pipeline of a comparatively cost efficient and easy-to-hire tech workforce.
- India has the second biggest startup ecosystem in APAC after China measured in deal size and number of deals.

Conclusion: India is confidently moving up the Fintech ladder and provides plenty of opportunities for Fintech startups to enter the diversified market and be successful provided a careful solution-customer match and a strong go-to-market strategy is in place. The two broad segments where Fintech is most active in India are payments and lending. Out of the more than 600 Fintech startups currently active in India, around 40% are payments and lending startups. The next few pages will hence dedicate special attention to these two Fintech segments. The development of Fintech sector has also given a boost to overall economy of India. But still there are some hindrances related to e security and the usage rate among unbanked population. So, the initiatives taken must not be faded away because of these little but not the least factors. So the regulators should formulate the effective policies to remove it as such the fintech sector can upgrade the banking system of India completely.

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ENTREPRENEURSHIP: AN ENABLER FOR SOCIAL EMPOWERMENT OF WOMEN**V.V. Sable¹ and B.M. Londhe²**¹MBA Department, Amrutvahini College of Engineering, Sangamner²Amrutvahini Institute of Management & Business Administration, Sangamner¹vrushali.sable@rediffmail.com, ²babalondhe@rediffmail.com**ABSTRACT**

Social advancement is understood as the process of building a sense of identity and self-confidence and working individually and collectively to alter social ties and structures and discourses that exclude and hold disadvantaged people in poverty. The research paper is an attempt to check the impact of entrepreneurship on social empowerment of women. To check suitability of data, research has used Shapiro-Wilk test, Anderson-Darling test and Lilliefors test, to confirm data normality and found that data is not normally distributed. To compare the change in social condition of women entrepreneurs before and after commencement of business Sign test, Wilcoxon signed-rank test and Mann-Whitney test were applied on a sampled data set of 30 respondents. Centred on the results of the study, it was found and concluded that Entrepreneurship has led to social empowerment of women.

Keywords: Entrepreneurship, Social Empowerment, Women Empowerment.

I. Introduction

The word renowned organization of GSDRC (2015) said that “Social empowerment is understood as the process of developing a sense of autonomy and self-confidence, and acting individually and collectively to change social relationships and the institutions and discourses that exclude poor people and keep them in poverty. Poor people’s empowerment, and their ability to hold others to account, is strongly influenced by their individual assets (such as land, housing, livestock, savings) and capabilities of all types: human (such as good health and education), social (such as social belonging, a sense of identity, leadership relations) and psychological (self-esteem, self-confidence, the ability to imagine and aspire to a better future). Also important are people’s collective assets and capabilities, such as voice, organisation, representation and identity”.

US Legal department (n/d), exclaims that “Female entrepreneurs are women who organize and manage an enterprise, especially a business. The increasing presence of women as entrepreneurs has led to the change in the demographic characteristics of business and economic growth of the country. Women-owned businesses enterprises are playing a prominent role in society inspiring others and generating more employment opportunities in the country”.

Government of India’s Start up India initiative states that “there is need for sustainable growth

of women entrepreneurs, to promote a balanced growth in the country, and Startup India is committed to strengthening the women entrepreneurship ecosystem, through policies and initiatives, and creation of enabling networks”.

II. Literature Review

Swarnalatha and Anuradha (2016) in paper on “Women Entrepreneurship in India-Problems and Prospects” suggested that Women should be continually oriented and qualified in all practical fields of business administration to gain skills and expertise. Amlathe and Mehrotra (2017) in paper on “Opportunities & Challenges of Women Entrepreneurship: An overview” discussed that “the Women entrepreneurship not only contributes to economic development of country but also the financial quality of life of the family and the community”. Gupta and Aggarwal (2015) in paper on “Opportunities and Challenges faced by Women Entrepreneurs in India” suggested that “in India, women's entrepreneurship faces many obstacles and needs a fundamental shift in social perceptions and mindsets”. Ansari (2016) in paper on “Women Entrepreneurship in India” it has been found, “according to the report, that women are very successful entrepreneurs and tend to choose the same thing as they can maintain the balance of work in life. It is evident that women entrepreneurs in today's business world have proven to be a powerful driving force”. Mazumdar and

Ahmed (2015) in paper on “Empowerment of Rural Woman Through entrepreneurship-An Overview” suggested that “it could be said that nowadays we are in a nicer state where women's participation in entrepreneurship is rising at a significant pace, efforts are being made both at the economic and global level to increase the participation of women in the enterprise sector.”

Balasundaramand Akhter (2014) in paper on “Empowering Women through Entrepreneurship Development in Emerging Economies: An Overview” suggested that “women's empowerment contributes to economic freedom, the right to control their self-employment often relates to the ability of women to take control of economic capital and to engage more fully in the process of creating wealth lives, self-reliance, self-determination, and a way of achieving for themselves”. Sharma et al., (2012)in paper on “Micro Enterprise Development And Rural Women Entrepreneurship: Way For Economic Empowerment” proposed that “women entrepreneurs can play a role of catalyst in social and economic development of country rural women can do wonders by their effectual and competent involvement in entrepreneurial activities.”

Jit and Bharti (2016) in paper on “Women Entrepreneurs of India: Issues and Challenges” discussed that “a growing number of qualified, diligent, creative and tech-savvy youthful women are making important strides in this field and are making a big contribution to the country's economic development”. Gopikaet al., (2014) in paper on “Women Empowerment through Entrepreneurship and Its Glitches: A Theoretical Approach” conferred that encouragement provided to female entrepreneurs has had a huge effect on all sectors of India's economy. The bulk of India's female entrepreneurs. Many women entrepreneurs have had a huge influence on all sectors of the economy. Guthaand Gulyani (2015) in paper on “Empowerment and Entrepreneurship of Rural Women-Government Initiatives” said that “economic empowerment of women by micro entrepreneurship through self-help groups led to the empowerment of women in many things such as socio-economic opportunity, property

rights, political representation, social equality, personal right, family development, market development, community development and at last the nation development”.

A study in recent times in a semi-urban set-up is not seen and hence this research.

III. Research Methodology

- **Objective of the study**

‘To analyse whether entrepreneurship has led to social empowerment of women’.

- **Data collection**

The research is focused on primary data collected from entrepreneurs using a questionnaire and supplementary data collected from journals and other published material.

- **Sample**

A sample of 30 women entrepreneurs from Sangamnerhas been selected for the survey on the basis of judgmental sampling.

- **Tools of analysis**

Shapiro-Wilk test, Anderson-Darling test, Lilliefors test, Sign test, Wilcoxon signed-rank test and Mann-Whitney test

- **Hypothesis**

Null: Entrepreneurship has no effect on to social empowerment of women

Alternate: Entrepreneurship has led to social empowerment of women

IV. Analysis and Data Testing

- **Data Overview**

Descriptive statistics (Quantitative data):

Statistic	Before	After
Nbr. of observations	30	30
Minimum	1.286	2.000
Maximum	2.286	2.714
1st Quartile	1.286	2.286
Median	1.429	2.500
3rd Quartile	1.571	2.571
Mean	1.471	2.410
Variance (n-1)	0.042	0.050
Standard deviation (n-1)	0.206	0.224

- **Normality Testing**

H0: The variable from which the sample was extracted follows a Normal distribution.

Ha: The variable from which the sample was extracted does not follow a Normal distribution.

Shapiro-Wilk test	Before	After
W	0.735	0.833
p-value (Two-tailed)	< 0.0001	0.000
alpha	0.05	0.05
	Accept H1	Accept H1
Anderson-Darling test	Before	After
A ²	2.172	2.084
p-value (Two-tailed)	< 0.0001	< 0.0001
alpha	0.05	0.05
	Accept H1	Accept H1
Lilliefors test	Before	After
D	0.247	0.265
D (standardized)	1.353	1.451
p-value (Two-tailed)	< 0.0001	< 0.0001
alpha	0.05	0.05
	Accept H1	Accept H1

A Normal Distribution does not obey the vector from which the sample was taken.

**• Testing of Hypothesis
Sign test / Two-tailed test:**

N+	0
Expected value	15.000
Variance (N+)	7.500
p-value (Two-tailed)	< 0.0001
alpha	0.05

The p-value is determined by an exact procedure.

As the p-value measured is lower than the alpha=0.05 significance level, the null hypothesis H0 should be dismissed and the alternative hypothesis Ha should be accepted.

Wilcoxon signed-rank test / Two-tailed test:

V	0
V (standardized)	-4.852
Expected value	232.500
Variance (V)	2296.250
p-value (Two-tailed)	< 0.0001
alpha	0.05

As the p-value measured is lower than the alpha=0.05 significance level, the null hypothesis H0 should be dismissed and the alternative hypothesis Ha should be accepted.

Mann-Whitney test / Two-tailed test:

U	8
U (standardized)	0.000
Expected value	450.000
Variance (U)	4466.186
p-value (Two-tailed)	< 0.0001
alpha	0.05

The p-value is determined by an exact procedure.

As the p-value measured is lower than the alpha=0.05 significance level, the null hypothesis H0 should be dismissed and the alternative hypothesis Ha should be accepted.

V. Discussion and Conclusions

The chief aim of the research was to analyse whether entrepreneurship has led to social empowerment of women. Data was collected from 30 women entrepreneurs and analysed using suitable statistical tests. To check the normality of data, Shapiro-Wilk test, Anderson-Darling test and Lilliefors test was applied on the content. Based on analysis, the collected data was not found to be normally distributed. Hence for further hypothesis testing, non-parametric tests were applied.

For hypothesis testing the first test applied was Sign test. This was used to compare the change in economic condition of women entrepreneurs before and after commencement of business. The results of Sign test clearly suggest that Entrepreneurship has led to social empowerment of women. A conformity test was done using Wilcoxon signed-rank test and Mann-Whitney test. The results of Wilcoxon signed-rank test and Mann-Whitney test clearly displayed that one should reject the null hypothesis H0, and accept the alternative hypothesis Ha. Thus, it can be concluded that Entrepreneurship has led to social empowerment of women.

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ROLE OF MANAGEMENT FUNCTIONS IN ENHANCING THE EFFECTIVENESS OF MODERN FARMING TECHNIQUES

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ABSTRACT

The agriculture sector can and must face an important mission of supporting food security within the country and worldwide. It is sophisticated attributable to the sharp misbalance between agricultural segments caused by imperfect management. With success managing, farming activity is the goal of farm homeowners. Innovation and entrepreneurial activities play a vital role in promoting rural economic progress. The standard of the selections created by management is a very important part of determining the business's longevity. Prudent managers square measure regularly, trying to find management resources that improve the standard of their choices. Each day, new data and technology become accessible that needs a minimum of challenges, management to re-evaluate previous choices to work out if the advantages outweigh the prices. Managing a farm could be a 24/7/365 responsibility. If managing a farm is necessary, it will describe by the decision-making method to meet the vision, mission, and goals of the business. All choices created by management square measure centered on the economical allocation of production land, labor, capital, and management. The analysis methodology was centered on rising management functions involving coordination, control, planning, organization, and motivation in Modern farming techniques to fulfill this challenge.

Keywords: Management Functions, Modern Farming, Organic Farming, Greenhouse Technology.

A. Introduction

Agriculture has perpetually been the backbone of the Indian economy, and despite involved in the industry within the last six decades, agriculture still occupies an area of pride. It employs around sixty percent of the entire hands within the country. Agricultural development is central to the economic development of the country. The Asian nation is understood as the Land of Villages regarding sixty-seven of India's population lives in villages. The most occupation of them is agriculture and different activities associated with agriculture. Agriculture is the largest and dominant sector of our economy, providing a living to regarding seventieth of the population of Asian nation. Agriculture is that the backbone of the Indian economy. Agricultural turn out has been the principal supply of the stuff. This shows the relative importance and dominance of agriculture within the Indian economy. Agricultural development is important for the economic process, rural development, and poorness alleviation in low-income developing countries. It is a good driver of the economic process and to develop the other entire agriculture related sectors. It is vital to understand that modern business management principles will assist the farmer or

farm manager, regardless of however little his farm could also be and meager his capital. This can be attributable to the two major tasks facing today's farm managers that square measure.

- a. However, best to include new technologies into the farming enterprises;
- b. The way to be sufficiently versatile, mentally and financially, to adjust.

If farmers apply correct management principles and techniques' square measure, it helps them fulfill these and alternative challenges with some sensible level of success. There square measure real benefits in utilizing farm management concepts and new technical Advances and capital, all things being equal. There are forever wide variations in net farm incomes per area unit between those farms wherever Modern management concepts square measure used and people wherever they're not. Some dramatic enhancements are created on farms that have engaged management specialists to help their technical and economic coming up. Most farmers who have used management recommendations have recorded an increase in profit, relative to farmers who haven't done, therefore. Once the rationale for the poor money performance of a farm is

analyzed, it's found that: activities (e.g., crops and animal productions) aren't being meted out within the best way; different activities aren't well-coordinated, and; wrong activities square measure being conducted. A farm manager will confirm the value, in terms of loss or unsuccessful financial gain, of the current method of organizing and managing his farm. This may oft stimulate the farmer to require a keener interest within the technical aspects of however he carries out his farming activities; it's going to conjointly arouse his interest in new activities, which might increase his net income.

What is Organic farming?

It is a crop production system that excludes artificial compounds like fertilizers, pesticides, growth regulators, and placental mammal food additives. It will sustain the health of soils, ecosystems, and folks by combining tradition, innovation, and science as result of it combines crop management and farming within the agro-ecosystems that square measure socially acceptable and ecologically property. Therefore, this method minimizes the utilization of external inputs and data and aims to optimize crop productivity instead of its maximization through the renewal and strengthening of farm ecosystems' ecological processes and functions. Organic farming's key domains are improved packages of practices, market network, organic standards, and certification/regulatory mechanism.

What is Greenhouse farming?

The distinctive farms follow growing crops inside protected structures coated by a clear, or partly clear, material. The most purpose of greenhouses is to produce favorable growing conditions and shield crops from unfavorable weather and varied pests. Greenhouse Farming is that the method of cultivating crops and vegetables during a greenhouse ecosystem setting. Cultivation in greenhouses could be a follow that has allowed farmers to extend their performance, whereas, up the standard of product, analytic than in micro-ecosystems have the best conditions for plants to grow healthy, robust, and delightful.

B. Objectives of the Study

1. To understand the role and importance of management functions in contract farming and organic farming.
2. To study the existing performance of Greenhouse farming and organic farming.
3. To study various factors affecting the performance of Greenhouse farming and organic farming.

C. Methodology

Research is the systematic study of the problem. Through this research, the working researcher wants to study the impact of government schemes on farmer well-being. In the Ahmednagar and Nashik district, there are maximum farmers has taken benefits of this scheme. Therefore researcher wants to study the impact of farm pond on the farmers of both districts.

The hypothesis of the study

Ho1: Management functions do not play a vital role in increasing yield and productivity under modern farming techniques

Ha1: Management functions are playing a vital role in increasing yield and productivity under modern farming techniques.

Ho2: Organic farming and greenhouse farming are not giving significant contributions to the economic development of farmers.

Ha2 Organic farming and greenhouse farming are giving significant contributions to the economic development of farmers.

Type of Research Design

For this research, the study researcher would like to use exploratory and descriptive research design.

Exploratory Research Design is the design conducted for a problem that has not been studied more clearly, establishes priorities, develops operational definitions, and improves the final research design. Through this topic, the researcher would like to explore the problem existing in the Ahmednagar district.

Descriptive Research Design: *Descriptive* studies aim to find out "what is," so observational and survey methods are frequently used to collect *descriptive* data. For this study, the researcher would like to use the

structured questionnaire, observation, and Personal interview techniques.

Sources of data collection

Primary sources: researcher would like to collect the primary data by using the following sources:

1. Questionnaire
2. Interview
3. Observation

Secondary sources:

The secondary data will be collected by using the following sources:

1. Books
2. Journals
3. Websites
4. Annual records

Sample Design

i. Population/Universe of the study:

The population of the study includes all farmers using modern farming for agricultural activities.

ii. Sample Area: The researcher has Select the district of such as Ahmednagar District. From this district, the researcher would like to collect the data from the following tehsils.

1. Sangamner
2. Akole

From these two talukas researcher wants to study the role of management functions and their efficiency.

Sample Size: The researcher would like to collect data from 100 farmers cultivating their land using modern farming technologies such as organic farming or Greenhouse farming.

Sampling Technique: The researcher would like to use stratified sampling, convenience sampling, and simple random sampling for the study.

Statistical Tools for data analysis and Testing of Hypothesis

The researcher would like to use tables, charts, and graphs for the systematic representation of the data.

For testing of hypothesis, the researcher would use various hypothesis testing methods like:

- a. Chi-square,
- b. Factor Analysis and
- c. ANOVA test.
- d. Correlation analysis.

Scope of the study

The study is confined only to the management functions which the farmer uses to develop modern farming techniques in organic farming and greenhouse farming. The study will give information about the role of management function under organic farming and greenhouse farming, which will help the economic development of farmers in Sangamner and Akole taluka of Ahmednagar districts.

Limitations of the study

The researcher collects data from the farmers using only organic farming and modern farming techniques under modern farming to cultivate farmland. The study is limited to understanding the role of management function in enhancing economic development.

D. Conceptual Background

Management functions in Modern farming techniques: Management functions area unit enjoying a significant role in Modern farming Techniques. But it's pertinent to notice that Farm management is especially involved with the choices that affect the farm business's target performance. A cardinal objective performs of farm management is that of profit maximization. If the farmer desires to run his farm as an Associate in the nursing economic entity, his aim should be to provide an output that the whole worth exceeds the whole worth of input used. This ends up in profit for the farm. On the opposite hand, there will be a loss if the whole worth of the inputs is above the output's whole worth.

Farm management is thought of as a call-creating method; it's a continuous method thanks to the continual changes going down within the economy and in a private agri-business. The choices area unit involves allocating the restricted resources of land, labor, and capital among different and typically competitive uses. This allocation method forces the farm manager to spot goals and objectives to guide and direct deciding within the farm.

Need and Importance of Management functions in Agriculture

Development: Agriculture has achieved satisfactory growth since previous few decades, however presently, thanks to the varied national and international factors, the expansion of agriculture is comparatively stagnated. Up-gradation is required right from harvest home the agricultural manufacture until it reaches shopper level. The majority of the farmers and little entrepreneurs are not well versed concerning customary practices needed throughout preharvest, likewise as post-harvest operations, that beyond any doubt plays an important role in overall productivity. On the alternative aspect, too several intermediaries within the selling channel are a serious reason behind concern.

Additionally to those, the growing international population has resulted in inequality between market demands and provides an aspect of agricultural manufacture. Thus, special thought is needed to follow correct management practices, reduce staple wastages at farm and process level, effective selling ways like advertising, whole positioning at the national and international level, etc. Finally, correct management of all the agriculture activities right from planting the seed to obtaining the particular reward at market place is needed. These problems are expected to be self-addressed by management education in the agricultural sector, which has the hidden potential of making the second wave of modern farming.

Modern farming

Modern farming technology is utilized to enhance the wide forms of production practices employed by farmers. It uses hybrid seeds of chosen style of one crop, technologically advanced instrumentality, and plenty of energy subsidies within the type of irrigation water, fertilizers, and pesticides. Modern farming means that farming with the assistance of recent and advanced techniques and technology. Which means farming with the facilities of recent science and technologies? Victimization of science and technologies in farming increases total production. Farming is the cultivation of livestock, fish, birds, plants, crops, etc., for the aim of food, artifact, and

different products essential for sustain life. Farming is taking part in an important role within the development of human civilization.

The development of agriculture and farming technology has greatly accrued farming productivity. Varied styles of trendy farming strategies that square measure used these days' square measure commercial enterprise, intensive farming, organic farming, and property agriculture, etc. Farmers square measure currently able to purchase and sell their product within the world markets. With the accrued use of pesticides with artificial N, mechanization, and well-mined rock phosphate, crop production has greatly accrued. It has channelized revolution in cereal production like rice, wheat, corn, etc. Previously, farmers will not get to plow to dig the soil. On the opposite hand, farmers of late use trendy instrumentality like multi facilities tractor to dig the soil. Within the past, farmers were addicted to natural climatic conditions and fertilizers and wont to have low productivity. Currently, the items have been modified; with artificial fertilizers, high productive breeds, and farming productivity has accrued plenty. As we tend to all understand, the world population is increasing speedily. We want much product like food, cloth, etc., that completely depends on farming production. As a result, we need more production in farming, which is quite difficult in traditional farming. Hence, modern farming is a must to get more production according to rapid population growth.

Organic Farming productivity and Profitability

Organic farming works harmonically with nature instead of against it. This involves victimization techniques to realize sensible crop yields while not harming the natural atmosphere or the life and add it. Associate degree organic farmer produces vegetables, fruit, cereal crops, or ethereal mammal whiles, not utilizing chemical fertilizers, pesticides, or herbicides. In our way, organic farming is quite agricultural that offers the customers fresh, tasty, and reliable food, whereas concerning natural life cycle systems. Additionally to the health advantages of organic products for customers, there square measure important

environmental advantages for the world. Associate degree organic farming keeps multifariousness and scales back environmental pollutions such air, water, and soil. Organic agriculture has adult out of the acutely aware efforts by galvanized individuals to form the most effective doable relationship between the world and men. Organic agriculture promotes property compared to standard agriculture. However, the multifunctional property advantages of organic farms may be mediated by landscape context. Assessing landscape context, however, affects property might aid in targeting organic production to landscapes that promote high multifariousness, crop yields, and profit. We tend to self-addressed this employing a meta-analysis spanning sixty crop sorts on six continents that assessed whether or not landscape context affected multifariousness, yield, and profit of organic vs. standard agroecosystems. We tend to thought-about landscape metrics reflective landscape composition (percent cropland), integrative no uniformity (number and variety of canopy types), and plan no uniformity (spatial arrangement of canopy types) across our study systems. Organic sites had bigger multifariousness (34%) and profits (50%) than standard sites, despite lower yields (18%). Multifariousness gains magnified as average crop field size within the landscape magnified, suggesting organic farms offer a "refuge" in intensive landscapes. In distinction, as crop field size magnified, yield gaps between organic and standard farms magnified and profit advantages of organic farming shrunken. Profit of organic systems that we tend to live for studies conducted within us solely varied across landscapes compared to production prices and value premiums, suggesting socioeconomic factors mediate profit. Our results show that the advantages of organic farming in landscape context are compared to yield and profit advantages, suggesting this property metrics square measure decoupled. Generally, our results show that the ecological, however not the economic, property advantages of organic agriculture square measure most pronounced in additional intensive agricultural landscapes.

Benefits of Organic Farming

a. Promotion of Bio-Diversity

Crop rotation to create soil fertility and raising animals naturally helps promote diverseness that promotes larger health across all living species. As organic farms give safe havens to life, native ecosystems conjointly improve.

b. Reduction of Farm Pollution

While "farm smog" is not real, ancient farming will produce its sorts of pollution about runoff from artificial fertilizer and chemical pesticides that damage the encompassing areas. That runoff seeps into the native groundwater provide as harmful chemicals are eliminated from use through organic farming, the atmosphere edges. Organic farming improves the soil, removes the chance of groundwater pollution, and rehabilitates soil in areas wherever water harm provides has already occurred.

c. Better-tasting Food

It is not your imagination: organic food tastes higher than a product that returns from standard farms and ways. Organic turn out tends to possess lower nitrate content than non-organic varieties, resulting in fruits that not solely style sweeter however even have higher inhibitor levels. Science shows that organic farming is not simply tastier however higher for you, too.

d. Fewer Environmental Toxins

At present, but one 1/2 common fraction of farmland area within the US is dedicated to organic farming. This suggests that over 900 million acres of farmland are being treated with chemical fertilizers, pesticides, and different ototoxic substances needed by stock farming. Because the proportion of organic farms will increase, the atmosphere conjointly edges.

e. Job Creation

Studies compiled by the Organic Farming Research Foundation have shown that there are more than 10,000 certified organic producers in America than almost two million traditional farms. However, organic farms tend to bring in more profits, despite requiring more employees. It is easy to see the economic benefits derived from job creation resulting from an increase in organic farming.

f. Better Soil Quality

According to Cornell University's research, forty billion dollars are lost annually due to topsoil destruction caused by conventional farming's dependency on chemical fertilizers. If organic farming methods replaced those fertilizers and ammonia, topsoil health would improve. The healthier soil would, in turn, produce vegetables and fruits with higher amounts of minerals and micronutrients.

g. Helping in the Fight against Climate Change

Organic farming reduces the use of nonrenewable energy because it avoids using chemical pesticides and fertilizers, which require large amounts of fossil fuel to produce. Organic farming also returns more carbon to the soil, lessening the greenhouse effect and global warming.

h. Preservation of the Culture of Agriculture

Around the world, every culture has at least one thing in common: food. Organic farming celebrates biodiversity and good health, and it removes harmful toxins from our environment and our food. That is something to encourage and celebrate.

Greenhouse Farming

Crop production could be a risky business. The foremost powerful advantage of greenhouse farming is that it permits effective management and reduces risks caused by the unfavorable atmospheric condition. A lot of concretely, greenhouse farming optimizes growing conditions and protects the crops from extreme weather events. Also, some greenhouse farming varieties (greenhouses with managed heating) extend the season or perhaps enable farmers to grow crops outside of the standard season. Greenhouses that are also equipped provide the possibility to require complete crop production management that results in quicker growth and better yields.

Benefits of Greenhouse Farming**1. Increased production**

Greenhouse farming is taken into account associate degree implementation of intensive agriculture and may increase crop production. This is because you have much management for making the optimum climate conditions

required for plant growth associate degree square measure able to grow many plants per sq. feet compared to growing crops in an open field.

2. Minimizing production risks

Being in an internal area will facilitate forestall crops from suffering harm from global climate change connected events like abrupt will increase or temperature drops, likewise keeping crops far from birds and alternative animals.

3. Maximizing profits

Multiple studies have expressed that the profits per crop per sq. feet are often even doubly or thrice as huge once implementing greenhouse farming as another to open-field agriculture and combining the observation with alternative methods like tank farming. By utilizing resources in an exceedingly a lot of economical manner, you can produce less waste that will translate into larger profits.

4. Increased pests, weeds, and malady management

A handy and optimally engineered greenhouse will stop issues like pests and weeds, also offer additional management against alternative diseases. An inside area will be restricted to solely the mandatory personnel, and fewer individuals stepping into and out suggest that a lesser risk of transportation unwanted components on the crops' point.

5. Ability to grow year-round manufacture, even off-season

A greenhouse is comparatively freelance to the globe outside, eliminating the limitation of growing crops solely on a selected season. Even within the harsh winter or intense summer temperatures, prime quality crops will be adult, provided you've got the mandatory suggestions that to make the proper climate within the greenhouse.

6. More stability and security

Since you do not depend upon climate conditions, a rising instability and security, not just for the crops however conjointly for the staff, will be obtained by greenhouse farming.

E. Results and Discussions

Modern farming techniques for cultivating land.

Table 1 shows the how management functions are important and the farmers are used in

Table 1: Importance of management functions

Sr. No	Function	O	E	(O-E)	(O-E) ²	(O-E) ² /E
1	Planning	76	100	24	576	5.76
2	Controlling	72	100	28	784	7.84
3	Directing	66	100	34	1156	11.56
4	Organizing	68	100	32	1024	10.24
					Calculated Value	35.4

During the analysis we found the value from table of Critical chi-square is= 7.81 & Calculated Chi-square value is=35.4, it is cleared that the association between management functions and Modern farming techniques. Therefore it is cleared that calculated value is greater than critical value

hence null hypothesis is rejected and alternative hypothesis is accepted. Following table shows the Correlation analysis between management functions and enhancing effectivity through modern farming techniques with various factors and it is proved that:

Table 2: Correlation analysis

Analysis of variance (Y):						
Source	DF	Sum squares	Mean squares	F	Pr > F	
Model	1	2166.000	2166.000	55.538	0.002	
Error	4	156.000	39.000			
Corrected Total	5	2322.000				
<i>Computed against model Y=Mean(Y)</i>						
Model parameters (Y):						
Source	Value	Standard error	t	Pr > t	Lower bound (95%)	Upper bound (95%)
Intercept	69.000	3.606	19.137	< 0.0001	58.989	79.011
Increase yield - 33	-38.000	5.099	-7.452	0.002	-52.157	-23.843
Increase yield - 67	0.000	0.000				

Table 2 shows p value is less than 0.001. It is less than 0.05 hence null hypotheses is rejected and alternative hypothesis is accepted. From the Annova table it is cleared that critical value is 5.30. Calculated value is 55.53 hence calculated values is greater than table value

therefore null hypothesis is rejected and alternative hypothesis is accepted. Economic development of farmers through the organic farming and greenhouse farming are getting cleared through the following table no.3.

Table 3: Organic and Greenhouse farming

Sr.No	Impact	O	E	(O-E)	(O-E) ²	(O-E) ² / E
1	Strongly agree	54	25	29	841	33.64
2	Agree	22	25	-3	9	0.36
3	Disagree	14	25	-11	121	4.84
4	Totally Disagree	10	25	-15	225	9
						47.84

From the table researcher got the Critical chi-square value is = 7.81 and Calculated Chi-square value is 47.84. Therefore it is cleared that calculated value is greater than critical value hence null hypothesis is rejected and alternative hypothesis is accepted.

Importance of Management functions in functioning of different factors in organic farming and greenhouse farming for cultivating land using these techniques are more profitable and productive for the farmers.

Table 4: Importance of management functions in Organic & Greenhouse farming

Sr.No	Role of management functions in Different factors	Most Important	Important	Less Important	Not Important
1	Land selection and utilization	44	24	19	13
2	Crop selection	56	24	13	7
3	Capital Management	46	23	20	11
4	Proper Irrigation practices	52	23	13	12
5	Use of Pesticides	48	13	28	11
6	Use of Fertilizer	46	22	28	4
7	Technological Innovations	47	21	26	6

Table 5: Factor Rotation Matrix

Factor rotation Matrix			
	F1	F2	F3
Obs1	0.799	0.062	0.140
Obs2	0.001	0.073	0.926
Obs3	0.775	0.186	0.039
Obs4	0.440	0.471	0.089
Obs5	0.417	0.583	0.000
Obs6	0.588	0.412	0.000

Factor Analysis

From Table 5 researcher has collected opinion of the respondents about importance of management functions in functioning of different factors in organic farming and greenhouse farming. It is observed that in the first rotation matrix observation-1, observation-3 and observation-6 has shown maximum loadings. Hence management functions are playing an important role in land selection, capital management and use of fertilizer.

F. Conclusion

Present-day farm operations have become a lot of and a lot of business homeward-bound. Farming is quite simply manufacturing crops; it needs farmers and landowners to deal with gain, fertility, conservation, and tax problems to call simply several. Being a decent producer is not any longer adequate to stay in business.

The key to changing into a productive farmer is a decent producer, as a decent farm manager. The use of management functions is one of all the foremost vital resources in operative farms. Farm management determines the farm-life however is going to be organized, resources allotted, and activities performed. It deals with varied ways and ways to stay a farm productive, property, resistant and profitable. It is cleared that The very important importance of food to physical, economic, and cultural development, with that the importance of economic, property production makes trendy techniques crucial—in truth, there's robust proof that solely such approaches have any important likelihood of meeting the world's basic food desires within the next few decades and it's doable if the farmer's area unit used the management functions in modern farming techniques.

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CHALLENGES FOR ADOPTION OF POLYHOUSE TECHNOLOGY AMONG FARMERS OF AHMEDNAGAR AND NASHIK DISTRICT

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ABSTRACT

Polyhouse is one of the emerging modern pharming technique which is very much popular in India in recent years. The modern farming technique is one of the ways through which the situation of the farmers can be improved. Through the present study, the research wants to focus mainly on polyhouse as one of the recent farming techniques and its contribution to the improvement of the condition of the farmers. polyhouse is one of the modern techniques still maximum farmers are not taking initiative for the implementation of the same in their farming methods. Therefore, the researcher has undertaken this study. The study was directed at 120 farmers from two districts, viz. Ahmednagar and Nashik to outline the imperatives in the adoption of polyhouse. The farmers confronted environmental, technical, labor, financial, and advertising requirements in outfitting productivity and maintainability of this technology. The significant requirements in quick selection were high introductory capital, helpless accessibility of value planting material and data sources, poor post-harvest infrastructure, and absence of price policy measures. Farmers of Ahmednagar were discovered to be better positioned for market access and accessibility of value planting material. Farmers' capacity to effectively coordinate this technology to suit their socio-economic and agro-ecological conditions would additionally influence its productivity, supportability, profitability, and sustainability.

Keywords: Adoption, Market access, Polyhouse technology, Post-harvest infrastructure, Price strategy

I. Introduction

“Everything else can wait, but not agriculture”- Jawaharlal Nehru, 1947, India is a country where Agriculture is the backbone of more than 70% of livelihood but now a day's Indian farming is having a major impact on the environment. The green revolution was one of the revolutions through which the productivity of the crop has increased. The white revolution has also supported the agriculture sector to increase the livelihood of farmers, every side of the coin has two sides hence green revolution also has a positive and negative impact. Because of the adverse impacts of the green revolution on soil fruitfulness, the rise of new insect pests and diseases declining of water table level enticed the farmers to consider substitute strategies for development which could control the unfavorable impacts of the green revolution and give a chance to develop crops consistently. Ensured Cultivation Technology was one such elective which was promising to the farmers. Environmental change and helpless water accessibility will require developing more food with less and less water. The extent of zone development under the development of vegetables and blossoms is practically nothing. The main alternative is a vertical extension through

expanded profitability and editing power utilizing secured cultivating with climate control measures, quality seeds, composts and plant assurance estimates Plastic mulching, ensured nursery creation, utilization of green/polyhouses/ shade net houses for the slow time of year creation of vegetables and flowers have reliably given great outcomes both at research farms and farmers' fields In the ongoing years expanding consideration has been centered around a few earth safe strategies for pest management, including polyhouse development to lessen pesticide use primarily because of growing concern over food safety issues and environmental concerns. India has gone into a period of nursery vegetable development all the more as of late and the total area under protected vegetable production is not more than 100000 ha. India being a tremendous nation with differing and outrageous agro-climatic conditions, the protected cultivation technology can be utilized for year-round off-season production of, high worth, low volume vegetables, creation of infection-free quality seedlings, creation of value crossbreed seeds, and as well as for disease resistance breeding programs. Be that as it may, adoption of polyhouse technology shifts generally over the states in India. The

ensured developed advances particularly polyhousetechnology required a high starting venture and that significant adopters of these advances were huge farmers. In this unique circumstance, it is significant and effective to depict the challenges that farmers face in the adoption of polyhousetechnology. This would help in discovering the determinants of adoption which play a significant role in devising strategies to overcome the challenges.

II. Literature Review

There several studies on Polyhouse technology for farming. A select few recent examples are given below.

According to Potghan et al. (2020), a Polyhouse is where plants are developed. Polyhouses are regularly utilized for developing blossoms, vegetables, foods grown from the ground plant. Basic factors affecting plant development are sunlight, the water content in the soil, the PH level of water, etc. These physical elements are to control physically inside a Polyhouse and a requirement for robotized configuration emerges. Consequently, controlling all the elements that influence plant development is likewise a troublesome undertaking as it is costly and some physical variables are inter-related. The system also allows transmission of process parameters, including emergency alarm signals via e mail client server or alternatively sending a SMS on a mobile phone using GSM Module. This bidirectional pump is used for inlet and outlet water. Water siphoning has a long history; such a large number of techniques have been created to siphon water. Individuals have utilized an assortment of intensity sources, to be specific human vitality, creature power, hydropower, wind, solar, and power such diesel for little generators. The most common pump is used in remote communities are Solar submersible pumps, Hand pumps Direct drive diesel driven borehole pumps, Electric submersible pumps with a diesel generator.

Tripathy and Dash (2020), have argued that agriculture department have a major role in India to develop towards farming which is about 70% of population. India's development relies on farming, the capital income in farming department is 33% of total nation's

capital income. Presently the agricultural field plays an important role due to the demand in increasing population globally. Poly house is a way of protecting cultivation on agriculture, the plastic is used to cover the structure and it enables to cultivate high value crops in the farming structure. Soil condition is genuinely necessary asset for an efficient agriculture production. To improve the soil condition, we have introduced a line follower Robotic car which will move and sense the soil condition and supply water based on soil condition on the field. This project provides a solution in terms of reducing human labor on farming sector. One of the most beneficial idea is that decreasing the human physical efforts.

Mishra et al. (2020), have posited that higher farming is considered lucrative and highly profitable agro-industry. This case was registered in MAHOG village of SOLAN, Himachal Pradesh, India for a flower farming family. The findings showed that flower growing is a lucrative business however in many respects it presents challenges. The flower growing family insists that the floral company should be diversified into eco flower farming in order to ensure a stable and sustainable future. Two buildings have been fabricated, and the two high-value cultivations have been cultivated with Naturally Ventilated Poly House (NVS). The work was carried out in "Quality in natural playhouses for both Capsicum and Gerbera." In order to promote technology, departmental authorities provided technical support and all other information regarding farming practices and other logistics support from time to time. The conclusions were drawn in accordance with the yield and value of crops with open production, the increases in income or in particular farmers ' use of this innovation. They included several aspects.

As per Kishore et al. (2020), the current examination on Performance assessment of drip irrigation system and profitability analysis of verdant vegetables under polyhouse was directed to consider the presentation boundaries of the drip irrigation systems identifying with crop execution. This was finished by taking existing drip tapeline, new drip tape line and new inline drip irrigation system under the Polyhouse at the school of

Agricultural Engineering, Kandi, Sangareddy, Telangana during the year 2018. Profitability of five green verdant vegetables viz. Palak, Sorrel, Methi, Amaranths and Coriander was likewise assessed. The outcomes uncover that the three drip line systems in line got more uniform coefficient of 98% followed by new drip tape with 96% and preinstalled drip tape with 95%. Among the five green verdant vegetables methi has recorded most noteworthy gross (306000Rs section of land 1) and net returns (285833) and benefit cost ratio (14.2) trailed by Palak, Sorrel while Amaranthus has recorded least benefit cost ratio (7.6). As far as execution qualities, drip tape and in line system performed better in keeping up consistency release and the planned drip irrigation worked fantastically. Methi, Palak and tawny found appropriate and beneficial in polyhouse where all year development of vegetables is plausible contrasted with open field in which crop foundation was exceptionally poor and couldn't be raised effectively due the weighty downpours and improvement characters of the verdant crops.

Despite wide research on this topic, a contextual gap exists. Our research focused on Nashik and Ahmednagar districts attempts to fill that gap.

III. Research Methodology

a. Objectives of study

- i. To study the role of polyhouse as a modern pharming technique.
- ii. Study challenges faced by farmers in poly house technique.
- iii. To suggest measures for increasing usage of polyhouse as a modern farming technique.

b. Research Design

Research design is the method and strategy of the data collection, analysis, and interpretation of inferences so that valuable findings of the study can be generated. For this study, the researcher has used exploratory and descriptive research design.

c. Sources of Data Collection

The researcher has used the following sources of data collection:

- i) Primary data

For this research work researcher has used the following sources of primary data:

1. Interview
2. Observation
3. Discussion with the respondents

- ii) Secondary data

For this research work researcher has collected data by using the following sources:

1. Books
2. Journals
3. Websites
4. Magazines
5. Other published sources

d. Sampling Design

- i. Sample unit: The existing study researcher has undertaken with the help of farmers of polyhouse.
- ii. Sample area :
 1. The researcher has undertaken the study for Ahmednagar and Nashik region for the study
- iii. Sample size: 120 Farmers
- iv. Sampling technique: for this study researcher has used
 1. Stratified sampling
 2. Simple random sampling

e. Scope of the study

The study was conducted in two Districts in particular. Ahmednagar and Nashik during 2020. These Districts were purposively picked since these are the main Districts in the region under secured development. Two talukas from each district, viz. Sangamner and Rahata from Ahmednagar and Sinner and Niphadtalukas from Nashik were picked purposively as a result of the most elevated territory under secured development in these talukas. In all out 120 farmers (30 farmers from each taluka) who had received polyhouse technology were selected by using a stratified random sampling technique.

Therefore, this study is one of the attempts through researcher want to focus on challenges in the usage of the polyhouse as an important tool for modern farming technique. Nowadays most of the products of polyhouses are having maximum demand due to their quality and

standard. Farmers can get an optimum return through this technique. Therefore this study is important.

f. Limitations of the study

During this study, the researcher has faced the following limitations:

1. Secrecy of information: most of the respondents were reluctant to share their genuine opinion. Some of the respondents have not shared real opinions due to business strategy.
2. Less time for the discussion with respondents: During the personal discussion with the respondents, they were busy in their work so that they couldn't give enough time for the discussion. Hence this

is also one of the important limitations during the study.

3. Lack of involvement of the respondents: Some respondents were does not have any interest in the research study so that they have not shown proper involvement in the research discussion.

IV. Data Analysis and Interpretation

An exhaustive list of constraints was prepared and the respondents' opinion in the study area on constraints was measured on a five-point continuum scale of least severe, not so severe, severe, quite severe, very severe and with a score of 1, 2, 3, 4 and 5. Relevancy Ranking Technique was used with the following formula:

$$RC_i = \frac{\text{Total score of all the respondents for } i^{\text{th}} \text{ constraint}}{\text{Maximum on the continuum} \times \text{Total number of respondents}}$$

RC_i refers to Relevancy Coefficient for the i^{th} requirement. The ranking of every limitation was made by its relevancy coefficient with the end goal that the imperative having the most elevated relevancy coefficient is positioned first and ensuing position is offered by the scores got in a specific order. The methodologies to defeat the difficulties looked by farmers in the selection of polyhouse innovation were pooled dependent on conversations with all the respondents of the examination. Procedures were organized and examined utilizing Garrett's ranking strategy.

V. Results and discussion

Difficulties in the selection of polyhouse technology

Environmental constraints

The ecological constraints looked at by farmers in the selection of polyhouse in Ahmednagar and Nashik have been introduced in Table 1. Over-misuse of supplements from soil has prompted their decrease in fertility status, particularly in Ahmednagar. Shortage of water for the water system was another serious

issue for farmers of Ahmednagar and Nashik. Exceptionally erratic climate conditions outside the polyhouse lead to higher consideration and better administration of yields inside the polyhouse and inturn greater expense of development. The event of pest and diseases inside the polyhouse once in a while surpass when contrasted with open development as a result of ideal climatic conditions (high dampness and stickiness) inside the polyhouse. Continuous irrigation system to the soil through drip or mist irrigation system or water shower inside the polyhouse has likewise prompted helpless waste conditions. Farmers of Ahmednagar and Nashik moreover uncovered major in progress considering physiological issues. the significant imperatives in the creation of green crops in India are temperature (hot or cold), daylight duration and quality, water inadequacies or abundances, barometrical dampness (relative mugginess), weeds, insufficiency of supplements, substantial breezes, carbon dioxide, and host of diseases and bug pests.

Table 1 Environmental constraints as perceived by farmers in the adoption of polyhouse technology (n=120)

Constraint	Ahmednagar		Nashik	
	Relevancy coefficient	Rank	Relevancy coefficient	Rank
For the most part higher perishable capacity of	0.91	I	0.93	I
Deficiency of water for irrigation under	0.64	IV	0.79	II
Profoundly fluctuating climate conditions	0.62	V	0.76	III
Helpless seepage of the dirt	0.59	VI	0.69	IV
Low soil ripeness status	0.75	II	0.64	V
Event of nuisance and diseases	0.72	III	0.59	VI
Event of physiological issues	0.46	VII	0.49	VII

Technical constraints

The creation of crops under polyhouse conditions is exceptionally information and skill intensive. Be that as it may, farmersthink that it's hard to get the most recent data and strategies of yield creation under polyhouses, especially in their regional languages. Accessibility of value planting material at reasonable costs is a challenge. The way that planting material is provided distinctly by hardly a few private players has come about into farmers being totally dependent on them. The technical constraints looked at by farmers have been introduced in Table 2. Farmers of Nashik regions communicated that accessibility of bundle of practices for the development of yields under polyhouse is either restricted or requires parcel of alteration to suit their agro-natural and socio-economic conditions.

Accessibility of value seed and planting material of required cultivar is an extreme

limitation looked by farmers by virtue of expanded reliance on formal area particularly private seed organizations likewise detailed that no particular breeding work had commenced for improvement of suitable varieties/ hybrids for greenhouse or protected cultivation, even in significant vegetables, viz. cherry tomato, sweet pepper, tomato and cucumber.

However, it was interesting to note that the limited power supply was the major constraint for the farmers of Ahmednagar. Farmers of Ahmednagar have gone into the high level phase of polyhouse development and are currently expanding the region under polyhouse development. Subsequently, the force supply goes about as a basic information. Farmers of Nashik are as yet in the underlying period of polyhouse innovation selection wherein the accessibility of quality planting material and information sources are significant issues.

Table 2 Technical constraints as seen by farmers in the adoption of polyhouse technology (n=120)

Constraint	Ahmednagar		Nashik	
	Relevancy coefficient	Rank	Relevancy coefficient	Rank
Absence of consistent data about yield creation under polyhouse	0.72	V	0.89	I
Amount and quality planting material at ideal time	0.66	VI	0.77	II
Restricted and unpredictable force supply	0.93	I	0.69	III
Non-accessibility of quality information sources like pesticides and insect sprays showers at correct time	0.45	VIII	0.64	IV
Non-accessibility of quality polyhouse supplies at close by market	0.55	VII	0.59	V
Absence of specialized direction/course about creation strategies	0.82	III	0.56	VI
Absence of important data in nearby language	0.83	II	0.48	VII
Inconveniences in after the proposed rehearses	0.76	IV	0.30	VIII

Labour related constraints

Polyhouse development is labor-intensive and talented work consistently. Of course, the availability of skilled labor is a basic issue for farmers in both Ahmednagar and Nashik (Table 3). Migration of rural folk to metropolitan regions looking for better positions, elective business openings at the town level (counting MNREGA conspire) and indifferent attitude of youth towards agribusiness has prompted intense lack of talented work particularly in the pinnacle periods of planting/ sowing and harvesting. This has normally raised the compensation paces of skilled labor required for polyhouse

cultivation. The normal everyday wage rates in the pinnacle period of Sowing/ planting and harvesting in the open field conditions in the study region was ' 200 for ladies and ' 250 for men, while in the polyhouse the everyday wage rates went between ' 250–300 for ladies and ' 300–400 for men. It was assessed that normal yearly consumption on wages and compensations in the initial three years of foundation of polyhouse is ' 77000/unit. A unit is a standard proportion of region under polyhouse development and is identical to 1008 sq meters.

Table 3 Labor imperatives as seen by farmers in the adoption of polyhouse technology (n=120)

Constraint	Ahmednagar		Nashik	
	Relevancy coefficient	Rank	Relevancy coefficient	Rank
High price to be paid for skilled labour	0.72	II	0.96	I
Limited availability of labour during peak seasons	0.91	I	0.76	II
Non- availability of skilled labour	0.53	III	0.44	III

Economic constraints

The economic constraints of the farmers in the selection of polyhouse introduced in Table 4 shows that the underlying cost required setting up a polyhouse is still exceptionally high and is past the compass of small and medium farmers. The fund brought about by farmers in setting up polyhouse, cost of planting material, and its maintenance is given in Table 4.

The expense of the foundation of polyhouse shifts between 1.2 million to 1.4 million. Polyhouse cultivation requires quality planting material, inputs, and so on which adds financial weight to the farmers. The fundamental expense of creation and the operational expense of the atmosphere controlled greenhouses are high, which are not reasonable to the growers in India.

Seeds of business crops and low-volume, high-esteem crops were costly due to consideration of sovereignty/attribute charge in the retail

cost. Assurance, requirement, and upkeep of IPRs over seed and hereditary material by private seed organizations through PPVFRA 2001 will likewise include cost and these expenses are given to purchaser farmers. The dismal accessibility to subsidies and absence of a pricing policy including that of crop insurance has further added to the risks of polyhouse cultivation. The upper roof cutoff of subsidy changes from plan to plan, largely extended between 20 to 50 percent of the expense of erection of polyhouse. Indeed, even the ceiling on the area under polyhouse for availing subsidy benefits is the limit of one unit (1008 sq m).

The farmers of both Ahmednagar and Nashik communicated that it took at least eight months after application, to benefit from loans from financial institutions, commercial banks, and business banks.

Table 4 Economic constraints as seen by farmers in the adoption of polyhouse technology (n=120)

Constraint	Ahmednagar		Nashik	
	Relevancy coefficient	Rank	Relevancy coefficient	Rank
High beginning interest being developed of poly house	0.83	I	0.89	I
Especially cost of planting material	0.36	VIII	0.83	II
Significant expense of plant insurance synthetic compounds	0.62	V	0.65	III
Absence of satisfactory and ideal dispensing of advance from monetary establishments and banks	0.81	II	0.59	IV
Significant expense of transportation	0.28	IX	0.53	V
An excess of records needed for advance system	0.72	III	0.46	VI
Less data about credit and sponsorship offices	0.42	VI	0.42	VII
Helpless availability to endowment	0.65	IV	0.35	VIII
Nonattendance of crop protection conspire for security of blossoms and vegetables	0.41	VII	0.30	IX

Marketing constraints

The marketing constraints faced by the farmers have been introduced in Table 5.

The Indian farmer is a price taker and not a price fixer. It is all the more so in crops where price policy is totally missing as if there should arise in the case of flowers and vegetables. Thus, the unfavorable market price may cause enormous monetary losses. Farmers got great costs from worldwide business sectors when contrasted with the domestic market. Indeed, even in the domestic market, farmers brought great prices during the months of January-April and the season is commonly slack during September to December. Stressed the significance of Government involvement in the price policy instrument to prevent price fluctuation. The inadequacies in the foundation, for example, poor evaluating and transport offices and cold chain the board joined with market acts of neglect add to the danger part of farmers in India. The markets for polyhouse products are generally exclusive

and far, sometimes crossing the boundary of the Districts. The average distance from the nearest market (Pune) for farmers of Sangamner and Rahata in Ahmednagar ranged between 125 to 150 km, whereas it was less than 50 km for farmers of the Nashik Rural district. The average distance from the nearest market (Pune) for Sinner farmers is more than 200 km and hence they had to incur very high expenditure on transportation costs.

The Pune Flower Market is a public division market selective for flowers and is closest for the farmers of Ahmednagar Rural district. However, farmers from the Nashik Rural area communicated that this market is out of reach as a result of its area in the center point of the city. Hence, they wanted to sell their produce in another market for example nearby market Shirdi. It showed that area of the market is likewise significant as it influences the cost of transportation.

Table 5 Marketing constraints as perceived by farmers in the adoption of polyhouse technology (n=120)

Constraint	Ahmednagar		Nashik	
	Relevancy coefficient	Rank	Relevancy coefficient	Rank
Changes in market costs	0.61	IV	0.77	I
Absence of promoting offices at neighborhood place (block/area central command)	0.44	V	0.68	II
Absence of elite business sectors for blossoms/vegetable become under polyhouse	0.37	VI	0.52	III
Presence of center men (dalal) misbehaviors	0.83	I	0.44	IV
Absence of particular stock chain In management including cold chain	0.34	VII	0.39	V
Trouble in reviewing the produce at the creation level	0.74	II	0.36	VI
Challenges emerges because of quick need of cash	0.71	III	0.32	VII

Strategies to facilitate the pace of adoption of polyhouse technology

The systems reflect the needs as seen by different partners to improve appropriation of polyhouse technology among farmers. The strategies as seen by farmers to build the pace of adoption of polyhouse technologies are introduced in Table 6.

It is finding that some low quality produce with pesticide residues has involved incredible concern. These issues can without much of a stretch be tended to by production and protection practices including location-specific designing and construction of the polyhouses for efficient input use. Efforts such as investment in marketing facilities and creating new markets for polyhouse products will enhance the profitability of polyhouse cultivation.

Farmers likewise need to take suitable and logical measures in the determination of area and site for polyhouse cultivation and its proper administration. Utilization of certain Indigenous Technical Knowledge (ITKs) and locally accessible resources may demonstrate

useful for expanding the effectiveness and supportability of polyhouse cultivation and relief from risk. Working Group Report on Development of Protected Cultivation in Haryana and recommended that innovative marketing approaches, for example, cluster and cooperative based marketing will build the negotiations chance to farmers in this manner giving them the capacity to fix the price of their items in the market Government support needs to be extended for self-fabrication module of temporary low-cost structures like insect-proof net houses, shade net houses, walk-in-tunnels, and self-fabricated low-cost protected structures for the production of vegetables and flowers. There is a requirement for normal continuous power supply to keep up ideal developing conditions inside ensured structures. To give a better return to the farmers, there is a need to offer help with appropriate market linkages, market intelligence, and supply chain management including cold chain.

Table 6 Strategies to facilitate the rate of adoption of polyhouse technology as seen by farmers

Strategies	Ahmednagar		Nashik	
	Garrett Mean Score	Rank	Garrett Mean Score	Rank
Policy activities				
Value Strategy system	64.88	II	89.525	I
Normal and standard force supply (three stage)	77.53	I	78.025	II
Perfect Time accessibility of quality planting material locally	61.89	III	64.875	III
Higher appropriation for secured development under polyhouse	55.41	IV	43.088	IV
Formation of essential preparing offices at ranch entryway level	45.49	V	28.231	V
Research and development activities				
Diminishing the especially high beginning venture	78.63	I	79.625	I
Decreasing the cost of development	61.82	III	68.562	II
Standardization of plans and Plans of ease polyhouse for various agro-climatic locales of the nation	77.57	II	65.451	III
Improvement of simple to utilize Package of Practices	50.63	V	50.698	IV
Standardization of developing innovation under polyhouse	36.55	IV	48.854	V
Marketing activities				
Accessibility of crude material of required quality at close to advertise	42.48	IV	79.250	I
Advancement of direct promoting and forward publicizing of the produce	58.55	III	61.587	II
Production of independent payload trips for public and global business sectors to send out the crop	75.54	I	56.258	III
Formation of a specific brand for the produce and thought market for the produce	63.59	II	41.658	IV
Famer level activities				
Bunch and helpful based methodology underway and Promoting of created crop	61.66	II	86.578	I
Suitable decision of zone and site for polyhouse establishment	77.65	I	71.865	II
Foundation of downpour water collecting procedure to lessen irrigation cost	49.83	IV	52.598	III
Usage of native specialized information for control of temperature and moistness	43.66	V	48.962	IV
Diminishing polyhouse portion cost by utilizing privately made material	58.55	III	41.857	V

IV. Findings of the Study

The high beginning venture costs, absence of accessibility of value planting materials and information sources, helpless post-gather framework, and nonattendance of value strategy have prompted restricted selection of this innovation by couple of farmers in specific pockets of the state.

Great strategy estimates, for example, expanding the degree and measure of appropriation; arrangement of value planting material and contributions at moderate costs; interest in framework to plug post-collect misfortunes and evaluating strategy would improve the profitability and supportability alongside expanding the reception of this innovation.

The re-innovations in plan and structure of polyhouse by farmers likewise credit due acknowledgment and consideration of exploration and augmentation organizations. Innovative work activities should target growing minimal effort plans and lessening the cost of erection of polyhouse and cost of development. High initial venture, nonattendance of accessibility of value planting materials and information sources, helpless post-collect framework, and nonappearance of value strategy have prompted extremely restricted selection of this innovation by couple of farmers in explicit pockets of the state.

V. Conclusion

However, the needs of marketing organizations spin around improving the availability of technologies and contributions to farmers and the requirement for the foundation of promoting framework by Government. They in like manner imagined that interest in making an establishment should be made to prod the appropriation of polyhouse innovation. Reception of Good Agricultural Practices by farmers would moreover assemble the market worth and charge ability of their produce. Innovative work activities should target growing minimal effort plans and diminishing the cost of erection of polyhouse and cost of development. The re-developments in plan and structure of polyhouse by farmers likewise credit due acknowledgment and consideration of exploration and expansion offices. The accomplishment of the selection of this innovation likewise relies upon how well the farmers incorporate this innovation on their homesteads to suit their financial and agro-environmental conditions.

High basic investment, nonattendance of accessibility of value planting materials and information sources, helpless post-collect framework, and nonappearance of value strategy have prompted extremely restricted

reception of this innovation by couple of farmers in explicit pockets of the state. Great procedure gauges, for instance, developing the degree and proportion of endowment arrangement of value planting material and contributions at reasonable costs; interest in framework to plug post-reap misfortunes and evaluating strategy would improve the profitability and supportability alongside expanding the reception of this innovation. Imaginative work exercises should target developing insignificant exertion designs and reducing the cost of erection of polyhouse and cost of development. The re-manifestations in the arrangement and structure of polyhouse by farmers in like manner credit due affirmation and consideration of exploration and expansion workplaces. The achievement of the determination of this innovation moreover depends upon how well the farmers organize this innovation on their homestead to suit their financial and agro-environmental conditions.

VI. Suggestions of the Study

The opportunities existing with the Protected Cultivation to improve the overall productivity and profitability of agriculture must be realized by small and marginal farmers as well, who are deprived of such issues because of lack of financial resources, lack of information, and fear of approaching Governmental agencies / or financial institutions. Improving access to credit, technology, and markets to the farmers and make them acquainted about the benefits and opportunities associated with Protected Cultivation through small scale and low investment requiring technologies, such farmers are slowly getting into the interventions and improving their income from a small patch of lands owned by them. Farmers are constantly threatened by adverse weather and environmental conditions make them aware of this thing so they change their farming style.

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AN ANALYTICAL STUDY OF ROLE PLAYED BY MANAGEMENT INFORMATION SYSTEMS ON ORGANIZATIONAL PERFORMANCE OF PRIVATE HOSPITALS IN AHMEDNAGAR REGION

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ABSTRACT

Healthcare Organization is mainly deal with maintenance or improvement of health via the prevention, diagnosis, and treatment of disease, illness, injury, and other physical and mental impairments in human beings. Healthcare is delivered by health professionals (providers or practitioners) in allied health professions, physician associates, physicians, dentistry, midwifery, nursing, medicine, optometry, audiology, pharmacy, psychology, and other health professions. It includes the work done in providing primary care, secondary care, and tertiary care, as well as in public health. Patient care is critical and crucial element in hospital. The quality of patient care depends upon the quality of the diagnosis made by medical staffs. Organizational effectiveness is also linked with patient care. Patient care can be defined as the creation of more value for patients through the removal of all non-value-added steps or actions. The current administrative emphasis on the management of frequently used resources, cost control, the effectiveness of patient care, and improved quality and responsibility, reinforces the importance of optimal patient care. Timely Diagnosis by the doctor and patients care is very important elements in the health care organization.

Keywords: Management Information system, Healthcare, Patient, Organizational Performance, Private Hospitals.

Introduction

In the present study researcher has studied the Hospital Management system in Ahmednagar region. Researcher has explored some challenging and interesting issues that hospitals are facing as they move in the present scenario. Hospitals are facing lot of challenges about Patient database i.e. handling the queries on the existing patients and the patients treated and discharged and queries can also come from the visitor, a doctor or other employees of the hospital. It is directly impact on satisfaction level of patients. Hospitals have very poor Medical server database, Resource planning and control, Medical case history database. It is resulted into hospitals efficiency and effectiveness. Hospitals are not having proper planning related to manpower and personnel planning, payroll and employee related applications, hospital billing and the recovery, an inventory control procurement, the planning and the control, the expiry date management, resource utilization and the analysis, financial accounting, capital budgeting and the expense control, maintenance of the service facilities it is resulted into poor decision making. Hospitals are also facing lot of challenges related to controlling functions like patients waiting time and the service cycle, not using the critical

resources, Stock outs of the critical drugs, Analysis of the delays in terms of the duration and the causes, new trends in the service demands and the service performance in such cases.

Literature Review

Organizations that do not have formal Information sharing practices fails to leverage their managers' intellectual capital for business innovation and growth (O'Neill & Adya, 2007). MIS enables the exchange of experiences, which transfers the required information to the management levels to sustain competitive advantage since it affects the decision making to improve the quality of services provided. Therefore, Barachini et al. (2009) supported that it is imperative that these organizations continuously motivate their employees to share valuable information so that their intellectual capital can be leveraged. Management Information System gives the management field a new dimension in managing its knowledge and help in carrying out and maximizing the management's initiatives in harmonizing the appropriate strategies in the short and long planning (Edmondson, 2002).

The performance as stated by Hunger and Wheelen (2007) is an end result of an activity,

and an organizational performance is accumulated end results of all the organization's work processes and activities. Managers measure and control organization performance because it leads to better assessment for management, to increase the ability to provide customer value, to improve measures of organizational knowledge, and measure of organizational performance do have an impact on an organization's reputation. When the performance of the organization is assessed, the past management decisions that shaped investments, operations and financing are measured to know whether all resources were used effectively, whether the profitability of the business met or even exceeded expectations, and whether financing choice were made prudently (Shaukat et al., 2008) Organizational performance is conducted to support decisions concerning whether program or project should be continued, improved, expanded, or curtailed (Rossi et al., 1999) From the literatures presented, we can easily perceive that the importance of the role of both middle and top management to maintain a consistent approach to develop, use, and evaluate MIS systems within the Organization. MIS is used at various levels by top-management, middle and even by the operational staff as a support for decision making that aims to meet strategic goals and strategic objectives.

Research Methodology

Rationale of the study: Healthcare management system is playing crucial role in providing various health related services to the society. Role of information in effective working of hospital is very much important in the present scenario. Therefore in this study researcher wants to study impact of management information system on organizational performance of private hospitals of Ahmednagar region.

Objectives of the study

1. To study various factors affecting on organizational performance of private hospitals.
2. To study role played by Management Information systems on organizational

performance of private hospitals in Ahmednagar Region.

3. To study challenges and opportunities in implementation of Effective MIS in private hospitals of Ahmednagar Region.

Hypothesis

H₀:Effective Implementation of Management Information systems does not have asignificant impact on the organizational performance.

H₁:Effective Implementation of Management Information systems have asignificant Impacton the organizational performance.

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The researcher has collected primary data through structure questionnaires, interviews and field visits. In order to get first hand and authentic data the researcher has used the following method.

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Survey tools : Questionnaire methods

Questionnaire Method: The researcher has systematically framed the questionnaire to collect the data. Primary data has been collected by using two different structured questionnaires.

Researcher has used first questionnaire for the collection of data from Top Management Representatives, Administrative Officers and System Administrators.

Secondary Data

The secondary data has collected from: Publications of the Government Reports. Periodicals, publications of World health organization. Report Published by Zila Arthik Samalochan, Reports of various committees, District Statistical Reports, District Social & Economic Review Reports, Websites of selected sample size. Researcher also reviewed various books, journals, magazine and newspapers.

Sample Design

*Population/Universe of the study:*Universe of Hospital includes all those hospitals which are

registered with competent government authorities such as District Medical Officer and those which have capability to admit patients for medical treatment are included in the universe.

Sample Area: Ahmednagar District.

Sample Technique: Quota sampling

Sample size: 60 respondents (20 CEO's & 40 Admin Officers)

Statistical Tools Used

- a. For representation of data researcher has used table, pie-chart, histogram & percentage analysis.
- b. for testing of hypothesis researcher has used Anova test.

Data Analysis & Interpretation

Table No.1. Total Number of Respondents

Sr.No	Designation	Frequency	Percentage
1	C.E.O	20	33%
2	Admin Officer	40	67%
	Total	11	100.00

{Source-Primary Data}

Interpretation: The above table and chart shows type of the respondents visited by the researcher. The key personnel in the implantation and controlling of MIS are CEO and Admin officer. Hence researcher has visited 33% CEO and 67% of Admin officers.

Table No.2. Type of MIS used by Private Hospitals in Ahmednagar region

Sr.No	MIS (Status of MIS)	Frequency
1	Automated MIS	24
2	Manual MIS	24
3	Partial Automated Partial Manual	12
	Total	60

{Source-Primary Data}

Interpretation: The above table and chart shows various types of MIS implemented by private hospitals in Ahmednagar region. 40% respondents are using automated MIS, 40% using manual MIS and 20% of them are using partial automated and partial manual MIS. It is evident from the study that most of the respondents are using Automated as well as

manual MIS in private hospitals of Ahmednagar region.

Table No.3. MIS is playing an important role in the Effective Functioning of Organizational Performance.

Sr.No	Performance	Frequency
1	Strongly Agree	12
2	Agree	30
3	Neutral	6
4	Disagree	18
5	Totally Disagree	00
	Total	60

{Source-Primary Data}

Interpretation: The above table and chart shows performance various types of MIS implemented by private hospitals in Ahmednagar region. 18% Respondents are strongly agree, 46% are Agree, 9% are neutral and 27% are disagree. From the above analysis it is clear that most of the respondents are agree with MIS is playing an important role in effective functioning of private hospitals in Ahmednagar region.

Table No.4. Challenges for implementing MIS in Hospitals (Multiple Response Question)

Sr. No	Challenges for implementing MIS in Hospitals	Frequency
1	Lack of Top Management Support	6
2	Poor Skills sets among users	66
3	Resistance to change	50
4	Insufficient Software Evaluation	25
5	Poor Communication	20
6	Benefit Realization	15

{Source-Primary Data}

Interpretation: The above table and chart shows challenges of MIS implemented by private hospitals in Ahmednagar region. From the study it is observed that most of the respondents said that poor skills among users, resistance to change, insufficient availability of software, poor communication, benefit realization and lack of top management support are the major problems in the implementation of MIS in the Ahmednagar region.

Table No 5. Impact of MIS on organizational performance of Private hospitals

Sr.No	Impact of MIS on Hospital Functioning	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
1	Better accessibility to information in the Hospital	11	9	2	15	23	60
	Percentage	18.3333	15	3.33333	25	38.3333	100
2	More efficient administration of Hospital	9	8	2	15	26	60
	Percentage	15	13.3333	3.33333	25	43.3333	100
3	Higher utilization of Hospital resources	12	7	4	14	23	60
	Percentage	20	11.6667	6.66667	23.3333	38.3333	100
4	Reduction in workload	8	6	4	14	28	60
	Percentage	13.3333	10	6.66667	23.3333	46.6667	100
5	Better time management	1	1	1	3	5	11
	Percentage	9.09	9.09	9.09	27.27	45.45	100
6	Improvement in the quality of reports	8	11	1	12	28	60
	Percentage	13.3333	18.3333	1.66667	20	46.6667	100
7	MIS can provide administrators, Doctors and Nurses with the information required for informed planning, policy-making, and evaluation	11	9	2	15	23	60
	Percentage	18.3333	15	3.33333	25	38.3333	100
8	MIS have changed Hospital management in the areas of leadership, etc.	1	1	1	3	5	11
	Percentage	9.09	9.09	9.09	27.27	45.45	100
9	MIS can assist the Hospital Top Management, Administrators in determining the aims of the hospital etc.	8	6	4	14	28	60
	Percentage	13.3333	10	6.66667	23.3333	46.6667	100

{Source-Primary Data}

Interpretation: From the above table it is clear that in the percentile analysis most of the members are agree with the role of management information system is playing an important role in the efficient functioning of organizational activities.

Testing of Hypothesis

H₀:Effective Implementation of Management Information systems does not have a significant impact on the organizational performance.

H₁:Effective Implementation of Management Information systems have asignificant impact on the organizational performance.

Table 6: Testing of hypothesis

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	746.9778	8	93.37222222	7.636	1.14E-05	2.244396
Columns	1804.356	4	451.0888889	36.894	1.46E-11	2.668437
Error	391.2444	32	12.22638889			
Total	2942.578	44				

Interpretation: In the above table researcher has tested hypothesis by using Annova-test. It is observed that F-Table value (7.63) > F-Critical Value (2.24). Therefore it is cleared that calculated value is greater than critical value. Hence one should reject null hypothesis and accept alternative hypothesis i.e. Effective Implementation of Management Information systems have a significant impact on the organizational performance.

Findings, Conclusion and Suggestions of the study

Findings of the study

In this research paper researcher has derived his findings on the basis of primary and secondary data. Following are the major findings of the study:

1. Researcher has derived his findings on the basis of responses of two major stakeholder i.e. Chief executive officer and Admin officer of the private hospitals.
2. Private hospitals are using both systems for MIS i.e. Automated as well as manual system.
3. The study revealed that existing MIS system of private system is functioning satisfactorily in the Ahmednagar region.
4. From the study it is found that there are various challenges for implementation of MIS such as poor skills among users, resistance to change, insufficient availability of software, poor communication, benefit realization and lack of top management support are the major problems in the implementation of MIS in the Ahmednagar region.
5. There are various impacts observed due to MIS implantation in the private hospitals such as Better accessibility to information in the Hospital, More efficient administration of Hospital, Higher utilization of Hospital resources, Reduction in workload, Better time

management, Improvement in the quality of reports, MIS can provide administrators, Doctors and Nurses with the information required for informed planning, policy-making, and evaluation, MIS have changed Hospital management in the areas of leadership, decision making, workload, human resource management, communication, responsibility, and planning.

Conclusion of the study

Understanding of the IT technology, knowledge and skills in operating the hardware and software is a prime requirement for implementation of the MIS. The skills related to software development, computer programming, system management, database management are essential. Inadequate or limited knowledge or skills is major hurdle in the efficient performance of MIS. The study shows that MIS is playing important role in effective functioning of Organizational activities. It is concluded that effective Implementation of Management Information systems have a significant impact on the organizational performance. Patient is end beneficiary of healthcare organization. The quality of patient care depends upon the quality of the diagnosis made by medical staffs. Organizational effectiveness is also linked with patient care. Timely Diagnosis by the doctor and patients care is very important element in the health care organization. The interpretation of the diagnosis is related with the quality of information received and processed by the medical staff. The generation of data and converting that data into information is a significant process which is carried out through hospital management information system. Management Information System implementation seems essential to meet increasing healthcare demands and the associated diagnostic, treatment and administrative system burdens; to support

better patient care planning, and clinical or administrative decision making. The level of Management Information System implementation varies from hospital to hospital. The degree of implementation of Management Information System in health care industry makes an impact on decision making of which the information is key resource.

Suggestions of the study

1. It is observed that only four Hospitals have automated Management Information System in the Ahmednagar District. This is suggested that remaining hospitals should adopt the fully automated Management Information System in the hospitals. It is observed that presently hospitals only have two automated functions i.e. case papers and billing part. It is suggested that hospital should atomize remaining process i.e. Patients Admission to Patients discharge.
2. Role of Top Management is very important for implementation of Management Information System and execution of Management Information System in the hospitals. Top management should provide the required support and technical, financial and infrastructure resources for the implementation of Management Information System.

3. Improving Operational Efficiency- Investments in information systems technology can help in making a hospital's operations significantly more efficient, which could allow the hospital to dramatically cut costs and improve the quality and delivery of its services. For example the distribution of information can be improved by proper communication system, telephone, Computer network etc. Operational efficiency allows a hospital to adopt a low cost leadership strategy. By making investment in information technology systems, technology that increases its operational efficiency, a hospital could also erect entry barriers. These could be made possible by increasing the amount of investment or the complexity of the technology required to compete in the same line of service (business) and deter external organizations from entering the service (business).

4. Patient/ Employee Focused Culture Hospitals should develop the employee and patient's centric culture which will help to increase the efficiency and effectiveness of staff and which will lead to organizational performance.

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Sample size: 60 respondents (20 CEO's & 40 Admin Officers)

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- a. For representation of data researcher has used table, pie-chart, histogram & percentage analysis.
- b. for testing of hypothesis researcher has used Anova test.

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Table No.1. Total Number of Respondents

Sr.No	Designation	Frequency	Percentage
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{Source-Primary Data}

Interpretation: The above table and chart shows type of the respondents visited by the researcher. The key personnel in the implantation and controlling of MIS are CEO and Admin officer. Hence researcher has visited 33% CEO and 67% of Admin officers.

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Sr.No	MIS (Status of MIS)	Frequency
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Interpretation: The above table and chart shows various types of MIS implemented by private hospitals in Ahmednagar region. 40% respondents are using automated MIS, 40% using manual MIS and 20% of them are using partial automated and partial manual MIS. It is evident from the study that most of the respondents are using Automated as well as

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	Percentage	15	13.3333	3.33333	25	43.3333	100
3	Higher utilization of Hospital resources	12	7	4	14	23	60
	Percentage	20	11.6667	6.66667	23.3333	38.3333	100
4	Reduction in workload	8	6	4	14	28	60
	Percentage	13.3333	10	6.66667	23.3333	46.6667	100
5	Better time management	1	1	1	3	5	11
	Percentage	9.09	9.09	9.09	27.27	45.45	100
6	Improvement in the quality of reports	8	11	1	12	28	60
	Percentage	13.3333	18.3333	1.66667	20	46.6667	100
7	MIS can provide administrators, Doctors and Nurses with the information required for informed planning, policy-making, and evaluation	11	9	2	15	23	60
	Percentage	18.3333	15	3.33333	25	38.3333	100
8	MIS have changed Hospital management in the areas of leadership, etc.	1	1	1	3	5	11
	Percentage	9.09	9.09	9.09	27.27	45.45	100
9	MIS can assist the Hospital Top Management, Administrators in determining the aims of the hospital etc.	8	6	4	14	28	60
	Percentage	13.3333	10	6.66667	23.3333	46.6667	100

{Source-Primary Data}

Interpretation: From the above table it is clear that in the percentile analysis most of the members are agree with the role of management information system is playing an important role in the efficient functioning of organizational activities.

Testing of Hypothesis

H₀:Effective Implementation of Management Information systems does not have a significant impact on the organizational performance.

H₁:Effective Implementation of Management Information systems have asignificant impact on the organizational performance.

Table 6: Testing of hypothesis

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	746.9778	8	93.37222222	7.636	1.14E-05	2.244396
Columns	1804.356	4	451.0888889	36.894	1.46E-11	2.668437
Error	391.2444	32	12.22638889			
Total	2942.578	44				

Interpretation: In the above table researcher has tested hypothesis by using Anova-test. It is observed that F-Table value (7.63) > F-Critical Value (2.24). Therefore it is cleared that calculated value is greater than critical value. Hence one should reject null hypothesis and accept alternative hypothesis i.e. Effective Implementation of Management Information systems have a significant impact on the organizational performance.

Findings, Conclusion and Suggestions of the study

Findings of the study

In this research paper researcher has derived his findings on the basis of primary and secondary data. Following are the major findings of the study:

1. Researcher has derived his findings on the basis of responses of two major stakeholder i.e. Chief executive officer and Admin officer of the private hospitals.
2. Private hospitals are using both systems for MIS i.e. Automated as well as manual system.
3. The study revealed that existing MIS system of private system is functioning satisfactorily in the Ahmednagar region.
4. From the study it is found that there are various challenges for implementation of MIS such as poor skills among users, resistance to change, insufficient availability of software, poor communication, benefit realization and lack of top management support are the major problems in the implementation of MIS in the Ahmednagar region.
5. There are various impacts observed due to MIS implantation in the private hospitals such as Better accessibility to information in the Hospital, More efficient administration of Hospital, Higher utilization of Hospital resources, Reduction in workload, Better time

management, Improvement in the quality of reports, MIS can provide administrators, Doctors and Nurses with the information required for informed planning, policy-making, and evaluation, MIS have changed Hospital management in the areas of leadership, decision making, workload, human resource management, communication, responsibility, and planning.

Conclusion of the study

Understanding of the IT technology, knowledge and skills in operating the hardware and software is a prime requirement for implementation of the MIS. The skills related to software development, computer programming, system management, database management are essential. Inadequate or limited knowledge or skills is major hurdle in the efficient performance of MIS. The study shows that MIS is playing important role in effective functioning of Organizational activities. It is concluded that effective Implementation of Management Information systems have a significant impact on the organizational performance. Patient is end beneficiary of healthcare organization. The quality of patient care depends upon the quality of the diagnosis made by medical staffs. Organizational effectiveness is also linked with patient care. Timely Diagnosis by the doctor and patients care is very important element in the health care organization. The interpretation of the diagnosis is related with the quality of information received and processed by the medical staff. The generation of data and converting that data into information is a significant process which is carried out through hospital management information system. Management Information System implementation seems essential to meet increasing healthcare demands and the associated diagnostic, treatment and administrative system burdens; to support

better patient care planning, and clinical or administrative decision making. The level of Management Information System implementation varies from hospital to hospital. The degree of implementation of Management Information System in health care industry makes an impact on decision making of which the information is key resource.

Suggestions of the study

1. It is observed that only four Hospitals have automated Management Information System in the Ahmednagar District. This is suggested that remaining hospitals should adopt the fully automated Management Information System in the hospitals. It is observed that presently hospitals only have two automated functions i.e. case papers and billing part. It is suggested that hospital should atomize remaining process i.e. Patients Admission to Patients discharge.
2. Role of Top Management is very important for implementation of Management Information System and execution of Management Information System in the hospitals. Top management should provide the required support and technical, financial and infrastructure resources for the implementation of Management Information System.

3. Improving Operational Efficiency- Investments in information systems technology can help in making a hospital's operations significantly more efficient, which could allow the hospital to dramatically cut costs and improve the quality and delivery of its services. For example the distribution of information can be improved by proper communication system, telephone, Computer network etc. Operational efficiency allows a hospital to adopt a low cost leadership strategy. By making investment in information technology systems, technology that increases its operational efficiency, a hospital could also erect entry barriers. These could be made possible by increasing the amount of investment or the complexity of the technology required to compete in the same line of service (business) and deter external organizations from entering the service (business).

4. Patient/ Employee Focused Culture Hospitals should develop the employee and patient's centric culture which will help to increase the efficiency and effectiveness of staff and which will lead to organizational performance.

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MANAGEMENT INFORMATION SYSTEM IN PRIVATE HOSPITAL- A LITERATURE REVIEW

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ABSTRACT

Success or survival of any healthcare organization is depending upon its approach, service/ treatment to patients. Patient is end beneficiary of healthcare organization. Patient care is critical and crucial element in hospital. The quality of patient care depends upon the quality of the diagnosis made by medical staffs. The interpretation of the diagnosis is related with the quality of information received and processed by the medical staff. The generation of data and converting that data into information is a significant process which is carried out through hospital management information system. If Management Information System is not installed or implemented it adversely influence decision making. The poor decision making have its side effect on poor patient care increasing cost, poor time management etc. In the light of this scenario it is important to observe the level of impact of Management Information System in the health management organization.

Keywords: Healthcare, Management Information System, Patient care, Organizational effectiveness.

Introduction

Competition and advancement in health care industry pushing hospital to improve patient quality care by making appropriate quality decisions. Healthcare industry especially in the developed world is highly sophisticated, developed and characterized by rapidly increasing use of information technology in its every healthcare functions. To make healthcare affordable of the common people, it is become essential to explore opportunities to reduce cost and improve the decision making on the basis of processed information. The past research studies identified that hospital performance is an outcome of quality hospital information system. But it is also observed that study related to Management Information System differs from hospital to hospital.

Objectives of the study

To study the Management Information System in Private Hospital.

Methodology

The study is exploratory in nature. It is based on secondary data. The literature review of the selected papers taken. These papers were extracted from the reputed journals. The study analyzed the literature reviewed and formulated hypothesis.

Review of Literature

The review of literature helps to understand the importance, background and present situation related to the subject selected for the research work, therefore it is necessary to review relevant and latest literature in relation to the subject matter. This section of the chapter deals with Literature review which totally depends on all the relevant and reliable published literature in the context of research topic.

Management Information System (MIS)

Adeoti-Adekeye (1997) mentioned that there is a lot of research on the approaches, techniques and technologies for the design and development of MIS. However, there are a few articles that cover the impact of Management Information System on planning strategies and decision making. While there are no universally accepted definitions of MIS and those that exist in literatures are just prejudices of the researchers Lee (2001) defined MIS as “a system or process that provides information needed to manage organizations effectively”. Additionally, Baskerville and Myers (2002) broadly define MIS as “the development, use and application of information system by individuals, organizations and society”. Becta (2005) describes an information system as “a system consisting of the network of all communication channels used within an organization”.

Laudon and Laudon (2003) have defined MIS as “the study of information system focusing on their use in business and management”. The abovementioned definitions showed that MIS has underlined the development, application and validation of relevant theories and models in attempts to encourage quality work in the area”.

Baskerville and Myers (2002) Referring to the literatures, the field of Management Information System (MIS) has had a variegated development is its relatively short life span. MIS has developed its own theme of research and studies”.

Tracing previous literatures, we can report that during its first few decades, MIS concentrated on the information in the context of:

- Electronic data processing which carries out transaction processing functions and records detailed factual data.
- Management reporting system which scrutinize the operational activities of an organization, providing summaries, information and feedback to management.

Only during the last two decades, the MIS field has shifted to the primary, considered the second type of communication, namely, instruction-based. This has become known as the domain of expert system (Sasan Rahmatian, 1999).

In attempts to review published studies on MIS and articles, Alavi and Carlson (1992) have identified popular research topics, the dominant research perspective, and the relationship between MIS research and practice.

In contract, Baskerville and Myers (2002) have examined the MIS field and found a constant shift of MIS research from a technical focus to a technology-organizational and management-social focus.

Skyrius (2001) underline the decision maker’s attitudes toward different factors influencing the quality of business decisions; these include information sources, analytical tools, and the role of information technologies.

Handzic (2001) also pays attention to the impact of information availability on people’s ability to process and use information in short and long term planning and in decision making tasks. He revealed that the better the

availability of information, the better the impact on both efficiency and accuracy of business decisions.

Liu and Young (2007) talk about key information models and their relationship in business decision support in three different scenarios. The authors proved that global businesses are in advance due to the Enterprise Applications System provided by modern IT tools such as Enterprise Resource Planning (ERP), Knowledge Management System (KMS) and Customer Relations Management (CRM) to enhance the efficiency and effectiveness of the Decision Making process.

In order to improve the financial organizational capability and enhance its level of competition in the market, financial organizations understand the dimensions of the Information Management, and clearly define and develop the resources in case of human, technological, and internal operations, among others, and manage them well across the organization boundaries. However, establishing the link between Information System Management, planning and decision making is, at best.

In an article by Shu and Strassman (2005), a survey was conducted at 12 banks in the US between 1989 and 1997. They noticed that even though Information Technology had been one of the most essentially dynamic factors relating all efforts, it could not improve bank’s earnings. However, conversely, there are many literatures approving the positive impacts of Information Technology expenses on business value.

Kozak (2005) Investigates the influence of the evolution in Information Technology on the profit and cost effectiveness of the banking zone during the period between 1992 and (2007) mentioned that “If the relevant information required in a decision-making process or an organization planning is not available at the appropriate time, then there is a good change to be poor organization planning is not available at the appropriate time, then there is a good change to be a poor organization planning, inappropriate decision-making, poor priority of needs, and defective programming or scheduling of activities”.

“Jahangir (2005) states that based on the significant role that Information plays in choice of decision to be made, organization must

ensure that they have a good management information system. As a notable general observation, a good MIS ensures good decision making just in the same way bad propel the making of bad decisions”.

“UStudy.in (2010) supports the above observation by saying that “The quality of managerial decision-making depends directly on the quality of available information” and the managers should therefore cultivate an environment that encourages the growth and viable sprouting of quality information”.

“Essentially, before deciding on which MIS strategy to use, it is vital to ensure that the choice made is fully compatible with your current system. This is not only helps in avoiding erratic choice but it is also save the time and money that would have been otherwise wasted by that person (Rhodes, 2010; Jahangir, 2005)”

“In addition to that, it is not worthy for the MIS strategy or tool used to be in line with the decisions that are to be made. In other words, there should be a connecting point between the decision to be made and the MIS to be used by individual or corporate business owners (Jerboa, 2005)”

As a key consideration, Management Information System is a highly complex and delicate arena that calls for a lot of caution to be taken by its managers. It is for this reason that it is recommendable for organizations to ensure that they carefully select the individuals who are placed to control the systems. The more cautious and professional a person is, the better the person gets an assurance of positive prospects of in MIS with regards to decision making and other related areas of business (Lingham, 2006)

“MIS provides a flitting platform for good decision making (Kumar, 2006) essentially, without the established system of getting information in MIS, It would be extremely difficult for organizations to make their decisions. This is because they would be forced

to making baseless information due to the lack of confirmed information”. Moreover, MIS normally lays a firm foundation for the establishment of concrete decisions through its systematic tools, timely information and adequate managerial policies and regulations.

On the basis of the aforesaid literature following hypothesis can be developed

- 1] There is significant relationship between the Information system quality and MIS performance.
- 2] There is significant relationship between IT skills of the employees and efficient Performance of MIS.
- 3] People characteristics mix in private hospitals has significant impact on patient’s perception about service quality.

Conclusion

Researcher comes to the conclusion that maximum of the hospitals are dealing with demanding situations and issues. Those issues are related to databases of sufferers, medical doctors and nurses. The character of hassle were related to handling queries of patients, visitors, doctors and nurses which can be deeply involved issues with the overall pride. Agencies are within the race for enhancing their capability so that you can continue to exist inside the competitions of the new century worldwide market. Therefore, agencies try to strengthen their eligibility degree via enhancing the choice making method to be extra green and fairly effective to meet the successive fluctuations of the marketplace. The one clinic which is lacking in important infrastructure, training and able IT body of workers suffers the greater troubles. Hospitals preference making is terrible way to unavailable or inadequate degree of facts that is ad-hoc in nature. Useful resource making plans, allocation and usage selections are rarely systematic based totally on the medical gear and strategies of managers.

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LIQUIDITY MANAGEMENT EFFICIENCY ANALYSIS OF SMALL MILK PROCESSING PLANTS IN PRIVATE AND COOPERATIVE SECTORS IN AHMEDNAGAR DISTRICT OF MAHARASHTRA

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Abstract

This research paper analyze and compare the liquidity of the cooperative and private small milk processing plants in Ahmednagar district of Maharashtra. The research is quantitative in nature and based on financial information extracted from the financial statements of the sampled milk processing plants in private and cooperative sectors. Each 2 milk processing plants from cooperative and private sectors selected on the basis of purposive sampling method from Ahmednagar district of Maharashtra. The researcher used widely accepted ratio analysis tools to calculate ratios like current ratio, liquidity ratio, and gross working capital turnover ratio, current assets to total assets ratio, cash and bank balance to current assets ratio. The researcher used one tailed 't' test to compare the mean difference of ratios to reach a conclusion. On the basis of the hypothesis testing, it is concluded that the small cooperative milk processing plants are effective in liquidity management compared to the private milk processing plants. Hence researcher recommended to increase account receivables turnover and inventory turnover to speed up cash inflow. The cash and bank balance which is highly liquid but less contributor in profitability of business needs to be managed effectively through effective cash management practices.

Key words: liquidity, small milk processing plant, cash management practices, ratio analysis

1.0 Introduction

Intensified competition and squeezing profit margins are the major factors affecting survival, growth and profitability of dairy business. Bringing cost competitiveness and improving productivity becomes the crucial element in dairy business. Manager explore every opportunity to improve dairy business operations which drives customer value and helps in building competitive advantage come under scrutiny. In this highly turbulent and dynamic environment the financial executives are pressurized to contribute in the profitability of the dairy business unit. The better financial management decisions which based on scientific theories and tools are encouraged to improve financial management practices in dairy business operations. The previous empirical studies across various industries and region provided some evidences to justify the importance of efficient financial management practices and its impact on financial performance of the businesses.

Milk processing plants in India operates in cooperative, private and government sector. Milk processing sector is dominated by the cooperative milk processing plants before liberalization. As per the Government's new industrial and economic policy in 1991, the dairy industry delicensed, liberalized and privatized. The cooperative sector exposed to global competition from domestics and foreign private players. This questions the survival and profitability of cooperative milk processing plants.

Dealing with price volatility, managing demand-supply, improving cost competitiveness and using the value enhancing financial management strategies to drive profitability becomes essential aspects of dairy business operations. The dairy sector plays crucial role in rural development owing to its socio economic impact on rural households. It helps in generating employment and source of income for the millions of dairy farmers. The dairy sectors development is related with quality of livestock, feed and fodder management, milk production, milk processing sector and customer trends. The milk processing sector act as a vital link between milk production and consumer. Improving milk processing sectors productivity, cost competitiveness and profitability become essential to offer better prices to milk producers to increase their share in milk value chain and on the other side to fulfill rising expectations of customers.

In India the total capacity of cooperative milk processing plants is 43250.5 TPD with a market share of around 36% and private milk processing plant is 73251.5 TPD with a market share of 61% respectively. In Maharashtra, 70% milk processing plants operate in private, 22% in

cooperative and 8% in government sector. The plant capacities of private milk processing sector is 59%(15641 TPD),Co-operative 30% (7865 TPD) and Government 12 %(3086 TPD).

Ahmednagar district which is the largest district in Maharashtra comprises 14 tehsils. As per 2011 census, the population of the district is 41.24 lakhs. Around 69.70 percent employed in the agriculture and allied activities.Allied activities in the form of animal husbandry and dairy development play a very important role as it provides additional employment, supplement income and enhance nutritional security. District consists of 14 cooperative milk processing plants with an annual milk processing capacity of 16 LPD and around 20 private milk processing plants with an annual milk processing capacity of 15 LPD. The private and cooperative milk processing plants operate almost in equal proportion. Out of the total milk processing plants, around 70-80 % of the milk processing plants operate in small and medium sectors.

Against this background it can be observed that the survival and growth of milk processing plant is important as it contribute in rural development. In this highly changing and ever dynamic environment, Liquidity of business is one of the key factors determining its propensity to succeed or fail. Maintaining adequate liquidity without impairing the profitability is the foremost requirement of the sound and efficient working capital management. Both excess and shortage of liquidity affect the interest of the firm. They influence the short term survival, profitability and growth of business. Evidences are not lacking which shows that despite companies are comfortable with book profits, they lurch in financial difficulty owing to liquidity problem.

1.2 Literature Review

Earlier focus in working capital management (WCM) has been on the close relationship between working capital and the company's liquidity and profitability as studied by Pass and Pike (1984), Shin & Soenen (1998) amongst others. Jose, Lancaster and Stevens (1996) found that higher profitability could be achieved for corporations which maintained a more aggressive liquidity management in terms of reducing the CCC. Christopher Pike and Richard Pass (1987:18) have argued that inadequate planning and control of working capital are one of the main causes of business failures. The importance of effective WCM is often recognized (at the latest) during the times of financial distress (Kolay, 1991:46).Striking tradeoff between profitability and liquidity is the challenging aspect of the working capital management (Shin & Soenen, 1998:37).Huff, et al. (1999:104) found evidence of differences in liquidity ratios when different size of companies compared. They put forward an argument that companies with little or no inventory tend to have

lower current ratios since their current assets are smaller. Another finding suggested that current liabilities exceeded current assets, i.e. negative working capital balance, more often among the small than larger companies (Huff et al. 1999:100-101). Also very common use of the ratios is the prediction of failure or financial distress. One of the first studies about the bankruptcy prediction based on ratio analysis was conducted by William H. Beaver in 1966 and his findings are still considered valid. He compared financial ratios of the companies that went bankrupt with those that did not and found evidence that carefully conducted ratio analysis can be a useful predictor of financial failure even five years prior to failure. As the bankruptcy became more evident, the difference in ratios became also clearer, comparing to surviving counterparts (Beaver, 1966:102). Van Horne JC, Wachowicz JM (2004) shows that excess level of current assets negatively affects profitability whereas lower level of current assets lower liquidity and hampers smooth business operations owing to resultant stock outs. Usefulness of current and quick ratios for measuring working capital has been questioned because of their static nature. As a balance sheet is a statement of *stock* instead of *flows* with the result that ratios calculated from balance sheet accounts are liquidity stock measures at a certain point in time. (Penman, 2007:725). Kaur (2010) examined the policies and practices of cash management, receivable and payable management and their study indicated trade-off between the liquidity and profitability. Sur and Chakraborty (2011) examined the relationship between working capital management and profitability of the Indian Pharmaceutical industry during 1996-2007 and observed the joint influence of the liquidity management, inventory management and credit management on the corporate profitability was statistically significant.

1.3 Objectives of the study

To analyze and compare the liquidity of the cooperative and private small milk processing plants

1.4 Hypotheses of the study

H1: Current ratios of the cooperative milk plant is higher than the private milk processing plant

H2: Liquidity ratio of the cooperative milk plant is higher than the private milk processing plant

H3: Working Capital turnover ratio of the cooperative milk plant is lower than the private milk processing plant

H4: Operating profit ratio of the cooperative milk plant is lower than the private milk processing plant

1.5 Research Methodology

The research is quantitative in nature and based on financial information extracted from the financial statements of the sampled milk processing plants in private and cooperative sectors. Each 2 milk processing plants from cooperative and private sectors selected on the basis of purposive sampling method from Ahmednagar district of Maharashtra. The researcher used widely accepted ratio analysis tools to calculate ratios like current ratio, liquidity ratio, and gross working capital turnover ratio, current assets to total assets ratio, cash and bank balance to current assets ratio. The researcher used one tailed 't' test to compare the mean difference of ratios to reach a conclusion.

1.6 Data Analysis and Findings

The financial data extracted from the annual financial statements of the sampled milk processing plants over a period of 12 years during 2007 to 2018. The current ratio, liquidity ratio, cash and bank to current asset ratio, current asset to total asset ratio and working capital turnover ratio calculated. The profitability measured in terms of operating profit ratio and return on total assets. Table 1.0 presented the current ratios of small cooperative and private milk processing plants over a period of 12 years during 2007 to 2018. The 't' test results show that there is a significant difference between the current ratio of small cooperative and private milk processing plants. The mean current ratio of small cooperative milk processing plant is 1.08 compared to 2.16 of private milk processing plants. This indicate that the liquidity position of private milk processing plants is better than the cooperative milk processing plants.

Year	COP-S	Indices	PVT-S	Indices
2007	1.12	100.00	2.36	100.00
2008	1.01	89.64	1.93	81.93
2009	0.79	70.05	2.03	85.79
2010	1.14	101.38	2.14	90.66
2011	1.17	103.77	2.31	97.79
2012	1.41	125.08	2.13	90.07
2013	1.35	120.28	2.18	92.39
2014	1.28	113.87	2.20	93.20
2015	1.49	132.55	2.17	91.76
2016	0.93	82.35	2.44	103.16
2017	0.68	60.05	1.68	71.35
2018	0.64	56.81	2.41	102.04

Table 1.2 provides the information about the liquidity ratios calculated over a 12 year period during 2007-2018. The 't' test result presented in table 1.3 between the mean difference of liquidity ratios between the cooperative and private milk processing plants show that there is significant difference. The mean of liquidity ratio of small cooperative plants found to be 0.98 compared to 2.02 of small private milk processing plant. It reveals that the liquidity of the small private milk processing plant is better than the co-operative milk processing plant.

Year	COP-S	Indices	PVT-S	Indices
2007	1.02	100.00	2.18	100.00
2008	0.89	87.35	1.73	79.39
2009	0.72	70.71	1.81	82.96
2010	1.05	103.62	2.05	94.10
2011	1.06	103.93	2.21	101.57
2012	1.27	124.43	2.02	92.86
2013	1.20	118.16	2.05	94.15
2014	1.15	113.56	2.07	95.17
2015	1.33	130.34	2.07	94.89
2016	0.78	76.54	2.32	106.83
2017	0.67	65.45	1.53	70.37
2018	0.62	61.23	2.24	103.12

Table 1.4 presented the cash and Bank to Current Assets in % for small cooperative and private milk processing plants. The 't' test result presented in table 1.5 show no significant difference between the mean difference of Cash and Bank to Current Assets (in %) between Cooperative and Private Milk Processing Plants.

Year	COP-S	Indices	PVT-S	Indices
2007	17.20	100.00	5.67	100.00
2008	5.48	31.85	4.44	78.23
2009	18.56	107.86	5.59	98.67
2010	10.55	61.33	8.61	151.82
2011	12.13	70.53	13.31	234.73
2012	10.94	63.58	6.44	113.50
2013	6.79	39.49	4.26	75.06
2014	3.07	17.84	3.83	67.56
2015	30.70	178.43	10.11	178.34
2016	22.20	129.02	13.76	242.63
2017	9.21	53.56	18.85	332.40
2018	5.07	29.48	12.82	226.14

The Current Assets to Total Assets Ratios of the small co-operative and private milk processing plants presented in table 1.6 and the 't' test result in table 1.7. The 't' test results reveals that there is significant difference between the means of ratios of Current Assets to Total Assets. The current assets to total assets ratio of small cooperative milk processing plants found to be 29.68 compared to 59.55 of private milk processing plant. This indicate that the private plant hold more current assets compared to total assets.

Year	COP-S	Indices	PVT-S	Indices
2007	26.08	100.00	61.09	100.00
2008	23.86	91.48	59.47	97.34
2009	32.56	124.83	61.26	100.27
2010	30.90	118.46	58.43	95.64
2011	32.24	123.63	58.08	95.07
2012	34.50	132.27	58.39	95.57
2013	30.33	116.30	60.71	99.37
2014	33.34	127.84	60.67	99.30
2015	31.86	122.16	64.32	105.29
2016	22.62	86.72	61.31	100.35
2017	28.75	110.23	50.27	82.29
2018	29.17	111.84	60.67	99.30

Table 1.8 presented the information about working capital turnover of small cooperative and private milk processing plants and the 't' test result presented in table 1.9 reveals that the working capital turnover of small cooperative plant is 10.29 which is quite superior to working capital turnover (5.41) of private plant. The 't' test show significant difference between the mean difference of the working capital turnover ratios of the cooperative and private milk processing plants.

Year	COP-S	Indices	PVT-S	Indices
2007	9.25	100.00	2.52	100.00
2008	9.56	103.38	2.60	103.18
2009	9.59	103.71	2.87	113.95
2010	12.06	130.46	3.70	146.99
2011	11.70	126.56	4.03	159.97
2012	10.48	113.32	4.40	174.73
2013	12.25	132.54	5.48	217.65
2014	10.89	117.74	6.29	249.45
2015	7.83	84.66	6.69	265.60
2016	11.04	119.38	6.76	268.47
2017	9.45	102.25	11.77	467.24
2018	9.45	102.26	7.81	310.07

Table 1.10 compared the information related to Return on Total Assets over a period of 12 years during 2001-2012. The 't' test result presented in table 1.11 show that there is significant difference between the mean difference of Return on Total Assets (in %) between Cooperative and Private Milk Processing Plants (2007-2018). The Return on Total Asset of small cooperative milk processing plant is 6.61 % compared to 1.4 % of private milk processing plant.

Year	COP-S	Indices	PVT-S	Indices
2007	15.39	100.00	-3.64	100.00
2008	13.00	84.41	-5.54	152.10
2009	8.07	52.40	-5.51	151.36
2010	6.15	39.93	-5.12	140.63
2011	5.44	35.33	3.50	-96.13
2012	9.91	64.38	0.19	-5.15
2013	9.53	61.93	1.94	-53.32
2014	-1.05	-6.84	4.14	-113.51
2015	1.80	11.69	5.17	-141.91
2016	4.63	30.07	10.44	-286.70
2017	2.80	18.16	4.48	-122.87
2018	3.71	24.13	6.80	-186.68

Operating Profit Ratios (in %) between Cooperative and Private Milk Processing Plants (2007-2018) presented in table 1.12. The 't-test' between the mean difference of Operating Profit Ratios (in %) between Cooperative and Private Milk Processing Plants shows significant difference. This indicates that the operating profit ratios of small milk processing plant is 2.31 % compared to -0.85% of small private milk processing plant.

Year	COP-S	Indices	PVT-S	Indices
2007	6.38	100.00	-4.93	100.00
2008	5.70	89.26	-4.96	100.58
2009	2.58	40.47	-4.69	95.05
2010	1.65	25.84	-4.29	87.02
2011	1.44	22.58	1.01	-20.49
2012	2.74	42.95	-0.24	4.95
2013	2.56	40.17	0.48	-9.79
2014	-0.29	-4.55	1.11	-22.54
2015	0.72	11.30	1.23	-24.90
2016	1.85	29.05	2.64	-53.46
2017	1.03	16.12	0.90	-18.28
2018	1.35	21.10	1.51	-30.63

1.7 Hypothesis Testing

The below table presented the summary of 't-test' between comparative analysis of various ratios between private and cooperative milk processing plants. Considering the nature of hypotheses, the researcher used one tailed 't' test. $P(T \leq t)$ is less than 0.05, there observed a significant difference between the means of cooperative and private milk processing plant.

Summary of 't-test' between comparative analysis of various ratios between milk processing plants										
Table 1.1 't-test' between the mean difference of Current Ratios between Cooperative and Private Milk Processing Plants (2007-2018)										
	Mean	Variance	Observations	Pooled Variance	Df	t Stat	P(T<=t) one-tail	t Critical one-tail	P(T<=t) two-tail	t Critical two-tail
COP-S	1.08295	0.07956	12	0.06247	22	-10.600	2.07E-1	1.7171	4.13E-1	2.07387
PVT-S	2.16461	0.04537	12							
Table 1.3 't-test' between the mean difference of Liquidity Ratios between Cooperative and Private Milk Processing Plants (2007-2018)										
	Mean	Variance	Observations	Pooled Variance	df	t Stat	P(T<=t) one-tail	t Critical one-tail	P(T<=t) two-tail	t Critical two-tail
COP-S	0.98	0.057868	12	0.055304	22	-10.875	1.28E-10	1.71714	2.57E-1	2.07387
PVT-S	2.02297	0.05274	12							
Table 1.5 't-test' between the mean difference of Cash and Bank to Current Assets(in %) between Cooperative and Private Milk Processing Plants (2007-2018)										
	Mean	Variance	Observations	Pooled Variance	df	t Stat	P(T<=t) one-tail	t Critical one-tail	P(T<=t) two-tail	t Critical two-tail
COP-S	12.65	66.07	12	44.557	22	1.3527	0.09494	1.71714	0.18988	2.0738
PVT-S	8.972	23.04	12							
Table 1.7 't-test' between the mean difference of Current Assets to Total Assets Ratios(in %) between Cooperative and Private Milk Processing Plants (2007-2018)										
	Mean	Variance	Observations	Pooled Variance	df	t Stat	P(T<=t) one-tail	t Critical one-tail	P(T<=t) two-tail	t Critical two-tail
COP-S	29.68	14.17	12	12.81008	22	-20.442	4.21E-	1.71714	8.43E-1	2.07387
PVT-S	59.55	11.440	12							
Table 1.9 't-test' between the mean difference of Working Capital Turnover (in Times) between Cooperative and Private Milk Processing Plants (2007-2018)										
	Mean	Variance	Observations	Pooled Variance	df	t Stat	P(T<=t) one-tail	t Critical one-tail	P(T<=t) two-tail	t Critical two-tail
COP-S	10.295	1.77449	12	4.480077	22	5.65215	5.52E-0	1.71714	1.1E-05	2.07387
PVT-S	5.4118	7.185665	12							
Table 1.11 't-test' between the mean difference of Return on Total Assets (in %) between Cooperative and Private Milk Processing Plants (2007-2018)										
	Mean	Variance	Observations	Pooled Variance	df	t Stat	P(T<=t) one-tail	t Critical one-tail	P(T<=t) two-tail	t Critical two-tail
COP-S	6.6143	22.7094	12	25.54956	22	2.52539	0.009633	1.71714	0.01926	2.0
PVT-S	1.4030	28.38971	12							
Table 1.13 't-test' between the mean difference of Operating Profit Ratios (in %) between Cooperative and Private Milk Processing Plants (2007-2018)										
	Mean	Variance	Observations	Pooled Variance	df	t Stat	P(T<=t) one-tail	t Critical one-tail	P(T<=t) two-tail	t Critical two-tail
COP-S	2.3103	3.78652	12	6.202621	22	3.11157	0.002543	1.71714	0.00508	2.07387
PVT-S	0.8533	8.618722	12							

1.8 Conclusions and Recommendations

The financial management theory suggests that there is negative relationship between the profitability and liquidity. Highly profitable firms are less liquid whereas the high liquidity lowers the profitability. Hence tight liquidity management bears risk and follows almost aggressive working capital policy.

From the One tail 't' test of inferential statistics, the researchers tested the hypothesis and reached to the following conclusions.

a) The Current ratio of the small cooperative milk processing plants is lower than the private milk processing plants. b) The liquidity ratio of the cooperative milk processing plant is significantly lower than the private milk processing plant. c) The current assets to total assets ratios(in%) of cooperative milk processing plant is significantly lower than the private milk processing plants. d)The working capital turnover of the cooperative milk processing plant is significantly greater than the private milk processing plants. e) The operating profit ratios of the cooperative milk processing plant is significantly greater than the private milk processing plants.

On the basis of the hypothesis testing, it is concluded that the small cooperative milk processing plants are effective in liquidity management compared to the private milk processing plants. Hence researcher recommended to increase account receivables turnover and inventory turnover to speed up cash inflow. The cash and bank balance which is highly liquid but less contributor in profitability of business needs to be managed effectively through effective cash management practices.

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A Study Of Arjuna's Qualities And Their Implications In Today's Management Scenario

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Abstract

India is a spiritual heartland which has vast heritage for thousands of years. The Ramayana and the Mahabharata are the two beacons of light epics and Lord Rama and Lord Krishna are epitomes who have been a role model for millions of souls. As a part of Mahabharata, Lord Krishna's divine discourse to Arjuna is known as "The Bhagavad Gita" in which Arjuna is the key character who represents the human race. The Gita and Arjuna are not just spiritual figures but are the models of today's management and it's important to understand the contemporary applications especially in the cat and mouse race of competition faced by students and executives of the field of Management. Arjuna's qualities of management shall give a divine insight and teach us greater leadership qualities and managerial abilities. This research paper is based on literature review and deep analyses of Arjuna's life journey not as just a commander, but an efficient leader and effective executive of his organization. The study & findings of this research derives that Arjuna is a role model of management and his qualities, if followed by today's managers, can prove vital for personal effectiveness and organizational success. Arjuna is the human capital, which was transformed by Lord Krishna.

Keywords: Lord Krishna, Arjuna, Mahabharata, Shrimad Bhagavad Gita, Management Strategies, Management, Executive Development, Leadership qualities and Managerial abilities.

Introduction

Arjuna's life is not a narration of the past history, but it is a reflection of our day-to-day life. Arjuna's situation, which he has faced during his time, is very much applicable today (Pillai, 2019). Arjuna felt dejected and found himself in despair due to the thought of the war with his own cousins and teacher so went in tizzy (Menon, 2016). Arjuna's attitude in the Gita is to seek divine consultations and guidelines from his mentor and friend Lord Krishna. The management lessons, which Krishna taught Arjuna were unconditionally implemented by Arjuna for his own development. Arjuna is described as a common man like us, however, still uncommon because of his positive qualities and values. He is a person with good character, though with his own strengths and weaknesses. Lord Krishna chose Arjuna because he was strong in his ethical values and most importantly Arjuna has a '*sharanagati svabhava*' or sense of unconditional self-surrender and strong devotion towards Krishna. Arjuna's friendship with Krishna is very deep. In the battle of Kurukshetra Arjuna's arguments are right, however, with wrong conclusions due to his emotions taking over his mind. Arjuna never asked Krishna about material things. Krishna was waiting for a chance to teach and empower

his friend to come off his mental platform. The principles of Bhagavad Gita are still applicable today.

Literature Review

The researching of the past journal articles, studies and papers is important and has proved helpful in the present study. The previous research work gives a clear picture of the analysis, reviews and evaluations done till date and also helped in setting the context of the future research and most importantly identifies the gap and defines the scope of current research.

In her thesis the author has attempted to throw light on the character of Arjuna and also systematically done a psycho analysis of Arjuna's characteristics. She takes a deep dive to understand Arjuna's mindset on why he refused to fight the battle and why he found himself so weak and helpless. The start of the Gita commences with a description of Arjuna's mental agony and depression. Krishna eventually helps him to rise from this mental platform to the higher consciousness and gets ready to fight the battle (Sehrawat et al, 2020). In another research paper, Krishna is counselling Arjuna as a doctor counsels a patient. Due to a climatic situation, Arjuna displays typical psychosomatic symptoms and is then counselled by Krishna with the appropriate lingual strategies to deal with the climatic situation calmly and rationally

(Angiras, 2020). From description of *karmayoga* [work for Krishna], as being a basic foundation of the Indian philosophy, we understand that Lord Krishna teaches Arjuna that there is a “law of karma” (Bhattacharjee, 2021).

Elsewhere we see a sincere effort in understanding the Bhagavad Gita and creates interest in learning the same as a gift of the Lord to the mankind (Jeeva et al, 2017). A systematic effort is made to understand the various contexts in the holy text and its practical application in today’s date. They further state that Arjuna is the representation of the human civilization and especially of today’s modern mankind who is fixed in complexity of dilemma, personality conflicts, confusion and desires. Arjuna receives a solution to the fundamental problems of life, which are also applicable today. Thus, Arjuna is the receiving point of the Gita and symbolizes each one of us.

Objectives of the Study

This research paper is aiming to analyze Arjuna’s leadership and management qualities and their application in today’s corporate life.

Need for the Research

The research study was conducted as it was observed, that even though there has been some research work conducted on the Bhagavad Gita and Mahabharata, there is no detailed research analysis at length conducted on the character of Arjuna, who is a key example of leadership and management in the entire epic. As Lord Krishna started narrating the Bhagavad Gita, Arjuna was initially confused and depressed about fighting the battle of Kurukshetra but it was Lord Krishna’s benevolence and mercy that he imparted the Bhagavad Gita to Arjuna which is actually a timeless wisdom for all leaders in all the ages (Simpson, 2020). In addition to the context of the battle of Kurukshetra, Arjuna has shown world class standards of excellence and leadership. Among the few who have focused on Arjuna’s leadership qualities is Ms. Pillai. She classifies Bhagavad Gita as an ancient spiritual text which contains recommendations for the modern practice of management (Pillai, 2019).

Research Methodology

This is an exploratory research work. The quality and character of Arjuna was studied by the help of literature review, searching through available journals, magazines, books and websites. Further the work was followed by studying the characteristics of Arjuna amongst the contemporary working executives in corporate companies in Mumbai from the EPC Sector by the means of questionnaire. The questionnaire of 40 questions were designed on the basis of a literature review – content analysis of books especially related to Arjuna’s personality – Mahabharata and Bhagavad Gita. Sample size was set to 125 and the questionnaire was circulated to the working executives selected by the convenience sampling method. The age group of the respondents is

between 25-50 yrs. The responses were collected on the rating scale of 1 to 5 in Likert Scale.

Hypothesis

H₀: Arjuna’s personality traits don’t contribute a significant role among executives in the present-day corporate world.

H₁: Arjuna’s personality traits contribute a significant role among executives in the present-day corporate world.

Arjuna’s Personality Characteristics

Arjuna was not an ordinary person. He was saintly by character (Bhaktivedanta Swami, 1972; 1.36). Bhagavad Gita is instructed to Arjuna mainly because Arjuna was a devotee of the Lord, a direct student of Krishna, and His intimate friend. For this reason, Bhagavad Gita is best understood by a person who has qualities similar to Arjuna’s (Bhaktivedanta Swami, 1972; introduction). Arjuna had understood that internal enrichment is of great importance for success and excellence and so he seeks from Lord Krishna the definition and qualities of a perfect person (Row, 2004; p. 74). The good thing about Arjuna is that he was open to listen and receive Krishna’s teachings, obey them, internalize & contemplate on them, which is known as “inside out approach”. With this approach and sense of devotion towards Krishna, Arjuna fought the war and emerged as a victor (Dhan, 2018; p. 116).

Arjuna’s training with Guru Dhronacharya

Arjuna with his politeness and corporate manerisms had won over the vote of trust of his Guru Dhronacharya becoming his favorite student. Arjuna shows exemplary qualities of a student right from the ashram of Dhronacharya and the same he carries to the battle of Kurukshetra and also further throughout his life (Shanmukhan, 2019). Arjuna’s association with Guru Dhronacharya was pious as an ardent disciple. He practiced at night and he could use both his hands for using weapons so was known as “Savyasachi”. Thus he had acquired the skills of multi-tasking in his Guru ashram itself. Arjuna had a spirit of commitment for his Mentor from his early days. He was a student who learnt by observing his Guru and even in his free time he never played instead spend additional time learning and conducting service to his Guru. Dhronacharya taught Arjuna to become ‘ajaya’ – tiredness and sleep are two enemies; hard work and being cautious are two friends. Arjuna had an untiring and continuous learning attitude and with his keen interest showed activeness in his learning throughout. Arjuna took all the training from Dhronacharya as the beginning, not the end and this quest and hard work lead him one day to all the strength and capability to become a great warrior, world class archer. This is a management lesson for all executives to avoid stagnation. Corporates are looking for management trainees as budding leaders, who are like Arjuna in the modern-day corporate Mahabharata, who

possess key skills like initiative, active learning, focus and continuous learning. It wouldn't be an exaggeration to say that though Arjuna was born extra-ordinary but his management qualities were developed and his skills were sharpened during the training given by his Guru Dhronacharya in the ashram.

Arjuna & Today's Corporate World

At the Piramal Group of Companies office at Piramal Towers, Mumbai, Arjuna is being very respected and draws great admiration. According to the Piramal Group, the Bhagavad Gita as teachings imparted to Arjuna, despite being an ancient scripture, is very much relevant today and it is applicable in our present day-to-day business management becoming a role model for the corporate world. The Piramal group believes that there are many similarities between teachings of Gita and present day's managers. Arjuna stands for continues learning and dynamism. Gita teaches us control emotions and mind. Both Gita and Arjuna lead us to a blend in management to be followed (Banerjee, 2008).

Management Qualities of Arjuna

From the literature review of the Bhagavat Gita and Mahabharata we can identify that Arjuna has many positive qualities and attitudes applicable in management. The same was circulated in a form of a questionnaire. Below are the qualities inquired in the questionnaire along with their references:

1. Focus (Bhaktivedanta Swami, 1972; 2.41), (Dasa, S. 2001; p. 63)
2. Determination (Bhaktivedanta Swami, 1972; 2.37)
3. Emotional stability (Bhaktivedanta Swami, 1972; 5.20)
4. Learning attitude (Bhaktivedanta Swami, 1972; 2.7)
5. Respect for an authority (Bhaktivedanta Swami, 1972; 4.34)
6. Need for mentor (Bhaktivedanta Swami, 1972; 4.34), (Das, G.D. 2018; p. 37)
7. Team work (Bhaktivedanta Swami, 1972; 5.18)
8. Sharpening of skills (Bhaktivedanta Swami, 1972; 2.50)
9. Knowledge development (Bhaktivedanta Swami, 1972; 8.1)
10. Politness (Bhaktivedanta Swami, 1972; 5.18)
11. Multi-tasking (Bhaktivedanta Swami, 1972; 11.33)
12. Compassion (Bhaktivedanta Swami, 1972; 1.28-30)
13. Punctuality (Bhaktivedanta Swami, 1972; 10.30)
14. Discipline (Bhaktivedanta Swami, 1972; 11.37& 11.39)
15. Code of conduct (Dasa, S. 2001; p. 279-288)
16. Domain knowledge (Bhaktivedanta Swami, 1972, 8.2)
17. Ready to sacrifice (Bhaktivedanta Swami, 1972, 13.1& 18.1)
18. Hard working (Debroy, 2015)
19. Corporate etiquette (Bhaktivedanta Swami, 1972; 6.39)
20. Crisis management (Dasa, S. 2001; p. 64)

21. Respect for other cultures (Bhaktivedanta Swami, 1972; 5.18)
22. Output orientation (Dasa, S. 2001; p. 61)
23. Sense for detail (Bhaktivedanta Swami, 1972; 4.4)
24. Courage (Dharma,1999; p. 247-259, p. 289-295)
25. Understanding limits (Bhaktivedanta Swami, 1972; 1.36)
26. Positive mindset (Bhaktivedanta Swami, 1972; 2.15)
27. Good listener (Bhaktivedanta Swami, 1972)
28. Having vision (Bhaktivedanta Swami, 1972; 11.4)
29. Action oriented (Bhaktivedanta Swami, 1972; 3.5)
30. Diligence (Dharma, 1999; p. 214-220)
31. Commitment (Bhaktivedanta Swami, 1972; 18.73)
32. Stress management (Bhaktivedanta Swami, 1972; 1.28 & 2.66)
33. Confidentiality (Dasa, S. 2001; p. 64)
34. Work ethics (Dharma, 1999; p. 206-213)
35. Patience (Bhaktivedanta Swami, 1972; 2.14)
36. Learning from own mistakes (Bhaktivedanta Swami, 1972; 11.1)
37. Expressiveness (Bhaktivedanta Swami, 1972; 1.28-45)
38. Consistency (Bhaktivedanta Swami, 1972; 9.14)
39. Persistence (Dasa, S. 2001; p. 61)
40. Physical fitness (Bhaktivedanta Swami, 1972; 4.29)

Results & Findings

The statistical analysis and calculations of the responses of the survey questionnaire was done through SPSS. The following are the results and findings stated in form of

Table no.1 - Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha based on standardized items	N of items
.812	.853	40

the tables.

The above **table no.1** shows statistics reliability testing of this research paper. The authors have considered 40 variables, i.e. management qualities of Arjuna, arguably considered important among present day corporate managers. The Cronbach alpha value 0.812 shows 'good' internal consistency among considered variables, which means all management qualities of Arjuna considered in this paper

Table no.2 - KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.850
Bartlett's Test of Sphericity	Approx. Chi-Square	2638.516
	df	780
	Sig.	0.000

are having internal consistency among all attributes.

In the **table no.2**, adequacy of samples from the research area of Mumbai is tested with the help of KMO and Bartlett's Test. The sampling adequacy value is 0.850, which shows meritorious level towards sampling adequacy. Significant value is 0.000 for given samples

of 125 working executives. The significant value less than 0.05 indicates that these data do not produce an identity matrix and are thus approximately multivariate normal and acceptable for further analysis.

Table no.3 - Descriptive statistics

Descriptive Statistics							
Variable	Mean	Std Dev.	Std Err	N	Z	DF	P
Focus	3.312	1.187	0.106	125	31.185	124	0.000
Determination	3.296	1.178	0.105	125	31.284	124	0.000
Emotional stability	3.768	1.033	0.092	125	40.789	124	0.000
Learning attitude	3.328	1.217	0.109	125	30.582	124	0.000
Respect for authority	1.976	1.103	0.099	125	20.025	124	0.000
Need for mentor	2.440	1.221	0.109	125	22.346	124	0.000
Team work	2.312	1.279	0.114	125	20.211	124	0.000
Sharpening of skills	3.880	0.980	0.088	125	44.245	124	0.000
Knowledge development	2.736	1.123	0.100	125	27.247	124	0.000
Politeness	2.176	1.157	0.104	125	21.019	124	0.000
Multi-tasking	2.224	1.091	0.098	125	22.781	124	0.000
Compassion	3.480	1.119	0.100	125	34.778	124	0.000
Punctuality	3.896	0.905	0.081	125	48.110	124	0.000
Discipline	3.544	1.273	0.114	125	31.121	124	0.000
Code of conduct	2.096	1.066	0.095	125	21.988	124	0.000
Domain knowledge	4.288	0.739	0.066	125	64.915	124	0.000
Ready to sacrifice	2.216	1.133	0.101	125	21.868	124	0.000
Hard working	3.816	1.027	0.092	125	41.545	124	0.000
Corporate etiquette	3.816	0.970	0.087	125	43.966	124	0.000
Crisis management	3.544	1.125	0.101	125	35.213	124	0.000
Respect for other culture	3.656	0.960	0.086	125	42.592	124	0.000
Output orientation	4.016	0.942	0.084	125	47.679	124	0.000
Sense for detail	3.880	0.912	0.082	125	47.551	124	0.000
Courage	3.992	0.884	0.079	125	50.465	124	0.000
Understanding limits	4.256	0.782	0.070	125	60.857	124	0.000
Positive mindset	4.216	0.736	0.066	125	64.045	124	0.000
Good listener	4.240	0.700	0.063	125	67.699	124	0.000
Having vision	4.304	0.687	0.061	125	70.090	124	0.000
Action oriented	4.024	0.937	0.084	125	48.001	124	0.000
Diligence	3.872	0.967	0.086	125	44.767	124	0.000
Commitment	4.040	0.827	0.074	125	54.620	124	0.000
Stress management	4.024	0.856	0.077	125	52.538	124	0.000
Confidentiality	3.960	0.865	0.077	125	51.178	124	0.000
Work ethics	3.976	0.837	0.075	125	53.092	124	0.000
Patience	4.112	0.785	0.070	125	58.557	124	0.000
Learning from own mistakes	4.016	0.842	0.075	125	53.309	124	0.000
Expressiveness	2.168	1.127	0.101	125	21.509	124	0.000
Consistency	4.000	0.803	0.072	125	55.678	124	0.000
Persistence	3.000	1.070	0.096	125	31.343	124	0.000

Table no.3 shows that descriptive statistics with the help of mean value, standard deviation and standard error. The authors have tested the central tendency of given attributes of Arjuna's personality. It is observed that

mean value, standard deviation and standard error shows significant relationship among the various attributes. We also tested hypothesis with the help of t-test. It is observed that p-value is 0.000. Hence hypothesis H_0 is

rejected and the hypothesis H_1 is accepted, which means that Arjuna’s personality traits contribute a significant role among executives in the present-day corporate world.

Table no.4 – Communalities

Communalities		
Variable	Initial	Final
Focus	1.000	0.936
Determination	1.000	0.936
Emotional stability	1.000	0.656
Learning attitude	1.000	0.741
Respect for authority	1.000	0.778
Need for mentor	1.000	0.731
Teamwork	1.000	0.732
Sharpening of skills	1.000	0.702
Knowledge development	1.000	0.695
Politeness	1.000	0.605
Multi-tasking	1.000	0.693
Compassion	1.000	0.791
Punctuality	1.000	0.661
Discipline	1.000	0.744
Code of conduct	1.000	0.591
Domain knowledge	1.000	0.636
Ready to sacrifice	1.000	0.688
Hard working	1.000	0.729
Corporate etiquette	1.000	0.630
Crisis management	1.000	0.536

Respect for other culture	1.000	0.582
Output orientation	1.000	0.673
Sense for detail	1.000	0.507
Courage	1.000	0.637
Understanding limits	1.000	0.649
Positive mindset	1.000	0.737
Good listener	1.000	0.732
Having vision	1.000	0.722
Action oriented	1.000	0.762
Diligence	1.000	0.712
Commitment	1.000	0.566
Stress management	1.000	0.662
Confidentiality	1.000	0.616
Work ethics	1.000	0.636
Patience	1.000	0.706
Learning from own mistakes	1.000	0.705
Expressiveness	1.000	0.741
Consistency	1.000	0.571
Persistence	1.000	0.696
Physical fitness	1.000	0.627

Table no.4 shows harmonies among the variable and it is observed that all communalities i.e. initial and final are in between 1.000 to 0.5. From the correlation matrix here we observe high degree of correlation among the attributes. The correlation matrix is important to identify relationship between considered variable in the research. It is observed that all the values are showing significant correlation among attributes of Arjuna’s personality.

Table no.5 - Eigen Values

Initial Explained Variance (Eigen values)										
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 9	Factor 10	Factor 11
Value	11.401	3.550	2.206	1.888	1.647	1.585	1.339	1.151	1.019	0.934
% of var.	29.235	9.103	5.657	4.841	4.223	4.063	3.434	2.952	2.614	2.396
Cum. %	29.235	38.338	43.995	48.836	53.059	57.122	60.556	66.491	69.104	71.500
	Factor 12	Factor 13	Factor 14	Factor 15	Factor 16	Factor 17	Factor 18	Factor 19	Factor 20	Factor 21
Value	0.898	0.798	0.777	0.705	0.689	0.633	0.611	0.567	0.501	0.490
% of var.	2.303	2.046	1.992	1.807	1.767	1.623	1.566	1.454	1.284	1.257
Cum. %	73.803	75.850	77.841	79.649	81.416	83.038	84.605	86.059	87.343	88.600
	Factor 22	Factor 23	Factor 24	Factor 25	Factor 26	Factor 27	Factor 28	Factor 29	Factor 30	Factor 31
Value	0.432	0.416	0.392	0.363	0.343	0.322	0.278	0.277	0.254	0.229
% of Var.	1.108	1.067	1.004	0.930	0.879	0.826	0.713	0.711	0.652	0.587
Cum. %	89.708	90.774	91.778	92.708	93.587	94.413	95.126	95.837	96.489	97.076
	Factor 32	Factor 33	Factor 34	Factor 35	Factor 36	Factor 37	Factor 38	Factor 39		

Value	0.215	0.202	0.177	0.152	0.148	0.126	0.114	0.006
% of Var.	0.551	0.519	0.455	0.389	0.379	0.323	0.292	0.015
Cum. %	97.627	98.146	98.600	98.990	99.369	99.692	99.985	100.000

Table no.5 shows Eigen values and from these we observe that Factor 1 contributes 29.24% to the present research, Factor 2 contributes 9.10% & Factor 3 contributes 5.66%. The authors have elaborated on first

three factors in the present study, which contribute approximately 44%. These three factors are described in the **table no.6** – factor loadings.

Table no.6 – Varimax rotation – factor loadings

Varimax rotation - factor loadings			
Variable	Factor 1	Factor 2	Factor 3
Focus	0.067	0.736	0.080
Determination	0.054	0.747	0.070
Emotional stability	0.422	-0.348	0.128
Learning attitude	-0.099	0.584	0.045
Respect for authority	-0.184	0.502	0.233
Need for mentor	-0.327	0.601	0.054
Team work	-0.295	0.553	-0.158
Sharpening of skills	0.414	-0.216	0.589
Knowledge development	0.071	0.526	0.366
Politeness	-0.439	0.434	0.296
Multi-tasking	-0.132	0.700	-0.219
Compassion	0.214	-0.023	0.302
Punctuality	0.567	-0.310	0.207
Discipline	0.248	0.121	0.113
Code of conduct	-0.371	0.351	0.288
Domain knowledge	0.545	-0.083	0.156
Ready to sacrifice	-0.067	0.453	-0.142
Hard working	0.418	-0.214	0.602
Corporate etiquette	0.479	-0.349	0.157
Crisis management	0.026	0.238	0.383
Respect for other culture	0.430	0.095	-0.075
Output orientation	0.647	-0.063	0.027
Sense for detail	0.593	-0.156	0.257
Courage	0.493	-0.142	0.184
Understanding limits	0.762	-0.121	0.004
Positive mindset	0.822	-0.073	0.081
Good listener	0.775	-0.089	0.221
Having vision	0.750	-0.103	0.110
Action oriented	0.525	-0.034	0.138
Diligence	0.670	-0.167	0.356
Commitment	0.681	-0.286	0.036
Stress management	0.669	-0.041	-0.054
Confidentiality	0.731	-0.177	0.045
Work ethics	0.716	-0.140	0.033
Patience	0.693	-0.064	-0.103
Learning from own mistakes	0.740	-0.165	-0.125
Expressiveness	-0.328	0.159	0.622
Consistency	0.632	-0.195	0.180
Persistence	0.124	0.017	0.640

Table no.6 shows factor loadings. On one degree of freedom the authors have extracted 39 factors from 40 variables. After verifying reliability and scale of the data factor analysis by using varimax rotation, factor loadings are calculated. The varimax method is the most popular among these techniques and is often used to make principal components analysis (PCA). The procedure seeks to rotate factors so that the variation of the squared factor loadings for a given factor is made larger. From the factor loadings the following factors were extracted. **Factor 1** includes the following qualities: positive mindset (0.822), good listener (0.775), understanding limits (0.762), confidentiality (0.731), work ethics (0.716), learning from own mistakes (0,740), having

vision (0.750), stress management (0.669), output orientation (0.647), commitment (0.681), patience (0.693), diligence (0.670), consistency (0.632), punctuality (0.567), domain knowledge (0.545), action oriented (0.525), sense for detail (0.593), courage (0.493), and corporate etiquette (0.479). **Factor 2** includes the following qualities: focus (0.736), determination (0.747), multi-tasking (0,700), and need for mentor (0.601). **Factor 3** includes the following qualities: expressiveness (0.622) and persistence (0.640). From the above factor analysis, we perceive that the above-mentioned qualities of Arjuna play a vital role in

the day-to-day management, effectiveness and decision-making process for present day corporate managers.

Table no.7

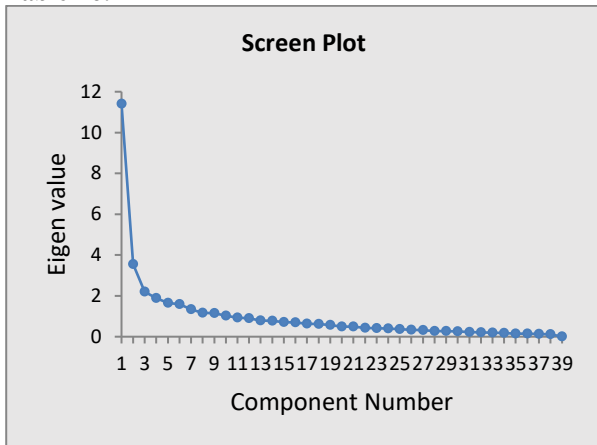


Table no.7 is showing a screen plot. This plot proposes to stop analysis at the end of the steep curve. In this instance, that point coincides with the Eigen value criterion.

Table no.8 - ANOVA Test

Analysis of Variance					
Source	Type III SS	Df	Mean Sq	F	P
Model	2628.125	39	69.161	69.226	0.000
Error	4831.456	4836	0.999		
Total	7459.581	4874			

The authors have tested the H_0 and H_1 hypothesis by using ANOVA method. It is observed that p-value is 0.000 hence H_0 hypothesis is rejected and H_1 hypothesis is accepted i.e., Arjuna’s personality traits contribute a significant role among executives in the present-day corporate world.

Conclusion & Results

We have assessed Arjuna’s personality traits in the context of the present-day corporate world. We find that his character and qualities: positive mindset, listening skills, understanding limits, confidentiality, work ethics, learning from mistakes, vision, focus, determination, multi-tasking, stress management, patience, diligence, consistency, expressiveness and persistence stand out and make Arjuna a model personality for today’s managers.

From the life of Arjuna and his state of mind before the battle of Kurukshetra (Bhaktivedanta Swami, 1972; 1.29-30) we assume that there are people who are well qualified strategists. However, at critical times in spite of having all the expertise and competencies, anyone can make mistakes if one doesn’t have the sufficient mental strength. Arjuna was a dynamic man of action and achievements, but what happened to this courageous Arjuna was something strange and unusual. Once on the battlefield, Arjuna fell into depression and Lord Krishna brought him out through the Bhagavad Gita. Arjuna

learned from his mistakes and with focus and determination he has overcome his shortcomings. We fall into depression again & again in the battlefield of our life. It is therefore essential that we keep on reading the Bhagavad Gita As It Is again and again to realize how to deal with difficult situations. As Krishna’s counseling to Arjuna progressed then Arjuna’s consciousness was elevated, he became more polite and his language also improved. There was a change in Arjuna’s understanding & conviction (Charan, 2021; p. 11-12). Arjuna was completely absorbed in thought on: “Who am I?”; “What is this war about?”; “What is my role in it?”; “What is my duty and responsibility now?”; “What is my real nature?”; “What’s my true identity?” Arjuna got all answers to his questions from Krishna in Bhagavad Gita. There was not just a change in Arjuna’s body condition, but there was enormous change in his mindset and behavioral thinking pattern after hearing Krishna’s words. Gita transformed Arjuna’s consciousness level from mental to spiritual. He was elevated to the highest level of consciousness and become an excellent warrior becoming a role model for the mankind, for the devotees & also for the working executives in the corporate world.

Information of Compliance with ethical standards

1. Funding: This research study is funded by the co-authors themselves. No consultancy, company or business enterprise sponsored funds for this research study.
2. Competing interest: The authors don’t have any competing interest for any reason or any purpose.
3. Human and Animal Rights: This research paper does not contain any tests, experiments or studies conducted or performed on animals. Humans or Animals have NOT been harmed directly or indirectly in this research work.
4. Informed Consent: wherever applicable, the same has been obtained from all the respondents and individuals who were included in the study of this research paper.

Scope for Future Research

The further study should be more comprehensive and specific statistical models can be designed based on quantitative analysis. A leadership competency framework, competency mapping and skill matrix based on Arjuna’s competent qualities can be designed. A specialized study and research on this subject can be conducted especially for MBA and students of multiple specializations in the academia so that Arjuna’s skills are identified and imparted by the educational institutions to the budding leaders of tomorrow especially by the business schools. The research covered generalized population from multiple sectors. Further research can be conducted for specific sectors and especially for the leadership bandwidth.

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Role of Information Technology in Banking Sector in India

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ABSTRACT

Liberalization and Information technology has attracted many foreign banks to India, thereby opening up new markets, new products and efficient delivery channels for the banking industry. In the development of Indian Economy, Banking sector plays a very important and crucial role. With the use of technology there had been an increase in penetration, productivity and efficiency. It has not only increased the cost effectiveness but also has helped in making small value transactions viable. It also enhances choices, creates new markets, and improves productivity and efficiency. It has been noticed that financial markets have turned into a buyer's markets in India.

Commercial Banks in India are now becoming a one-stop Supermarket. The focus is shifting from mass banking to class banking with the introduction of value added and customized products. Technology allows banks to create what looks like a branch in a business building's lobby without having to hire manpower for manual operations. The branches are running on the concept of 24 X 7 working, made possible by the use of Tele banking, ATMs, Internet banking, Mobile banking and E - banking. These technologies driven delivery channels are being used to reach out to maximum number of customers at lower cost and in most efficient manner. The beauty of these banking innovations is that it puts both banker and customer in a win- win situation. Effective use of technology has a multiplier effect on growth and development.

Keywords: ATMs, Commercial Banks, E - banking, Internet Banking, Information Technology, Liberalization, Mobile Banking, Telebanking.

Introduction

The banking industry of India is in the midst of an Information technology revolution. A combination of regulatory and competitive reasons has led to increasing importance of total banking automation in this industry. Information technology has basically been used under two different avenues in banking. One is communication and connectivity and other is business process reengineering. Information technology enables sophisticated product development, better market infrastructure, implementation of reliable techniques for control of risks and helps the financial intermediaries to reach geographically distant and diversified markets.

Information technology has changed the contours of three major functions being performed by the banks viz. access to liquidity, transformation of assets and monitoring of risks. Further, information technology and the communication networking systems have a crucial bearing on the efficiency of money, capital and foreign exchange markets.

The software packages for banking applications in India had their beginnings in the middle of 80s, when the banks started computerizing the branches in a limited manner. The early 90s saw the plummeting hardware prices and advent of cheap and inexpensive but high-powered PCs and servers. The commercial banks went in for Total Branch Automation Packages for computerization. The middle and late 90s witnessed the tornado of financial reforms, deregulation, globalization etc. coupled with rapid revolution in communication technologies and evolution of novel concept of 'convergence' of computer and communication technologies, like internet, mobile/cell phones etc. It changed the face of Indian banking system completely.

Literature Review

Sharma M.C. and Sharma Abhinav reported that Indian public sector banks that hold around 75 % of market share do have taken initiative in the field of IT. They are moving towards the centralized database and decentralize decisions making process. They possess enviable quality manpower. Awareness and appreciation of IT are very much there. What is needed is a 'big push' the way it was given in the post nationalization period for expansionary activities. Sreelatha T and Chandra Shekhar Reveled that Technology has charged the face of the Indian banking sector through computation, while new private sector banks and foreign banks have an edge in this regard. Among the total number of public sector bank branches, 97.8 percent are fully computerized at end – March 2010 whereas all branches of SBI are fully computerized. Dhingra Sanjay explained that there are at least five different types of approaches in the literature that have been employed in measuring IT

effectiveness. Of those, three are econometric approaches i.e. stochastic frontier approach (SFA), distribution-free approach (DFA) and thick frontier approach (TFA), which are parametric, and two linear programming approaches which are nonparametric i.e. data envelopment analysis (DEA) and free disposal hull (FDH). Most of studies on banking have used either SFA or DEA approach to calculate the effectiveness.

Research Methodology

The meaning of research as “a careful investigation or inquiry especially through search for new facts in any branch of knowledge.” Research is an academic activity and as such they should be used in a technical sense .some people consider research as a movement, a movement from the known to unknown. It is actually voyage of discovery.

Objectives of the study

The study has following objectives:

1. To find out the progress of computerization in all the public sector banks of India.
2. To analyze the banking innovations after computerization of public sector banks of India.
3. To analyze the ATM progress in the public sector banks of India.
4. To identify challenges in the implementation of I.T. solutions in the public sector banks of India.

Sources of Data Collection

The present study is based on the secondary data collected from different journals, magazines, sites and published data from various issues of RBI and different Public sector banks. Various studies on this subject have also been referred in this study. The heads and other functionaries have also been contacted personally to collect the required data for this study.

Type of Research design

Researcher has collected database through the exploratory research design.

Significance of the study

The use of Information Technology in all spheres of financial and banking sectors is a deep reality. The sector has enabled the banking sector to go beyond its traditional role and is now playing an increasingly important role in its key areas of operation as securitization, risks preference and liquidity among others to which IT helps in a big way. It has assumed such high levels that it is no longer possible for banks to manage their IT implementations on a standalone basis. With I.T. revolution, banks are increasingly interconnecting their computer systems not only across branches in a city but also to other geographic locations which high-speed network infrastructure and setting up

local areas and networks are now exposed to a growing number. The customers have high expectations and have become more demanding now as they are also more techno-savvy as compared to their counterparts of the yesteryears. They demand instant, anything and anywhere banking facilities. Though Reserve Bank of India has formulated many policies on adoption of I.T. in the overall working of the commercial banks in India, yet there is an urgent need to address the issues involved in this respect to compete with the banks at international level. As such there is a great need to focus more on this aspect. The present study helps a lot in this regard.

Limitations of the study

This research work carried out on the basis of secondary data only. Another important thing observed that duration of time. With this both limitation researcher tried to collect maximum database for this research study.

Analysis and Findings

Technology has changed the face of the Indian banking sector through computerization. Though the new private and foreign sector banks have an edge at present, yet public sector banks have also made a significant progress in this regard. The analysis of the data collected from various banks has been done under the following heads:

(a) Computerization in Banks

Among the total number of public sector bank branches, 97.8 percent are fully computerized at the end of March 2010 whereas all branches of SBI are fully computerized.

Table -1: Computerization in Public Sector Banks (As on 31st March 2010)

Sr. No.	Name of the Bank	Branches under Core Banking Solutions %	Branches Fully Computerized %	Fully Computerized Branches (2+3) %	Branches Partially Computerized %
	Public Sector Banks	90.0	7.7	97.8	2.2
	Nationalized Bank	85.9	10.9	96.9	3.1
1	Allahabad Bank	39.9	59.9	99.8	0.2
2	Andhra Bank	100.0	-	100.0	-
3	Bank of Baroda	100.0	-	100.0	-
4	Bank of India	100.0	-	100.0	-
5	Bank of Maharashtra	100.0	-	100.0	-
6	Canara Bank	59.4	40.6	100.0	-
7	Central Bank of India	34.2	51.6	85.7	14.3
8	Corporation Bank	100.0	-	100.0	-
9	Dena Bank	100.0	-	100.0	-
10	Indian Bank	100.0	-	100.0	-
11	Indian Overseas Bank	100.0	-	100.0	-
12	Oriental Commerce Bank	100.0	-	100.0	-
13	Punjab National Bank	100.0	100.0	100.0	-
14	Punjab and Sind Bank	-	13.3	13.3	86.7
15	Syndicate Bank	100.0	-	100.0	-
16	UCO Bank	100.0	-	100.0	-
17	Union Bank of India	100.0	-	100.0	-
18	United Bank of India	100.0	-	100.0	-
19	Vijaya Bank	100.0	-	100.0	-
	State Bank Group	100.0	-	100.0	-
20	State Bank of India	100.0	-	100.0	-
21	State Bank of Bikaner & Jaipur	100.0	-	100.0	-
22	State Bank of Hyderabad	100.0	-	100.0	-
23	State Bank of Indore	100.0	-	100.0	-
24	State Bank of Mysore	100.0	-	100.0	-
25	State Bank of Patiala	100.0	-	100.0	-
26	State Bank of Travancore	100.0	-	100.0	-
#: Other than branches under Core Banking Solutions					
Note : Data for IDBI Bank Ltd. is not available					

Source: Data furnished by respective banks.

(b) Banking Innovations

Today we have electronic payment system along with currency notes. India's financial sector is

moving towards a scenario, where it can have new instruments along with liquidity and safety. Migration from cash and cheque based payment system. It has become a necessity to electronic fund transfer system on account of the following reasons:

1. Large volumes of transaction,
2. High cost of physical handling and storage of paper instruments.
3. Delay in realization is a common feature.
4. Finality of payment takes time because the physical movement of instruments in large volumes from branches to and from clearing house, and sorting them according to each bank branch at the center creates problems

The two most common technologies used for electronic payments are as follows

(i) National Electronic fund Transfer (NEFT) :

It is a nation-wide payment system facilitating one-to-one funds transfer. Under this Scheme, individuals, firms and corporate can electronically transfer funds from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country participating in the Scheme. For being part of the NEFT funds transfer network, a bank branch has to be NEFT- enabled.

(ii. Real Time Gross Settlement (RTGS)

The acronym RTGS stands for Real Time Gross Settlement. RTGS system is a funds transfer mechanism where transfer of money takes place from one bank to another on a real time and on gross basis. This is the fastest possible money transfer system through the banking channel. Settlement in real time means payment transaction is not subjected to any waiting period. The transactions are settled as soon as they are processed. Gross settlement means the transaction is settled on one to one basis without bunching with any other transaction. Considering that money transfer takes place in the books of the Reserve Bank of India, the payment is taken as final and irrevocable.

RTGS volume crossed 0.3 million transactions twice during March 2012 and the necessary resource augmentation was undertaken to handle the high transaction volumes. In view of the increasing volumes, as also other business requirements, the Reserve Bank is in the process of replacing the existing RTGS with NG-RTGS, which provides more functions and facilities. The NG-RTGS is expected to adopt the emerging messaging standards.

The table below indicates the various payment indicators along with their annual turnover.

Table-2: Payment System Indicators - Annual Turnover

Item	Volume (million)			Value (₹ trillion)		
	2009-10	2010-11	2011-12	2009-10	2010-11	2011-12
1	2	3	4	5	6	7
Systemically Important Payment Systems (SIPS)						
1. RTGS	33.2	49.3	55	322.8	394.5	484.9
Total SIPS (1)	33.2	49.3	55	322.8	394.5	484.9
Financial Markets Clearing						
2. CBLO	0.1	0.2	0.1	155.4	122.6	111.6
3. Government Securities Clearing	0.4	0.4	0.4	89.9	69.7	72.5
4. Forex Clearing	0.9	1.2	1.3	142.1	191.6	222
Total Financial Markets Clearing (2-4)	1.4	1.7	1.9	387.4	383.9	406.1
Others						
5. MICR Clearing	1,149.70	1,155.10	1,114.50	85.3	83	80.2
6. Non-MICR Clearing	230.6	232.3	227	18.8	18.3	18.8
Retail Electronic Clearing						
7. ECS DR	149.3	156.7	164.7	0.7	0.7	0.8
8. ECS CR	98.1	117.3	121.5	1.2	1.8	1.8
9. EFT/NEFT	66.3	132.3	226.1	4.1	9.4	17.9
Total Retail Electronic Clearing	313.7	406.3	512.3	6	11.9	20.6
Cards						
10. Credit Cards	234.2	265.1	320	0.6	0.8	1
11. Debit Cards	170.2	237.1	327.5	0.3	0.4	0.5
Total Cards	404.4	502.2	647.5	0.9	1.1	1.5
Total Others (5 to 11)	2,098.40	2,295.90	2,501.30	110.9	114.4	121.1
Grand Total (1-11)	2,133.00	2,346.90	2,558.20	821.1	892.9	1,012.00

Note:

1. Data for MICR clearing include data for high value clearing (HVC) for the year 2009-10. HVC was a special clearing of cheques for ` 0.1 million (later changed to `1 million) and was discontinued from April 1, 2010.
2. At the end of April 2012, MICR clearing was available at 64 centres (66 centres during the previous year) and the cheque truncation system (CTS) is available at two centres, namely New Delhi and Chennai. Full cheque clearing volume at New Delhi and Chennai has been migrated to CTS from July 2009 and March 2012 respectively. The CTS data is part of the MICR data clearing.
3. Settlement of government securities clearing and forex transactions is through the Clearing Corporation of India Ltd (CCIL).
4. The figures for cards are for transactions at POS terminals only.
5. Transactions pertaining to pre-paid instruments (PPI) and mobile banking for a value of `62 billion and `18.21 billion respectively have not been included in the retail electronic clearing.

(i) Promoting Electronic Modes of Payment

The Reserve Bank vigorously promotes the use of electronic modes of payment over paper based payments, as they are safe, secure, cost-effective and more efficient. The various security measures in card payment systems and the guidelines for intermediaries have also contributed to the safety of the system, resulting in the increased use of electronic payments

The increase in the spread of NEFT to 86,449 branches and RTGS to 84,638 branches as at end-May 2012 underscores the success of various policy initiatives in this regard. Further, the rationalization of the access criteria norms, including the option of sub-membership, is expected to increase the electronic payment products that banks offer to their customers.

To provide a fillip to the growth of the electronic payment system, the Reserve Bank had waived processing charges in March 2006. These have been re-introduced from July 1, 2011 by way of a service charge from originating banks to provide adequate compensation to banks that manage the operations and the destination bank. Along similar lines, service charges in the RTGS system were introduced from October 1, 2011 to recover operational costs and to bring further efficiency in the system. The RTGS service charges have been introduced with three sub-components: monthly membership fee, transaction fee, and time varying tariff. Member banks are permitted to pass on only the time varying tariff to their customers.

Reflecting these measures, transactions under NEFT grew by 71 per cent (volume) and 91 per cent (value) during 2011-12. The volume and value of gross transactions in RTGS also registered a growth of 11.7 per cent and 11.2 per cent respectively, during 2011-12. The value of gross transactions in RTGS constituted 51 per cent of the total value of non-cash payments during 2011-12.

The increasing usage of alternate modes of payments, such as credit cards, debit cards, PPIs and mobile payments has accelerated the growth of non-cash and non-paper based mode of payments. The use of both debit and credit cards at POS were at par in 2011-12; however, usage in value terms is still tilted towards credit cards.

PPIs registered a significant growth of over 67 per cent (in value terms) during 2011-12 and constituted 36.3 per cent of the total card segment in the country, with paper vouchers accounting for the bulk. As of end-March 2012, 39 banks (including the Department of Post) and 20 non-bank entities were authorized to issue PPIs in India. The launch of e-wallets by non-banks reflects the significant opportunity for mobile wallets and magstripe cards to increase their overall share in the PPI market.

To encourage the use of mobile phones as a channel of payment, India has adopted a bank led mobile payment model. As at end-March 2012, 49 banks with a customer base of 13 million provided mobile banking service in India. During the year 2011-12, 25.6 million mobile banking transactions valued at `18.2 billion were transacted, thus registering a growth of 198 per cent and 174 per cent, respectively, over the previous year.

(ii) Card Payments:

The Reserve Bank has mandated additional factor of authentication for the use of cards issued by banks in India. Accordingly, banks have implemented the same for all on-line card-not present (CNP) transactions (e-commerce, m-commerce and interactive voice response). The mandate has been extended to include all mail order telephone order and standing instructions by May 1, 2012, with the additional caveat that in the case of customer grievance for transactions effected without the additional authentication after the stipulated date, the issuer bank shall reimburse the loss to the customer without demur.

As part of the measures to contain the risk in card present transactions, the Reserve Bank in March 2011 constituted a working group on CP transactions to study and recommend an action plan to foolproof the system. The Reserve Bank has since advised banks and other stakeholders to implement the necessary measures ¹ within the stipulated time-frame.

(d) Growth of ATMs in India:

Even though ATM originally developed for cash dispenses, now it includes many other bank related functions such as- cash withdrawal, paying routing bills fees and taxes, printing bank statements, funds transfers, purchasing online products, train tickets reservations, products from shopping mall, donations and charities, adding pre-paid cell phone/mobile phone credit, advertising channels for own or third party products and services and payment of insurance premiums.

Table-3: ATM Strength (as on 31st March 2011)

Banks	Number
Public Sector banks	49,487
Private Sector banks	23,651
Old Private sector banks	4,126
Foreign Banks	1,367
Total	74,505

About 70% of the total ATMs are in urban/metro areas. Public Sector banks have stronger reach in rural areas (SBI)

The use of electronic payment has witnessed manifold increase, partly reflecting increased adoption of technology. The growth of volume of ATMs indicates that customer most prefer ATMs for transactions. ATMs provide different kinds of services per customer. According to data from National Payments Corporation of India, the number of ATMs in the country — of private, public, foreign and cooperative banks, part of the National Financial Switch connecting all ATMs — had reached 98,025 by the end of April 2012.

(e) Corporate Internet Banking:

The Internet has initiated an electronic revolution in the global banking sector. Its dynamic and flexible nature as well as its ubiquitous reach has helped in leveraging a variety of banking activities. The Internet has emerged as one of the major distribution channels of banking products and services for banks in the U.S and in European countries. Consumers are embracing the many benefits of Internet banking like improved customer access which facilitates the offering of more services, attract new customers and reduce customer attrition. The followings are the advantages of Internet Banking:

Advantages to customers:

Banking from your desk: - with e-banking services, one can actually carry out a number of

transactions sitting on one's seat with just a few click. Net banking customers view their account balance and also open fixed deposits, transfer funds, pay electricity, telephone or mobile phones bills and much more.

Instant information: The accounts of the customers are updated as soon as the transaction takes place i.e., the accounts show the information updated to the last second. This means if a cheque issued by you has been debited from your account in the morning, your account status will reflect this when you log in to your accounts in the afternoon as against the earlier updating at the end of the day.

Advantages to the banks:

Lesser personnel required: online banking has encouraged a chunk of people, though a smaller one to carry out most of their transactions from a distance. This has resulted in lesser pressure on the employees in terms of entertaining customers. Easy publicity: banks can easily pass on the information about their new avenues/schemes without any wastage of time. Customers interested in the schemes would revert back and can be attended to later.

(f). Payment Systems by RBI: Inter-bank Clearing System, High Value Clearing System, MICR Clearing System, Government Securities Clearing System and Real Time Gross Settlement System

Dimensions of IT Innovation

(a). Electronic-only retail commercial banking

(i) Potential for Electronic-only Retail Commercial Banking

1. Greater price transparency.
2. Greater convenience to customers (including congenial resolution of customer complains through electronic media).
3. Each customer segment interacts with the bank through the most cost effective distribution channel.
4. Innovations (such as smart cards and digital cash) that circumvent banks' proprietary networks with alternative distribution or payment systems.
5. Creation of new customer segments and improved relationship banking.

(ii) Challenges in Electronic-only Retail Commercial Banking

1. Each new technological innovation accounts for (proportionally) smaller reductions in price differentials.
2. Bank customers remain unwilling to pay for interfaces for the new technology, while merchants expect to share the revenue of new payment media through lower commission charges.

3. Defection rates remain low thanks to the inertia of bank customers, which has been historically high.
4. Unknown brand name and associated high marketing expenditure (to attract long-term core deposits)002E

(b). Operational Function Innovation

(i). Potential for electronic-only retail commercial banking

Enhanced financial performance due to reductions in overhead expenses (i.e. no retail branch network) which are not offset by reductions in revenue or increases in other expenses. Standardization of activities in payment and lending services eliminates the uniqueness of banks' proven expertise and ability to control losses from payment activities efficiently access to a much wider base of depositors and high rates of asset growth

(ii). Challenges for Electronic-only Retail Commercial Banking

1. The possibility of scale economies make it very hard for potential entrants to catch up, even with technically better systems.
2. Continued importance of contextual non - standardized elements to assess risk.
3. The potential for fraud, money laundering and systemic failure requires supervision, regulation and minimum capital requirement.
4. More specialized (and expensive) labor force.

Conclusion

The cut throat competition and increasing expectation of customers had resulted in increased awareness on information technology among the commercial banks in India. The arrival of foreign and new private sector banks with their superior technology based services has also forced the commercial banks in India to switch over to the new technology in their day to day operations. The use of technology in expanding banking sector in India is one of the key focus areas not only for commercial banks but for the policy makers also. The banks in India are using Information Technology not only to improve their own internal processes but also to improvise facilities and services to their customers. The efficient use of technology has facilitated accurate and timely management of the increased transaction volumes of banks which comes with larger customer base. Indian banking industry is greatly benefiting from I.T. revolution all over the world. It enabled sophisticated product development, better market infrastructure, implementation of reliable techniques for control of risks and has helped the financial intermediaries to reach geographically

distant and diversified markets. The Information Technology Act, 2000 has also provided the much needed legal recognition to the creation, transmission and retention of an electronic or magnetic data which can be treated as a valid proof in a court of law, except in those areas, which continue to be governed by the provisions of the Negotiable Instruments Act, 1881. By designing and offering simple, safe and secure technology, banks reach at the doorsteps of the customers with an objective of ‘delight customer satisfaction’. In fact Information technology has succeeded in creating a win- win situation for all concerned segments in India.

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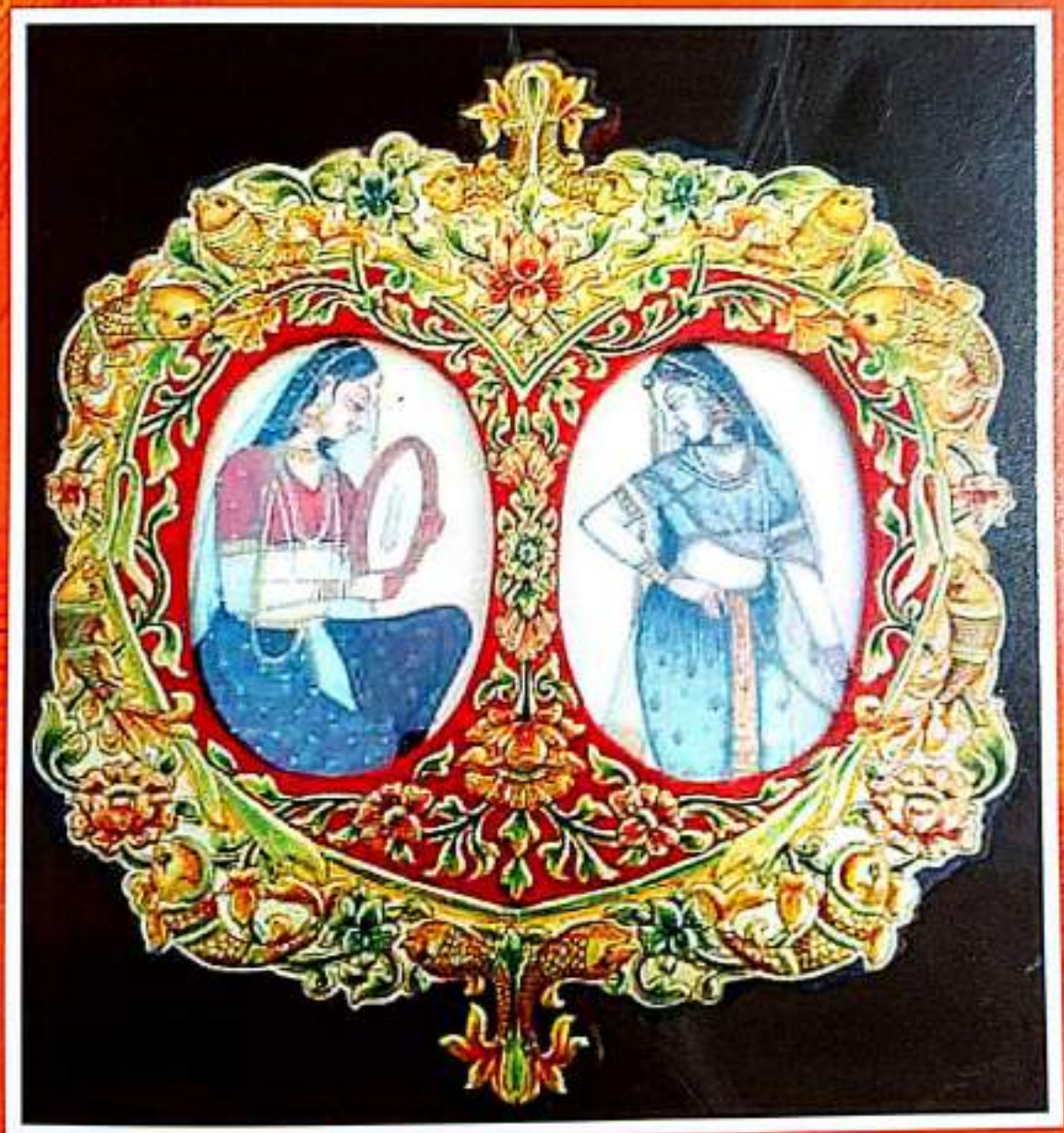
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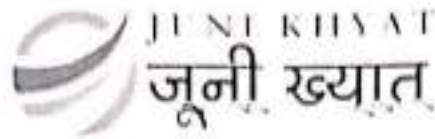
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SUSTAINABLE INVESTMENT THROUGH INITIAL PUBLIC OFFER: A CASE STUDY OF INDIA

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Abstract

In today's fast moving and dynamic world, short-term investors face difficulty while choosing which avenue to invest in. Investors view investment in securities as a highly risky avenue due to VUCA (Volatility, Uncertainty, Complexity and Ambiguity) pertaining to future movement of security prices. The study has been carried out to analyse the post-Initial Public Offer (IPO) performance of various companies that have gone public in 2021 using event study methodology. The study also tries to determine whether these IPOs were underpriced in short run and identifies various factors that influence the movement of such IPOs in the short run. The study found that about 70 per cent of the selected IPOs are underpriced in short run and the movement of these IPOs in short run is not influenced by the age of the company, issue size of the IPO, ownership sector and the promoter's holdings after the issue.

Keywords : Investors, IPO, underpriced, VUCA, short run and issue size

Introduction

In recent years, there has been a tremendous increase in the number of Indian firms which went public. These firms aim to obtain funds for various purposes such as expansion, diversification, financing their working capital needs, purchasing an asset, debt reconstruction, etc. One of the major sources of raising required funds for these firms is by opting for an Initial Public Offer (IPO). Chauhan defined an IPO as a process of selling of securities to the public in the primary market.

Since opening up of the economy in 1991, the Indian IPO has witnessed various reforms, policy changes, technological advancements and restructuring. As a result, the Indian IPO market has been booming tremendously as the number of companies going public and issuing equity shares in the capital market have increased rapidly. Narang (2017) said that issuing companies rigorously try to achieve full subscription by attracting all the potential investors and aim at fixing the prices of IPO in a better way by strengthening their understanding of the price behavior of IPOs.

The year 2021 can be regarded as the golden year for the Indian IPO market as the total capital mobilized through IPOs hit a 10-year high in 2017. A total of US\$35.6 billion was raised by over 150 companies, including small- and medium-sized enterprises, the highest since 2011. The year 2021 saw many of the IPOs giving investors positive returns with few of them giving as high as 500 per cent returns during the same day. On the other hand, nearly 50 per cent of the companies which issued IPOs in 2021 outperformed the market since their issuance. This clearly indicates that when compared to equity market, the risk faced by the investors in the primary market is not any lower. Thus, this shows that the odds are clearly against the investors and they need to take utmost caution while investing in IPOs today.

Due to the existence of high risk while investing in an IPO, the investors face a dilemma of whether to invest in IPOs or not and thereby come across various questions such as what are the various factors that affect the post-IPO performance? What should be the time horizon for investment in IPOs to maximize the returns in short run? How is the valuation of IPOs done? Thus, the study has been undertaken

To analyze the initial day returns as well as following days return over and above the benchmark index for selected companies issuing IPO in 2021 by using event study methodology and to identify various factors that influence the return performance of IPOs in Indian Stock Market.



Literature Review

1. Hawaldar, Naveen Kumar and Mallikarjunappa (2018) found book-built IPOs are underpriced compared to fixed-price IPOs by lower magnitude.
2. Malhotra and Premkumar (2017) found underperformance of IPO in the long run. Furthermore, they observed no significant impact of firm age, company size and time lag on the performance of IPO issue.
3. Hoechle, Karthaus and Schmid (2017) observed underperformance of matured firms over years.
4. Peomina, Haaji and Deeplia (2016) observed IPOs can be considered as both long-term investment tool and speculative tool.
5. Ambily (2016) found that majority of IPOs gave positive returns and largely the investments in these IPOs were done on the basis of company's image rather than fundamental analysis.
6. Devarajappa and Tamragandi (2014) found that the fluctuations in the returns from a particular stock are influenced by various factors such as the performance of companies, speculation and other external factors.
7. Mittal, Gupta and Sharma et al. (2013) studied the performance of IPOs across various sectors, over different time frames and tried to determine the impact of performing sectors on non-performing sectors. The results of the study indicated that the public sector stocks performed well in both short run and long run and outperformed other sectors too. The manufacturing sector appeared to be performing the least in the short run as well as in the long run.
8. Sahoo and Rajib (2010) studied the price performance of 92 IPOs issued during the years 2002–2006 up to a period of 36 months including listing day. The study found that Indian IPOs were underpriced by 46.55 per cent on listing day when compared to market index. The study also brought to light that investors who invested in the IPOs through direct subscription earned positive returns throughout the 36 months and the investors who invested in IPOs on listing date earned negative return up to 12 months after which they earned positive returns.
9. Sabarinathan (2010) studied the changes in the characteristics of companies which went public during the periods 1993–1994 and 2008–2009. The study concluded that although, over the years, only lesser number of firms were going public, the size of the firms was increasing simultaneously.
10. Vong and Trigueirosn (2009) found that IPO returns remained positive in terms of expected returns and majority of the investors except the small investors remained unaffected by risk-free rate of return and transaction costs.
11. Anjana and Kunde (2009) studied 110 IPOs during the period of January 2006 to April 2007. They found that out of 110 IPOs, 104 IPOs gained on first day of trading. They also found that IPOs performed well in both short run and long run. These stocks recorded an average of 33 per cent returns on the listing day.
12. Ishwara (2009) studied the performance of 107 IPOs during the financial year 2007–2008. The study found that only 86 companies recorded positive returns on both NSE and BSE on the listing day and the remaining stocks recorded negative returns. They also found that during bullish market conditions majority of the companies were traded for high prices and provided positive returns to the investors.
13. Deb (2009) studied the under pricing for 187 IPOs during the period from 2001 to 2009. The researchers found that even though nearly half of the IPOs were underpriced during the period of study, the mispricing adjusted very quickly and thus the investors could not reap benefits of excess returns in the long run. The researcher found that there existed a strong positive relationship between under pricing and ex ante and ex post measures of uncertainty. Pande and Vaidyanathan (2009) found a positive relationship between first day underpricing and listing

day, money spent by companies on marketing and demand generated during book building process.

14. Shelly and Singh (2008) studied the relationship between oversubscription and various variables for 1,963 IPOs listed on BSE. They found that there existed a positive relationship between under pricing, reputation of lead manager, the age of the company and oversubscription for selected IPOs.
15. Garg, Arora and Singla (2008) found that the stocks were significantly underpriced in the short run and overpriced in the long run. The study also found that there was no significant difference between opening price returns and closing price returns and there was no difference between under pricing in hot and cold period. However, the study also observed that the under pricing significantly differed in bearish and bullish markets.
16. Firth and Wang (2008) studied the relevance of price earnings multiples on the IPOs issued during the period 1992-2002 as disclosed by manager in IPO prospectus in China. The research found that there existed an impact of price earnings multiples on formation of price of securities.
17. Xiaozhou, Jin and Hong (2008) found that there existed no significant relationship between the level of pre-IPO earning management and abnormal return.
18. Dolvin and Pyles (2007) found existence of high level of under pricing for IPOs that went public during fall and winter period. The study also found that there existed an impact of emotions of buyers on pricing of IPOs.
19. Paleari and Vismara (2007) found that post-IPO growth was lower than the expected growth and the forecast errors were affected by forecasted growth, sentiments of the market and size of the firm.
20. Hill (2006) found that there was no significant relationship between IPO under pricing and post-IPO shareholding pattern of selected firms.
21. Prasad, Vozikis and Ariff (2006) found the existence of higher under pricing in Malaysia when compared to developing nations. They also concluded that there exists a positive relationship between first day under pricing and government regulatory intervention.

Objectives

1. To analyse post-IPO performance of selected companies.
2. To identify whether the IPOs of selected companies are underpriced, fairly priced or overpriced.
3. To analyse the impact of various variables such as age of the companies, issue size of the IPO, ownership holding of such companies and the promoter's holdings after the issue on abnormal and total returns of selected Indian IPOs.

Research Hypothesis

H1: Indian IPOs are underpriced in the short run.

H2: There exists significant impact of various variables (age of the company, issue size of the IPO, ownership sector and the promoter's holdings after the issue) on the initial returns, abnormal returns and normal returns of 1st day and 30th day of all the selected IPOs.

H3: There is a significant difference among the mean abnormal returns and total returns of 1st day, 5th day, 9th day, 15th day and 30th day of selected Indian IPOs.

Research Methodology

1. Event Study: The study has been undertaken by using an event study, whereby the post-IPO short-run performance has been measured on 1st day, 5th day, 9th day, 15th day and 30th day of the IPO.

Selection of IPO: The IPOs have been selected on the basis of the year of issue. The study selected the IPOs issued in the year 2021 (January 2021 to September 2021).

2. Sources of Data: The data of all the selected IPOs have been collected from the annual report of selected companies and official website of National stock exchange (www.nseindia.com) website www.chittorgarh.com (Indian IPO investment portal) was used to get the details pertaining to IPOs. The daily data of market index, that is, Nifty 50 were collected from NSE website.

3. Analytical Tools: The study uses Correlation, Regression and ANOVA test to analyse the performance of selected Indian IPOs.

The study uses the following measures for analysis of the data:

- Primary Market Return = $\frac{\text{First Day's Opening Price} - \text{Issue Price}}{\text{Issue Price}} \times 100$
- Secondary Market Returns = $\frac{\text{First Day's Closing Price} - \text{First Day's Opening Price}}{\text{First Day's Opening Price}} \times 100$
- Total Return on First Day = $\frac{\text{First Day's Closing Price} - \text{Issue Price}}{\text{Issue Price}} \times 100$
- Raw Returns on Nth Day = $\frac{\text{Nth Day's Closing Price} - \text{Issue Price}}{\text{Issue Price}} \times 100$
- Market Return

= $\frac{\text{Closing Index Value on Nth Day} - \text{Closing Index Value on Last Day of Issue Period}}{\text{First Day's Opening Price}} \times 100$

- Abnormal Return = Raw Return - Market Return
- > If the Abnormal Return is positive, then it implies that the IPO is underpriced.
- > If the Abnormal Return is zero, then it implies that the IPO is fairly priced.
- > If the Abnormal Return is negative, then it implies that the IPO is overpriced.

a. Correlation: The correlation test is used to test the relationship among abnormal returns and normal returns of 1st day and 30th day of all the selected IPOs with the age of the company, issue size of the IPO, ownership sector and the promoter's holdings after the issue.

b. Regression Analysis: The study used regression analysis to analyse the impact of age of the company, issue size of the IPO, ownership sector and the promoter's holdings after the issue on abnormal returns and normal returns of 1st day and 30th day of all the selected IPOs, respectively

The study considers abnormal returns and normal returns of 1st day and 30th day as dependent variables. Furthermore, the study considers age of the company, issue size of the IPO, ownership sector and the promoter's holdings as independent variables.

The testing of these statistical tools involves estimating the following regression equation:

- > $TR_1 = \beta_0 + \beta_1 (\text{Age Comp}) + \beta_2 (\text{Issue Size}) + \beta_3 (\text{Prom Hold}) + \beta_4 (\text{Ownership Sector})$
- > $AR_1 = \beta_0 + \beta_1 (\text{Age Comp}) + \beta_2 (\text{Issue Size}) + \beta_3 (\text{Prom Hold}) - \beta_4 (\text{Ownership Sector})$
- > $TR_{30} = \beta_0 + \beta_1 (\text{Age Comp}) + \beta_2 (\text{Issue Size}) + \beta_3 (\text{Prom Hold}) + \beta_4 (\text{Ownership Sector})$
- > $AR_{30} = \beta_0 + \beta_1 (\text{Age Comp}) + \beta_2 (\text{Issue Size}) + \beta_3 (\text{Prom Hold}) + \beta_4 (\text{Ownership Sector})$

where TR_1 is the 1st day total return, AR_1 is the 1st day abnormal return, TR_{30} is the 30th day total return, AR_{30} is the 30th day abnormal return, β_0 is constant (C), β_1 is the regression coefficient of age of the company, β_2 is the regression coefficient of issue size, β_3 is the regression coefficient of promoter's holding after issue and β_4 is the regression coefficient of ownership sector.

c. ANOVA Test: The study used ANOVA test to verify the mean abnormal returns and total returns of 1st day, 5th day, 9th day, 15th day and 30th day of selected Indian IPOs are equal or not.

Data and Results:

Figures 1 and 2 clearly indicate that the year 2021 was the blockbuster year for IPOs as the selected 75 companies raised approximately INR 1, 19,000 crore through equity market route in 2021. Out of this 26 companies are taken as a sample for data and Results. This is nearly 4.5 times higher than the IPO

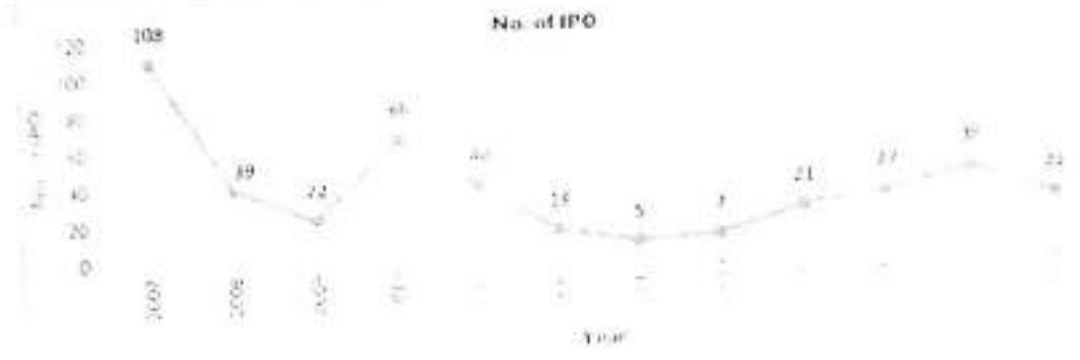


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fundraising in 2020. This is due to the addition of seven IPOs which received mega response of more than 10 times subscription. As far as the retail investors are concerned, 2021 witnessed very good response from them as well.



Source: Researcher's own calculation.



Source: Researcher's own calculation.

Table 1. Descriptive Statistics of Total Return

Particulars	First	Second	Day 1	Day 5	Day 9	Day 15	Day 30
N	26	26	26	26	26	26	26
Mean	23.674	0.617	24.577	20.858	30.260	30.527	31.498
Median	6.443	1.327	1.557	17.677	30.009	18.136	14.177
SD	36.591	7.884	39.596	39.267	47.992	47.562	54.498
Variance	6.049	2.807	6.192	6.266	6.927	1.927	1.292
CV	1.545	12.777	1.611	1.518	1.585	1.558	1.730
Kurtosis	3.272	0.813	3.764	0.728	2.260	2.172	1.239
Skewness	1.756	0.244	1.905	1.175	1.602	1.594	1.511
Maximum	139.954	20.00	15.54	24.898	174.47	43.260	140.17
Minimum	20.717	13.148	16.754	21.058	17.492	13.11	22.612

Source: Researcher's own calculation.

The results as shown in Table 1, the study indicates that the average returns of the selected 26 companies are increasing over a period of time with lowest mean return being observed on 1st day and highest mean return being observed on 30th day. The highest total return is being observed on 30th day and the lowest return being observed on 5th day. It is also observed that over the period of study the standard deviation and variance of data increases which implies that

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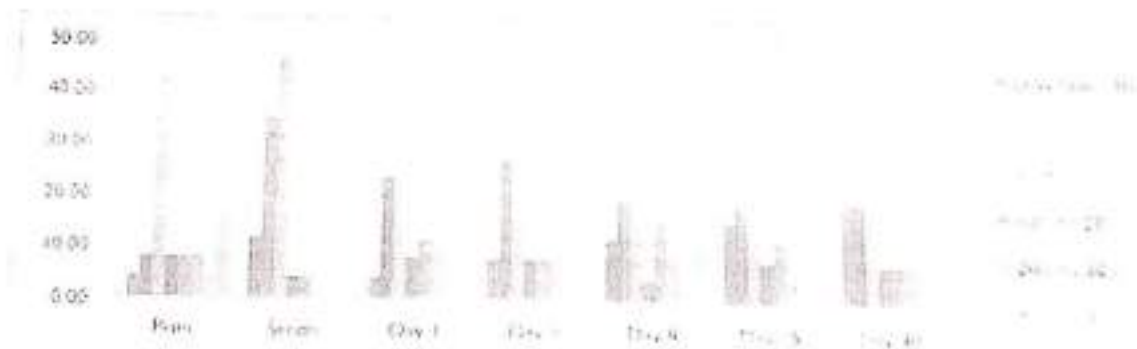

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the returns are not concentrated towards average and there exists large amount of variation. It is also observed that over the period of time there exists positive skewness which signifies that the returns are skewed right and the right tail of distribution is longer than left tail. On the other hand, on day 1 the value of kurtosis is more than three which signifies that distribution on first day is leptokurtic and on the other days the distribution is platykurtic.

Table 2. Frequency Distribution for Total Return

Total Return	Frequency	10%	20%	30%	40%	50%	60%	70%	80%
Day 1	Frequency	4	4	4	4	4	4	4	4
Day 1	Percentage	13.33	13.33	13.33	13.33	13.33	13.33	13.33	13.33
Day 5	Frequency	2	4	4	4	4	4	4	4
Day 5	Percentage	7.69	15.38	15.38	15.38	15.38	15.38	15.38	15.38
Day 9	Frequency	4	4	4	4	4	4	4	4
Day 9	Percentage	13.33	13.33	13.33	13.33	13.33	13.33	13.33	13.33
Day 15	Frequency	4	4	4	4	4	4	4	4
Day 15	Percentage	13.33	13.33	13.33	13.33	13.33	13.33	13.33	13.33
Day 26	Frequency	5	5	5	5	5	5	5	5
Day 26	Percentage	15.79	15.79	15.79	15.79	15.79	15.79	15.79	15.79

Source: Researcher's own calculation.



Graph 1. Frequency Distribution for Total Return

Table 2 and Graph 1 clearly show that by the end of 30th day, approximately 27 per cent IPOs give more than 50 per cent total return, whereas a total of 38.5 per cent of the total IPOs give less than 0 per cent returns to investors. It can also be seen from Table 2 that there has been substantial increase in the number of companies giving more than 50 per cent returns, whereas a fluctuation in number of firms giving less than 0 per cent return can be observed. It is also seen that around 40 per cent of stocks provide investors with around 10 per cent returns on first day. Further, it can be observed that only 23-27 per cent give investors 10-50 per cent from 1st day to 30th day.



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Particulars	Prms	Secom	Day 1	Day 3	Day 9	Day 15	Day 30
N	26	26	26	26	26	26	26
Mean	23.14	0.88	24.31	25.42	29.15	28.65	28.55
Median	7.57	1.40	8.26	12.02	19.10	15.19	10.56
SD	36.39	7.75	19.11	19.89	47.50	47.51	54.64
Kurtosis	3.29	0.78	3.64	0.73	2.30	2.13	1.2
Skewness	1.76	0.27	1.9	1.17	1	1.34	1.41
Maximum	139.00	20.01	51.45	125.27	169.21	57.47	158.98
Minimum	-22.14	13.27	10.14	24.92	16.53	16.73	29.47

Source: Researcher's own calculation

Table 3 shows that the average abnormal returns for the selected 26 companies are fluctuating over the period of time with highest mean return being observed on 9th day and lowest return being observed on 1st day. The highest average abnormal return is being observed on 9th day and the lowest average return being observed on 5th day. It is also observed that over the period of study the standard deviation increases. This means that the data are farther away from the mean, not concentrated towards average and there exists large amount of variation in the data set. Furthermore, it is observed that over the period of time, there exist positive skewness and the value of skewness on all days is more than one. Positive skewness signifies that data are skewed right and the right tail of distribution is longer than left tail. Also, value of skewness greater than one signifies that the distribution is highly skewed. On the other hand, the value of kurtosis over the period is fluctuating. Only on 1st day, the value of kurtosis is more than three which signifies that distribution on 1st day and on other days the value of kurtosis is less than three which signifies that distribution on these days is platykurtic.

Table 4. Frequency Distribution for Abnormal Returns

Abnormal Return	Less than -10%	0%	10%	20%	30%	40%	50%	50% and above
Prms	Frequency	1	6	7	2	2	1	7
Prms	Percentage	3.85	23.08	26.92	7.69	7.69	3.85	19.23
Secom	Frequency	1	9	17	1	11	11	6
Secom	Percentage	11.54	34.62	65.38	3.85	42.31	42.31	23.08
Day 1	Frequency	1	6	7	2	2	1	7
Day 1	Percentage	3.85	23.08	26.92	7.69	7.69	3.85	19.23
Day 3	Frequency	3	5	5	2	2	2	6
Day 3	Percentage	11.54	19.23	19.23	7.69	7.69	7.69	23.08
Day 9	Frequency	3	7	7	2	3	1	4
Day 9	Percentage	11.54	26.92	26.92	7.69	11.54	3.85	15.38
Day 15	Frequency	1	1	1	1	1	1	1
Day 15	Percentage	3.85	3.85	3.85	3.85	3.85	3.85	3.85
Day 30	Frequency	8	1	2	1	4	1	1
Day 30	Percentage	30.77	3.85	7.69	3.85	15.38	3.85	3.85

Source: Researcher's own calculation



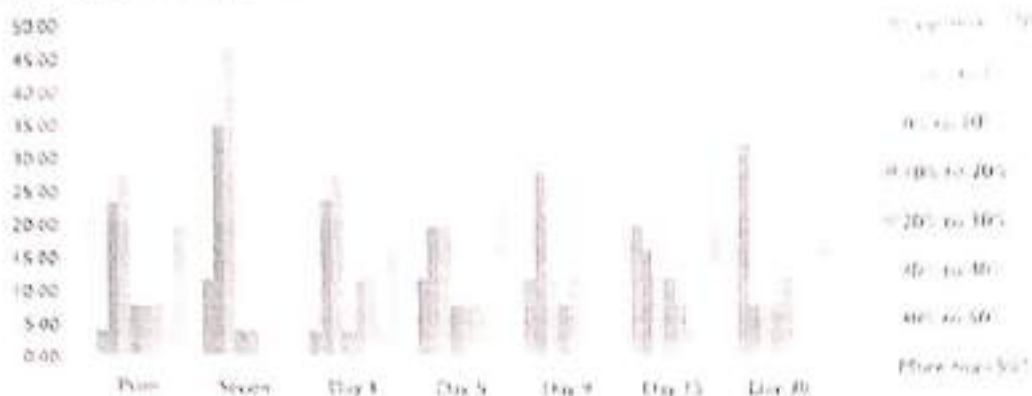


Table 4 and graph 2 show the frequency distribution of abnormal return where it is clearly observed that approximately 30–35 per cent are overpriced over the period of study and around 70 per cent of companies are underpriced over the period of study. There has been an increase in the number of companies giving more than 50 per cent abnormal return, whereas fluctuation is observed in respect to number of firms giving less than 0 per cent return. It can also be seen that on first day around 70 per cent companies give positive abnormal return and a decreasing trend is seen over the period of time. It is also observed that around 46.15 per cent companies provide 0–10 per cent abnormal return in secondary market on first day [Secon]. The abnormal returns of majority of selected event periods are positive for all sample IPOs of 2017. Thus, it clearly indicates that all the selected Indian IPOs of 2017 are underpriced.

Table 5. The Consolidated Correlation Results

Returns		Age	Sector	Issue Size	Promoter's Holding
Total Return On Day 1	Coefficient of correlation	0.021	-0.021	0.181	0.319
	Two-tailed significance	0.919	0.732	0.376	0.928
Abnormal Return On Day 1	Coefficient of correlation	0.020	-0.084	-0.165	0.020
	Two-tailed significance	0.924	0.685	0.411	0.924
Total Return On Day 30	Coefficient of Correlation	0.072	0.021	-0.243	0.072
	Two-tailed significance	0.709	0.918	0.247	0.917
Abnormal Return On Day 30	Coefficient of correlation	0.083	0.012	-0.240	0.045
	Two-tailed significance	0.688	0.952	0.247	0.826

Source: Researcher's own calculation

Table 5 shows the correlation results between the returns and selected variables. It clearly indicates that there exists a positive but weak correlation between promoter's holdings and returns of all the days. In contrast, there exists a negative and weak relationship between issue size and all the returns. Thus, the correlation results conclude that returns are affected adversely by issue size and positively by promoter's holding. In case of ownership sector, it affects the total return and abnormal return on the first day negatively. Thus, there exists a negative and weak relationship between ownership sector and total and abnormal return on day 1. Thus, the ownership sector affects the returns on day 1 adversely. On the other hand, the ownership sector affects the returns on 30th day positively. There exists a positive but a weak relationship between sector on the one hand and the total return on 30th day and abnormal return on 30th day on the other hand. In the case of age, there exists a negative and weak relationship between age on the one hand and total return on 30th day and abnormal return on 30th day on the other hand.

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Thus, the age of companies affects the various returns adversely. On the other hand, there exists a positive and a weak relationship between age and the various returns.
 Table 6. The Consolidated Regression Results.

Return	N	β_1	β_2	β_3	β_4	β_5	β_6	β_7
Total Return on Day 1	26	41.839E	-0.0045	0.0344	0.0686	0.74	0.0001	0.02756
		(0.3410)	(0.8783)	(0.1718)	(0.8758)	(0.5433)	(0.0001)	(0.8774)
Abnormal Return on Day 1	26	43.1331	-0.0076	0.0142	0.0611	0.7102	0.0001	0.2840
		(0.3232)	(0.8737)	(0.3219)	(0.8801)	(0.5265)	(0.0001)	(0.8017)
Total Return on Day 5	26	55.5731	-0.0177	0.0275	0.1127	0.6108	0.0001	0.407
		(0.3514)	(0.5994)	(0.2137)	(0.8465)	(0.6394)	0.0001	(0.7729)
Abnormal Return on Day 30	26	53.0965	-0.0313	0.0376	0.1442	0.8351	0.0001	0.4689
		(0.3732)	(0.5719)	(0.2084)	(0.8085)	(0.6017)	(0.0001)	(0.7590)

Source: Researcher's own calculation

Table 7. The ANOVA Results for Abnormal and Total Returns

	Abnormal Return				
	SS	df	MS	F	Sig.
Between Groups	530.186	4	132.547	0.063	0.993
Within Groups	263899.620	25	10555.97		
Total	264429.806	29			
Total Return					
Between Groups	1002.998	4	250.649	0.118	0.976
Within Groups	266129.300	25	10645.34		
Total	267132.298	29			

Source: Researcher's own calculation

Table 6 shows the consolidated multiple regressions results. The regression results clearly indicate that the regression coefficients of all the selected independent variables namely, age of companies, issue size, promoter's holding post-issue and the ownership sector are insignificant. Thus, the consolidated regression results reveal that there is no significant impact of all the selected independent variables on the abnormal returns on 1st day and 30th day, total returns on 1st day and 30th day, respectively. These results are consistent with Malhotra and Premkumar (2017).

Table 7 shows the ANOVA results for abnormal and normal returns. The probability values of abnormal and total returns are insignificant. It clearly indicates that the mean abnormal returns and total returns of 1st day, 5th day, 9th day, 15th day and 30th day are same.

Theoretical Contribution of Study

Our study analyses a unique and comprehensive data to understand the short-run price movement of selected IPOs and understand whether factors such as age of the company, the promoter's holdings post-issue, issue size of the IPO and the sector to which the company belongs affects the IPO performance in short run. It computes the IPO performance using event study methodology on 1st day (primary market returns as well as secondary market returns), 5th day, 9th day, 15th day and 30th day and uses correlation and regression analysis to determine the type and extent of relationship



between the specific factors and the IPO returns (total return and abnormal return). The findings of the study are consistent with the findings of the literature reviewed and provide original contributions to the prior literatures. The study highlights that even though the number of companies going public and capital raised through IPO option are increasing, the investors investing in these IPOs still view this option as a means to earn speculative gains rather than as an option to diversify their portfolios. The findings of the study indicate that the average total return provided by the selected IPOs on the listing day is 23.67 and the abnormal return provided by these IPOs over and above the market return is 23.14 which are quite impressive. This result supports the previous researches and highlights that the investors stand a chance to earn these returns in a time period of around 3-4 weeks. Since the research indicates that the total and abnormal returns calculated for the selected IPOs are positive, we can conclude that the IPOs in the year 2017 were underpriced.

Thus, investing in IPOs for short term can prove to be very lucrative option and can help the investors to make handsome gains in very short period of time. Pearson's correlation and regression model have been applied between the returns calculated (total returns and abnormal returns) and the selected independent variables. The study observed that the selected independent variables do not affect the IPO performance in the short run. Thus, it can be concluded that under pricing exists due to information asymmetry between the various investors and the issuer. Furthermore, the study emphasizes that positive sentiments and bullish trends in the market help the companies to keep the prices of their IPOs on the higher side. Finally, the study aims to eliminate the information disparity between the issuers and the investors and thereby aims to increase the confidence and trust of both the players in the primary market, which can ultimately help the economy to grow as a whole.

Managerial Implications of the Study

There are majorly four participants in the Indian IPO market, namely the investors in the primary market, the issuer, the underwriters and the investors in the secondary market. The investors in the secondary markets stand a chance to benefit from the under pricing of IPOs in the secondary market and stand to lose nothing. Thus, the under pricing of the IPOs encourages the investors in the secondary market to invest in the IPOs. Similarly, the investors in the primary market too want the IPO to be underpriced as they also stand a chance to gain and the same helps the investors to avoid the winner's curse due to pricing uncertainty or asymmetric information as highlighted by Rock (1986).

The underwriters too want the IPOs to be underpriced as the under pricing is consistent with profit maximization for underwriter. When the underwriters act as post-IPO market makers and allocate shares to their customers on collateral, the underwriters gain from the IPO underpricing and thus maximize their profit.

For the issuers, under pricing helps them to reduce the cost of external finance by improving corporate governance, due diligence practices and disclosure quality. The under pricing also helps the companies to attract the market, investors and media coverage and thus generates great publicity. Second, under pricing could act as a substitute for the marketing activities and can help in increasing customer recognition in the market. Finally, under pricing helps to boost post-IPO liquidity of stocks, increase recognition by the investors and increase the market demand of the stocks and hence, reduce the cost of equity. Therefore, we can conclude that under pricing is associated with larger reductions in borrowing costs for the IPO firm after going public. Thus, we can say that loss due to IPO under pricing can be compensated by benefits of lower borrowing costs.

Limitations of the Study

As highlighted and discussed in above sections, this study has several important contributions to the existing literatures and add value to various participants of the IPO market. Despite the wide scope



and exhaustive study, our research regarding the performance of Indian IPOs in short run has the following limitations:

- The research uses event study mechanism to analyse the total returns and abnormal returns on 1st day, 5th day, 9th day, 15th day and 30th day. The period of study considered is rather short and perhaps a longer study period could give much comprehensive results and better understanding to the various participants in the IPO market. Furthermore, the study can be carried out on post-IPO volatility estimation using advance GARCH family tools.
- The study only considered the companies which went public during the period between January 2017 and September 2017. However, if the study would have considered more IPOs over a longer period of time, the study could have produced much better results and contributed more to the existing literatures.
- The study tried to identify if the total and abnormal returns of the IPOs are affected by the four factors namely the promoter's holdings post-issue, the age of the company, the ownership sector of the company and issue size of the IPO. However, the study could have used many more factors such as industry to which these companies belonged to, the allocation pattern between the various investors, the market conditions like bullish and bearish trends, etc. to give much more enhanced results.

Conclusion

The study employed to empirically analyses whether the Indian IPOs are underpriced in short run or not and to determine whether various independent factors such as age of companies, size of the issue, promoter's holdings post-issue and ownership sector have an impact on the total and abnormal returns of the selected companies. The results showed that majority of IPOs in 2017 were underpriced. Also the study highlights that there is no significant impact of various independent variables on the total returns and abnormal returns of selected Indian IPOs. The regression and correlation results suggest that no significant relationship exists between the selected independent variables and returns on 1st day and 30th day, respectively. The non-existence of a relationship between selected variables and the IPO returns may be due to various financial structural reforms which took place in Indian economy prior as well as during the period of study. Two of these major reforms were de-monetization which took place on 8 November 2016 and implementation of Goods and Service Tax from 1 July 2017 onwards which resulted in huge uncertainty and unpredictable behavior patterns in the Indian Economy.

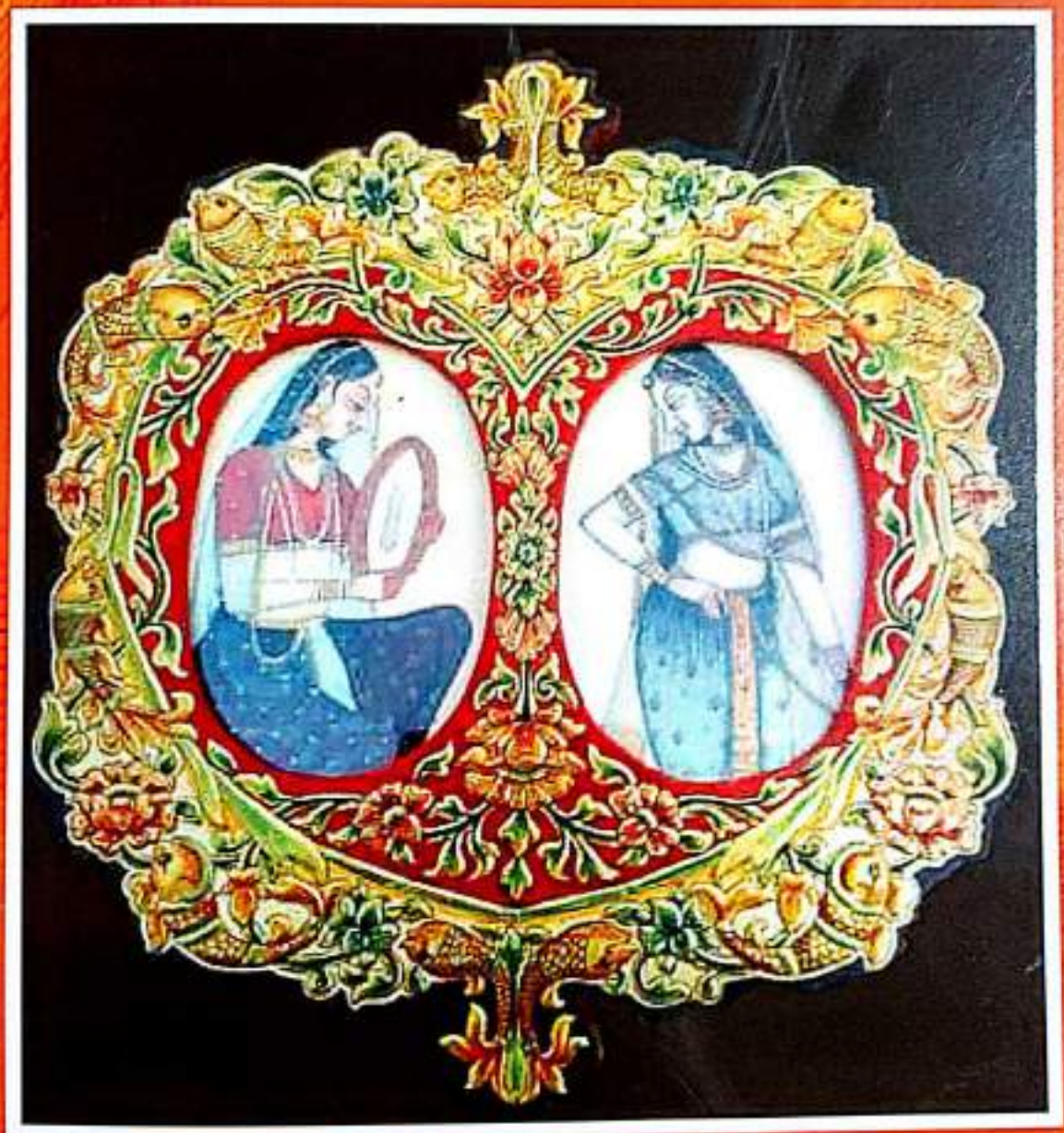


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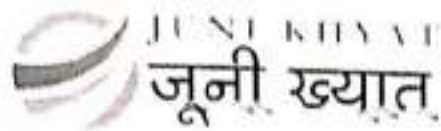
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FINANCIAL TECHNOLOGY A WAY TO SUCCESS FOR BANKING SECTOR IN INDIA

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Abstract

Innovation and Technology have guided a complete change in traditional financial services. Now, Technology seems a necessary key for the expansion of digital economy. Over the year's Indian banks and financial service providers have cautiously adopted technology to reinforce reach to the customers, provide services to and operational efficiency with growing demand in the market and technological advances. But still, the momentum of technology adoption isn't equivalent to its potential. Accordingly, there are gaps within the belief of economic services. Traditional Banks and Financial Institutions have noticed technology as a possible to empower the business propositions, rather than originating new business propositions themselves. Financial Technology (FinTech) Companies however are changing that role by gratifying digital technologies to see new business propositions and target new market segments which precedently weren't possible. Even, RBI is enabling the event of fintech sector to multiply the reach of banking services for unbanked and rural population.

FinTech is that the legitimate sight within the employment of technology to produce new financial products and services to new market segments in an economically feasible manner. From a business model perspective, the Fin Tech sector is manifest by technology companies that either attempt to dis intermediate, or partner with incumbent Banks and Financial Institutions open up to on strategic account and market landscape. Hence, FinTech is progressively becoming a foremost center of attraction for all the key stakeholders in India's Financial Services industry – Regulators, Traditional Banks, NBFCs, Payment Banks, Investors, Payment Service Providers, Broking and Wealth Management Companies, Insurance providers and pure play FinTech players. So, this paper is describe about to confer various aspects and benefits of Fin Tech in India.

Keywords: Financial Technology, Fin Tech, economy, digital, initiatives

Introduction: Financial Technology is that the up to the minute technology and innovation that directs the normal financial methods to deliver the financial services. The operation of smart phones for mobile banking, investing and crypto currency are instances of technologies that make financial services extra comprehensible to the final public. Financial technology companies subsist of both startups and established financial and technology companies demanding to succeed or strengthen the employment of monetary services provided by existing financial companies. In other words, "fintech could be a new financial industry that applies technology to improve financial activities." Fintech is that the new applications, processes, products or business models within the financial services industry, composed of 1 or more complementary financial services and provided as an end-to-end process via the internet.

Internationally, technology propel a wave of innovation in finance that's changing the way that markets are structured and services are delivered. Computer science and machine learning build a more accessible trading system which is cheaper, more innovative and efficient. In the developing country, India is following early leaders like Kenya and also the Philippines as a pivot for financial service innovation and experimentation. The inclusion of fintech in India is that the integration of spirit of state policy, strong base in technology and innovation and also the abundance of demand for financial services, which influenced the investment of over \$2.5 billion in Indian fintech businesses. The government policy of demonetization announced in November 2016 has directly sight to ~~impel consumers from cash~~ towards digital transactions,

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has directed the economy to grow faster. The motive of this research paper is to produce an overview of the fintech landscape in banking sector of India.

The country of 1.3 billion natives, India is growing marketplace for fintech. Even, India may be a young nation and therefore the sizable amount of its population is unbanked or under banked makes high growth in digital penetration, makes India an exciting global space for Fintech. The initiative of startup in India, the fintech startups are rapidly increased in last three years and therefore the segment is predicted to grow further with over half a billion dollars flowing into startups. Banks and financial institutions are that specialize in fintech sector and contracting collaborations with different fintech startups and are actively participating within the ecosystem. The Government, And regulators have also taken several initiatives to spice up the Fintech ecosystem and supply startups with new opportunities to launch competitive products.

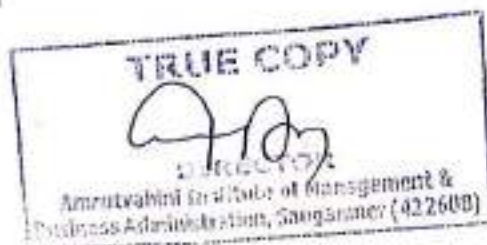
The Evolution of Fin Tech in India

The foundation of the fintech sector in India had been began by liberalizing its banking industry post-1990 with the introduction of technology-savvy banks. The government also took legislative action to boost the banking system and pushed new technology such as MICR, electronic funds transfer and other electronic payments that revolutionized the banking system which resulted in the great digital revolution in the Indian economy. However, for two decades from 1991, the technological innovation in financial services and banking were government driven and witnessed slow growth.

The Indian government has started the penetration of fintech startups in India for the consumer offerings from the mid-2000s by mimicking the global trend. One of the initial offerings, which came up at around 2005, was the banking correspondent (BC) model, which leads the penetration of financial services to the rural household also. The model was promoted to perform financial transactions through agents. Agents having basic technological knowledge offer a lowered cost alternative to setup a full featured bank branch for financial institutions to serve the rural population which also improve the regional development. FinoPay Tech and Eko India were the major startups that are built on the BC model and availed the initiative opportunity. The emergence of e wallets or famously known as mobile wallets startups has witnessed in 2010 which is designed for e bill payment and mobile recharge services. Major Fintech startups such as Oxigen, MobiKwik, Paytm and Freecharge originated between 2005– 10. From 2010, there have been multiple Fintech startups that have groomed in different segments such as lending (100+ startups), personal finance management (40+ startups) and investment management (90+ startups). The profit maximizer Venture Capitalists had also gained the keen interest in 40% growth in investments in fintech sector and perform major funding activity in this between 2014 and 2016. Another visible trend in Fintech ecosystem is the growing number of collaborations between banks and Fintech startups. For instance, HDFC Bank and the Fintech startup „Tone Tag” has partnered to provide phone-based proximity services and Yes Bank partnered with Ultracash Technologies to enable sound-based proximity payments. Such collaborations that help banks to provide effective services to their customers digitally and more cost effectively, these startups are also more expected to adopt the digital and smart city initiatives of the government to build the last mile digital connectivity. For the best digital connectivity, Banks have also launched solutions with the help of their in house teams to improve the digital financial infrastructure.

Some of the initiatives include:

- ICICI bank launched a contactless mobile payment system which could enhance NFC payments in India
- Axis Bank presented the „Invoice to Payment” feature that provide end-to-end digital invoicing and payment solutions
- DBS introduced the first mobile bank that allows customers to open accounts digitally with their PAN card and Aadhaar card



• Union Bank launched the *99# mobile application in partnership with NPCI that allows basic services like balance inquiry, fund transfers and mini statements to its customers even when there is no internet. These new solutions will enable Fintech startups to leverage the infrastructure created by banks to enable their solutions or enhance existing offerings with superior product experience.

Demand for FinTech



Segmentation of Fin Tech:



GOVERNMENT ROLE:

The government is taking various initiatives and acting as catalyst for the success or failure of fintech in a heavily regulated financial industry. The financial regulators SEBI, RBI and Government of India are importantly supporting the aim of the Indian economy to grow as a cashless digital economy and emerge as a strong fintech ecosystem via both funding and promotional initiatives. The funding support: to accredit penetration of the digitally license financial platforms to the institutional and public communities,

Funding Support is as follows:

- The Start-Up India initiative launched by the Government of India in January 2016 includes USD 1.5 billion fund for start-ups financial inclusion and enablement
- Jan Dhan Yojana: added over 200 million unbanked individuals into the banking sector
- Aadhaar has been extended for pension, provident fund and the Jan Dhan Yojana

Tax and surcharge relief: A few notable initiatives on this front are:

- Tax rebates for merchants accepting more than 50 percent of their transactions digitally.
- 80 percent rebates on the patent costs for start-ups.



- Income tax exemption for start-ups for first three years.
- Exemption on capital gains tax for investments in unlisted companies for longer than 24 months (from 36 months needed earlier).
- Surcharge on online and card payments for availing of government services proposed to be withdrawn by the Ministry of Finance.

Infrastructure support

- The Digital India and Smart Cities initiatives have been launched to promote digital infrastructure development in the country as well as attract foreign investments.
- The government recently launched a dedicated portal to provide ease in registration to startups. Startups will get support from the government in expenses of facilitators for their patents filing, trademark and other design work.

Regulators

In India, RBI is authorized to empower the development of fintech sector and embrace a careful approach in addressing concerns around consumer protection and law enforcement. The main aim of the regulator is to create an environment and discover the unhindered innovations by fintech, to enlarge the reach of banking services for rural unbanked or underbanked population, regulating an efficient electronic payment and providing alternative options to the consumers. Fintech simplify the payments, lending, and security/biometrics and wealth management. These have been the prime focus areas for RBI and we have seen significant approaches published for encouraging fintech participations. Examples:

- Introduction of "Unified Payment Interface" with NPCI, which holds the potential to revolutionize digital payments and take India closer to objective of "LessCash" society. Approval to 11 entities for setting up Payments Bank and approval to 10 entities for setting up Small Finance Banks that can significantly run in favor of cause for Financial Inclusion.
- Release of a consultation paper on regulating P2P lending market in India and putting emphasis for fintech firms and financial institutions to understand the potential of block chain. One of the areas with a huge scope is around managing P2P remittances in India. In India, the smaller the remittance size, the higher is the transaction cost percentage, which makes it extremely expensive for beneficiaries involved in transactions. This massive problem is a big opportunity for any fintech firm committed to address it well, as has been guided in the mature markets. Example:
- Some of the fintech firms such as Transfer Wise in UK, have come up with a remittance platform; and with the rising acceptability of the same, the firm has touched a valuation of USD 1.1 billion. Around 370 million internet users in India that is the growing digital population. The Internet penetration still lies at less than 40%. This is expected to grow in the near future continuing the 2x growth witnessed in 2015 in rural population coupled with government initiatives such as „Digital India" aimed at penetrating digital services. The growth is expected to increase the penetration of current Fintech startups as well as provide a new market for potential new solutions and new players.
- Promoting non-cash transactions: In order to reduce the amount of paper cash being used in day-to-day transactions, the government has taken certain proactive steps like tax rebates for merchants accepting more than 50% as electronic payment.
- Biometric identification database: for the individual's unique identity, Aadhaar card, the government's initiative to create a central identification database, now contains the information of over 1 billion Indian citizens. This identification system also leverages the E-KYC and financial benefit transfer schemes. It also helps firms to reduce the time and effort required for first-time customer verification. DBS, a global bank, has launched their mobile-only banking platform called Digi bank, which leverages Aadhaar for customer verification.



Some of the key characteristics of the Indian market that make it exciting and interesting for Fintech startups are:

- India is the only Fintech hub that provides ample opportunity to target large unbanked population. Coupled with the growing young population who readily accept new technologies, India makes an attractive destination for Fintech startups.
- The difficult exercise to change consumer behavior towards accepting Fintech solutions is already underway.
- The broad level of technical education provides India with a strong talent pipeline of a comparatively cost efficient and easy-to-hire tech workforce.
- India has the second biggest startup ecosystem in APAC after China measured in deal size and number of deals.

Conclusion: India is confidently moving up the Fintech ladder and provides plenty of opportunities for Fintech startups to enter the diversified market and be successful provided a careful solution-customer match and a strong go-to-market strategy is in place. The two broad segments where Fintech is most active in India are payments and lending. Out of the more than 600 Fintech startups currently active in India, around 40% are payments and lending startups. The next few pages will hence dedicate special attention to these two Fintech segments. The development of Fintech sector has also given a boost to overall economy of India. But still there are some hindrances related to e security and the usage rate among unbanked population. So, the initiatives taken must not be faded away because of these little but not the least factors. So the regulators should formulate the effective policies to remove it as such the fintech sector can upgrade the banking system of India completely.

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A BIBLIOMETRIC ANALYSIS OF EMOTIONAL INTELLIGENCE AND PERFORMANCE

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ABSTRACT

Recently it has been observed that many organizations have realized the importance of emotional intelligence skills and have started promoting it by training the leaders, and managers to bring change in the organization. The purpose of this paper is to explore the literature published in this growing field for the past twenty three years by using bibliometric analysis to identify earlier research and potential research for the research community and decision-makers. The researcher has adopted the technique of bibliometric analysis and reviewed research articles published from 1999 to 2022 to identify top authors, co-authors, countries, and prominent journals. Significant work in emotional intelligence and job performance was analyzed using citation network, and co-citation analysis. The study results indicate an increasing awareness of emotional intelligence in countries like USA and India and increase in publication since 2016.

KEYWORDS

Emotional Intelligence, Emotional quotient, emotional competencies, Job Performance, Work performance, employee performance, bibliometric analysis, Scopus

Introduction

Traditionally organizations recruit employees based on their intelligence quotients such as better academic grades and adequate technical skills. Despite having all employees with equivalent qualifications and skill sets it is observed that only a few employees are able to climb the ladder of success and growth. It is their behavior that gives them a competitive advantage over others. These are the people who are good team players; maintain good relationships by understanding peers and superiors, and balance and control their emotions. Emotional intelligence is a skill to understand inter and intra-behavior.

Organizations are looking for people who can effectively combine both intellectual and emotional quotients alike. Salovey and Mayer (1990) were the first to define interpersonal and intrapersonal ability to understand self and understand others' feelings as emotional intelligence. It contains five important elements – social skills, empathy, motivation, self-awareness, and self-regulation (Palmer et.al. 2001; Rosete and Ciarrochi, 2005). These five elements relate to stress, leadership quality, team performance, and the decision-making of an individual. Individual and organizational performance can be improved by emotional intelligence it also (Goleman, 2011) depicts the relationship between the organization and its employees and plays an important role as the basis of employee performance. (Dulewicz et al., 2003)

Employee performance is the outcome of tasks completed during a specific time in comparison to the set standards. Performance is determined by the understanding of the knowledge, skills, abilities, and personal characteristics of employees. Companies require employees who are effective, efficient, and high achievers in the current global and competitive world. One of the many factors that affect the performance of employees is emotional intelligence (Ngangi and Pangemanan, 2016). This further impacts the efficiency of an organization.



According to Wong and law, 2002 there is a positive association between Job performance and emotional intelligence. Researchers Tram and O'hara, 2006 have speculated that emotions play a vital role and influence employees' abilities. Emotions impact employee performance. Employees can use emotions negative or positive both as a strength and progress in their performance. Regulating emotions and managing others' emotions for positive interactions is a quality of high emotional intelligence.

The field of Emotional Intelligence has matured and become popular since the formulation of the theory by Peter Salovey and John Mayers in 1990. Lots have been written about the adoption and application of EI by researchers. It has been observed that there is an overall increase in the awareness of EI and the progress in the field is impressive.

Multiple research articles have been published in the area of EI. Literature for various domains like healthcare (Smith et al., 2009), education, organizational behavior (Jensen 2007), human resource development (Brooks, & Nafukho 2006), sports and exercise (Laborde, S. et al., 2016) has been published and reviewed. The impact of EI on Leadership, team performance, work performance, and work engagement has been studied by various researchers (Frias et.al., 2021, Y Gong et.al., 2020, Rezvani et.al., 2018).

However, not many articles are published related to bibliometric analysis on emotional intelligence and performance of employees. Thus, a bibliometric and citation analysis of this literature using appropriate analytics tools can provide further insights not fully grasped or evaluated earlier.

3 Research Methodology and initial search

The field of research is ever evolving. New areas of investigation, new methods, new ideas, different approaches, or advancements in a field may lead to new research. Researchers need to keep updated by reviewing the new literature to bridge the gap. Rowley et. al., 2004 in their paper stated that a literature review is a summary of research papers on related topics, basically to understand current trends and identify gaps. We perform a literature review by searching the database with help of appropriate keywords then searching for the most relevant literature and then analyzing it (Saunders et al., 2009). The literature search helps to discover research that is relevant. This process is frequent.

(Rowley, 2004) suggested Scanning, making notes, structuring the literature review, writing the literature review, and building a bibliography are the steps used for bibliometric studies. We have adopted similar steps in this paper for bibliometric analysis and used the Scopus database for collecting research data.

3.1 Keywords search and data gathering-

Scopus is the largest abstract and citation database of peer-reviewed literature: scientific journals, books, and conference proceedings in the fields of science, technology, medicine, social sciences, and arts and humanities, which belong to, inter alia, the publishing houses of Elsevier, Emerald, Informa, Taylor and Francis, Springer, and Inderscience (Mishra, D et al., 2016). (Van Eck, N. J. 2019) in their analysis of databases mentioned that Scopus is one of the 2 major multidisciplinary bibliometric databases. The paper considers the Scopus database for the bibliometric analysis where the keyword combination used is: (1) Emotional Intelligence (2) Employee performance or Job Performance

We searched for the above-mentioned keywords in "title, abstract, keywords" in Scopus. The initial search using the keyword "Emotional Intelligence" resulted in 12,319 articles whereas using "Emotional Intelligence and Job Performance" yielded

277 articles Keyword search "Emotional intelligence" And "employee performance" showed 67 articles. Further, the keywords ("Emotional intelligence) AND ("job performance" OR "employee performance") showed 327 articles. The necessary information such as Author, document title, year, affiliations, abstract, author keywords and reference were stored in RIS format and csv format.

Initial search results

Table 1 Search terms, query and number of search results

Search terms	Query applied	Search and results (No. of documents)
"Emotional Intelligence"	TITLE-ABS-KEY ("Emotional Intelligence")	12,631
"Job performance"	TITLE-ABS-KEY ("Job performance")	26,048
"Employee performance"	TITLE-ABS-KEY ("Employee performance")	8,473
"Emotional intelligence" and "Job performance"	TITLE-ABS-KEY ("Emotional intelligence" AND "Job performance")	277
"Emotional intelligence" and "employee performance"	TITLE-ABS-KEY ("Emotional intelligence" AND "employee performance")	67
"Emotional intelligence" and "employee performance" or "Job performance"	TITLE-ABS-KEY ("Emotional intelligence" AND ("employee performance" OR "job performance"))	327

Final Search Query - TITLE-ABS-KEY ("Emotional intelligence" AND ("employee performance" OR "job performance"))

4. Bibliometric Investigation

It is vital for the investigators to have in-depth knowledge about continuing research in their particular field and the authors who contribute to such research. The research trends can be examined using various approaches which includes bibliometrics, informetrics, webometrics, or scientometric (Hood, W. and Wilson, C., 2001). This section describes statistics about keywords, authors, journals, language, subject area country-wise publications, and year-wise publications.

4.1 Language Statistics

Keyword search for Emotional intelligence and employee performance generated 327 publications. Most of the research articles were in the English language (98%). The other languages in which the articles were written were Chinese, Spanish, Arabic and Korean.

Table 2 Publications language trends in the area of emotional intelligence and employee performance

Language	No. of Publications	% of 327
English	321	98%
Chinese	2	1%
Spanish	2	1%
Arabic	1	0%
Korean	1	0%
	327	100%

4.2 Analysis of publication types

The researchers in the Emotional intelligence and employee performance research area have publicized papers at conferences of which 81% were Journal articles and remaining 19% were conference papers, review papers, book chapters or other types of research (Table)

Table 3 The publication types in emotional intelligence and employee performance

Publication type	Number of publications	% of publication
Article	264	81%
Conference Paper	20	6%
Review	17	5%
Book Chapter	8	2%
Others	18	6%
Total	327	100%

4.3 Publications by year and categories

The 327 documents were examined for understanding the year-wise publication outcome. The yearly publishing trends from the retrieved data are listed in the table below (Table 4).

Yearly publication trend are shown in the table and figure

Table 4 Publication of documents for the period 1999 to 2022

Year	Documents	Year	Documents	Year	Documents
2022	28	2014	12	2006	7
2021	20	2013	10	2005	6
2020	34	2012	10	2004	4
2019	37	2011	20	2003	3
2018	27	2010	8	2002	1
2017	31	2009	7	2001	0
2016	25	2008	9	2000	3
2015	18	2007	6	1999	1

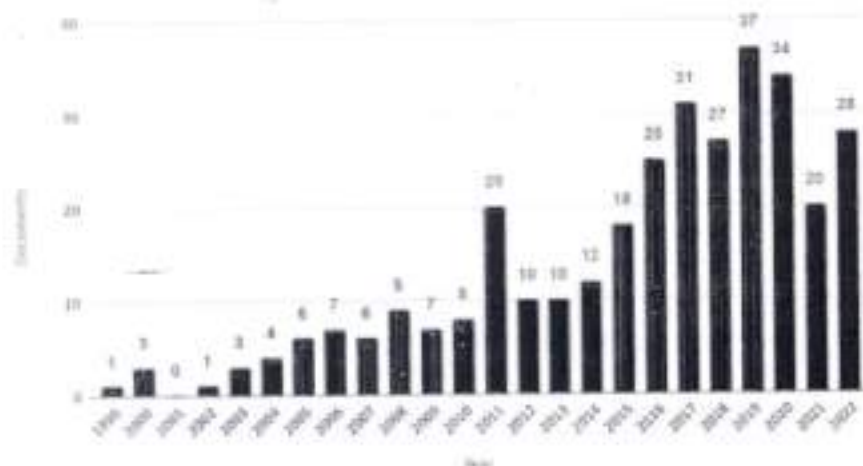


Fig. 1 Year wise publications in the domain of emotional intelligence and performance.

The publication analysis indicates the year 2011 and 2017 showed sudden surge in published articles while the highest number of 37 articles were published in 2019. It can also be seen that year 2022 has picked up the trend again and 24 articles have been published to date.

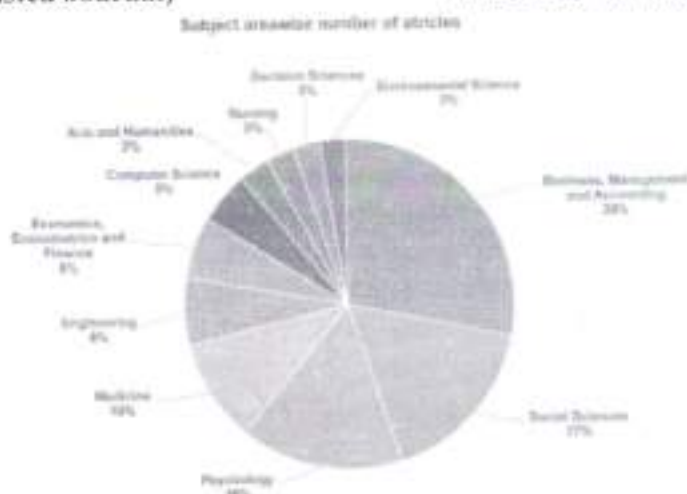


Fig 2 Publications by subject area / category

Next, we explored the academic categories to which articles relating to emotional intelligence and employee performance belong. As presented in the figure – above, the leading category is “Business Management and Accounting” with 141 articles (28%), followed by “Social Science” with 84 articles (17%). In addition to these Psychology (80 articles, 16%) and Medicine (51 articles, 10%) were the prominent categories. The other seven subject areas (“Engineering”, “Economics”, “Econometrics and Finance”, “Computer Science”, “Arts and Humanities”, “Nursing”, “Decision Sciences”, “Environmental Science”) represent the interdisciplinary research areas (29%) associated with emotional intelligence and employee performance.

4.4 Keyword Analysis

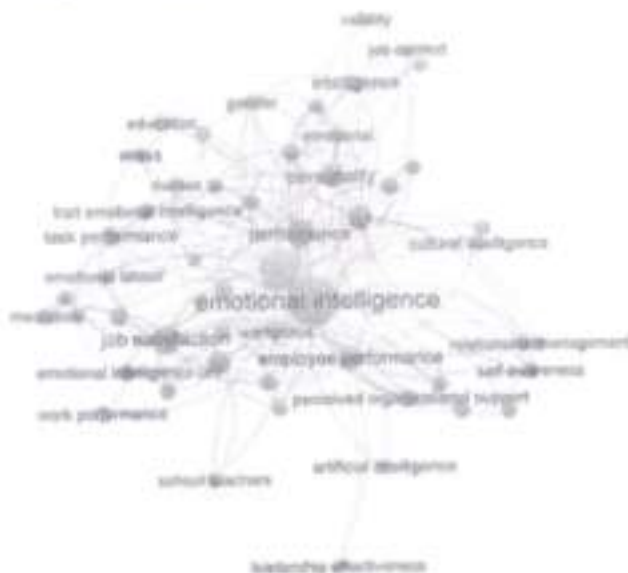


Fig 3 Keyword trends (1999-2022)

From 327 articles, 683 keywords were identified. Of these, 563 keywords appeared only once, which shows 82% ubiquity. Another 21 keywords appeared more than five times, equivalent to 3%; and only 3 words appeared more than 25 times, equivalent to 0.44%. The keywords “Job performance”, “job satisfaction” and “Emotional intelligence” appeared more than 25 times. The keyword

"Emotional Intelligence" has occurrence in 216 articles followed by the keyword "performance" with 164 occurrences.

4.5 Geographical analysis of Publications

Analysis of authors' country and affiliations revealed that Emotional intelligence and Job performance is a global research topic. The 327 articles are distributed across 60 countries. The table below shows the top 15 countries that have produced the most articles.

Table 5 Countries leading in publishing research articles in emotional intelligence and performance, retrieved from Scopus

Sr. No.	Country	Documents	% of 327
1	United States of America	88	26.91%
2	India	42	12.84%
3	United Kingdom	30	9.17%
4	Australia	22	6.73%
5	Malaysia	22	6.73%
6	China	19	5.81%
7	Indonesia	14	4.28%
8	Iran	11	3.36%
9	Spain	10	3.06%
10	Hong Kong	9	2.75%
11	Portugal	9	2.75%
12	Taiwan	9	2.75%
13	Canada	8	2.45%
14	South Korea	8	2.45%
15	Netherlands	7	2.14%

The network visualization in the **Figure 4** shows the countries having publication in the area of emotional intelligence and co-authorship map for the 327 articles. It shows United States leading with 26.91% followed by India with 12.84% and the United Kingdom with 9.17% publications.

Fig 4 Research articles in the area of emotional intelligence and co-authorship map



Analysis by author

The table shows the most prolific researchers in the area of emotional intelligence and performance. Wong, C.S. from Chinese University of Hong Kong, Hong Kong has six of the 327 articles followed by Law, K.S. from Hong Kong Univ. of Sci./Technology, Hong Kong.

Table 6 Top 10 contributing authors

The construct and criterion validity of emotional intelligence and its potential utility for management studies	Law K.S., Wong C.-S., Song L.J.	Journal of Applied Psychology	2004	675
On the costs and benefits of emotional labor: A meta-analysis of three decades of research	Hülshager U.R., Schewe A.F.	Journal of Occupational Health Psychology	2011	607
The relation between emotional intelligence and job performance: A meta-analysis	O'Boyle Jr. E.H., Humphrey R.H., Pollack J.M., Hawver T.H., Story P.A.	Journal of Organizational Behavior	2011	543
Emotional intelligence, cognitive intelligence, and job performance	Côté S., Miners C.T.H.	Administrative Science Quarterly	2006	415
Relation of employee and manager emotional intelligence to job satisfaction and performance	Sy T., Tram S., O'Hara L.A.	Journal of Vocational Behavior	2006	354
Emotional intelligence in the workplace: A critical review	Zeidner M., Matthews G., Roberts R.D.	Applied Psychology	2004	332
Evidence that emotional intelligence is related to job performance and affect and attitudes at work	Lopes P.N., Grewal D., Kadis J., Gall M., Salovey P.	Psicothema	2006	209
Comparing the validity of multiple social effectiveness constructs in the prediction of managerial job performance	Semadar A., Robins C., Ferris G.R.	Journal of Organizational Behavior	2006	200

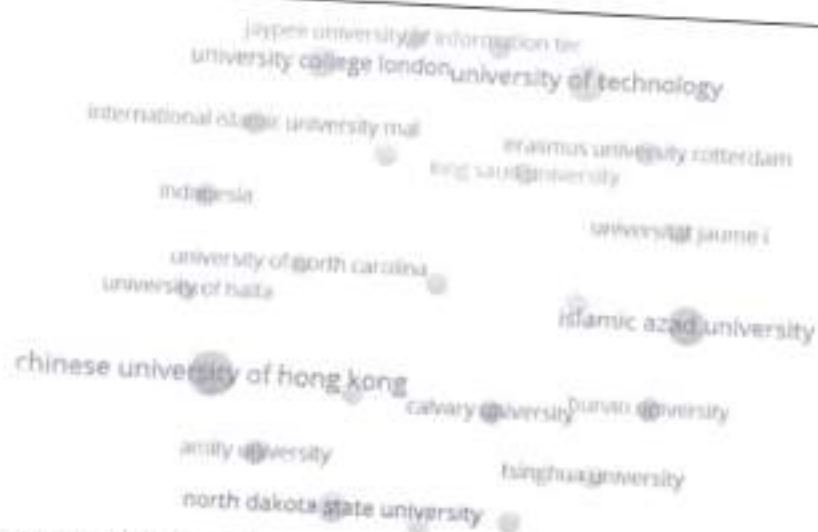


Fig 6 Universities that published articles on emotional intelligence and performance

Conclusion

Research in emotional intelligence, job performance is done worldwide and is incessantly increasing. In this research article we conducted a bibliometric study and network visualization of literature related to Emotional intelligence and job performance combined. This study was started because the literature when both the keywords combined is still under developed. Though individually immense

of literature is available in the area of emotional intelligence (12,631), job performance (26048) and job/employee performance (8470) the relationships between these two areas is less explored. The number 327 published articles show that there is scope to explore these factors. It can be noted that there is a gap in literature from this perspective. Majority of writings in this area stems from management perspective. Research articles for employees in humanities, engineering, IT, nursing or medical field is still in exploration stage. Time span of this study is 23 years, most of the articles are published since 2016. Understanding the role of emotional intelligence on Job/employee performance is in emerging stage and there is vital need to investigate high quality research in this area. Topmost research from this area comes from few researchers. Thus future research should explore application and relationship of emotional intelligence and workforce in Computer science, decision science, nursing and environmental science workforce areas.

Our study shows that there are multiple opportunities for researchers and organizations that are involved in leveraging benefits of emotional intelligence for reducing stress, maintaining relationships and increasing performance of employees. Employees facing emotional labour can benefit from these studies and improve their performance by managing stress.

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**EXPLORING QUALITATIVELY THE AWARENESS OF EMOTIONS AND COPING
MECHANISM OF THE MIDLEVEL IT EMPLOYEES BASED ON EMOTIONAL
INTELLIGENCE THEORY**

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ABSTRACT

Emotional intelligence concept given by Salovey & Mayer and popularized by Daniel Goleman seeks to understand the employee mental health and their temperament while working in teams. This qualitative research studied the factors that creates emotional trauma or stress among employees, their awareness of their feeling and emotions, their coping mechanisms, factors that makes them angry, their understanding of their team and the leadership characteristics they think are important for a leader. Data was collected using in-depth interview of twenty-two mid-level IT leaders. Data was analyzed using NVivo a Qualitative data analytic tool. The research showed some of the ways in which individuals understand themselves, manages themselves, their awareness of society and people around them in order to create a harmonious work environment.

Keywords- Emotions, awareness, Emotional intelligence, coping mechanism, Information technology managers, leadership, qualitative, NVivo

Introduction

In the rapidly changing world of Information technology where every day a new technology or a new process improvement is introduced, where the employees constitute a highly diverse group, with different nationality, language, and culture, where employees are challenged continuously for higher productivity, having a high Intellectual Quotient is inadequate to ensure success. Emotional Intelligence (EI) help cope better in the highly stressful work environment (Rani and Yadapadithaya 2018). Researchers unanimously argue for a better emotional intelligence for its employees and managers. At a time when burnouts are a constant phenomenon among IT employees, where interpersonal and intrapersonal conflicts are rising it is critical to have a better emotional intelligence to sustain in this industry. Psychologists have proved beyond doubt the role of emotional intelligence on the work performance of a person (Koubova and Buchko, 2013; Diener et al., 2020). In the current environment where work from home has become a norm, the role of emotional intelligence has gained even more criticality.

The researchers conducted in-depth interview-based research among the mid-level employees in some of the leading Information Technology companies in Pune. The purpose of the interviews was to understand the impact of EI on their work and personal life. Information technology companies were selected for the study as researchers are teaching faculty at an Information Technology Business Management (ITBM) program. Students who graduate from this institute take up jobs in leading IT companies. As trainers and mentors, it was felt that there is a need to understand and orient students on the dynamics of emotional intelligence as they get into the industry. The researchers used a structured interview schedule to collect data from about 22 respondents.

A WHO study in 2020 said that there is a high percent Indians (Birla, 2019) who suffer from mental disorders and predicted that it will increase further in the coming year mostly due to the Covid-19

induced lockdown (Bhatia 2020). Globalization has created an unprecedented situation in India. Uncertainty, anxiety, depression, and job loss have come to stay with us. In the current Covid induced lockdown period there has been an increase in mental health issues mainly due to 1) the breaking down of the private and public space of an individual due to the work from home 2) loss of job due to the unplanned lockdown 3) lack of entertainment 4) too much of screen time 5) lack of social interactions 6) excess eating 7) low physical exercises and 8) impersonality of the workplace (Hiremath et.al. 2020)

Research point out alcoholism, smoking and eating disorders as some of the prominent symptoms or impacts of the mental disturbances. (Stough et al., 2009). A number of recent movies have portrayed this theme very boldly. People are more willing to come out and talk about their emotional status in public. Some look at it as a starting point to create a healthy society (Holmes, 2016). This research tried to elicit some of the feelings of IT employees through a structured interview of mid-level managers from leading IT companies in India. understanding oneself and being able to express ones emotions are considered the starting point of becoming emotionally intelligent persons. (Mayer 2006). The objective of this paper therefore is to understand whether self-understanding and understanding the society and culture help employees manage oneself and the relationship in the organization better.

Literature review:

Emotional intelligence

Emotional intelligence became a popular topic of research when Daniel Goleman published a book titled Emotional Intelligence (Goleman, 1996). He identified self-awareness, self-management, Social-awareness, relationship management and empathy as the constructs to study emotional intelligence. However, it was Salovey and Mayer (1990) who first introduced the term emotional intelligence. Their constructs consisted of Perceive emotions, understand emotions, manage emotions and use emotions. They advocated for deliberate training of the youngsters in emotional intelligence. Currently, the model developed by Goleman and Boyatzis (2017) is widely used to understand EI in different functional areas of business and among different groups in the society. Goleman further refined the constructs and used only self-awareness, self-management, Social-awareness, relationship management in the latest model. Livesey (2017) used this model to study people in the project management areas. Fteiha and Awwad (2020) studied the relationship of EI to stress coping styles of students. Understanding oneself (self-awareness)

As Information Technology career has become very volatile and the concept of a tenured job is in the wane, it is important to sustain in the organization. This necessitates the need for continuous development and achieving mastery. Self-awareness is the key for achieving this mastery. Alisie and Wiese (2020) talk of the important role of understanding oneself in order to increase one's self-efficacy. Self-awareness was first used by Duval and Wicklund (1972) and Wicklund (1975) where they looked at its motivational properties when mediated by social feedback. Carver (2018) developed self-awareness into a detailed research paper where he studied different dynamics of self-awareness. Diener and Wallbom (1976) studied its effect on anti-social behavior. They claimed that increased self-awareness will decrease antisocial behavior. Freshman and Rubino (2002) refer to works that highlight the importance of self-awareness for superior performance.

Managing oneself

Self-awareness leads to managing oneself. Unless we know that there is a feather on our head it is not possible to remove that. To know oneself we require a looking glass. But to manage oneself we need a

willingness and also lots of help and support from others. As in the Johari window, we should be willing to solicit feedback in our journey towards managing ourselves. We are in a world where there is so much uncertainty, where everything that you do and utter are scrutinized by many, our online behavior which reflects our own self is used by companies while recruiting and promoting. Hence it is important to manage that part of our self (Ramani et al., 2017). Often people learn from experiences. Stephen Covey gives a number of tools to manage oneself. The seven habits are good tool (Covey and Covey, 2020). Gill (2010, p2) while talking about managing self says, *"She must be flexible, adaptable, sociable, self-directing, able to work for days and nights at a time without encumbrances or needs, must commodify herself and others, and recognize that every interaction is an opportunity for work. In short, for this modernized worker-subject, 'life is a pitch'"*.

Suleman et al., (2019) found that there is a direct correlation between higher emotional intelligence, especially the self-management score, and their academic score and suggested that to improve the academic performance the need for improving students' emotional intelligence. Another study highlights the role of emotional intelligence in selecting the leadership for self-managed teams. (Wolff et al., 2002). We are all often reinforced on the need for regulating ourselves. An emotionally intelligent person can manage oneself and his/her emotions. It is important for becoming a good leader (Grewal et al., 2006).

Understanding the society

The Positivity Project defines social intelligence as that includes, *"an individual's ability to understand, and act on, the feelings, thoughts, and behaviors of other people"* (Jacquelin, 2017 p 15). Social intelligence includes the ability to know when to talk, what to talk and, what to do in particular situations. It is important to understand the values, and mores of the people to interact with them effectively (Frankovský, 2018). Abhijeet Banerjee and Esther Duflo challenged many traditional beliefs about welfare and were awarded the Nobel prize for economics (Banerjee and Duflo, 2019). Lack of social awareness can create stress and psychosomatic disorders. (Howe 2017). Under the social skills, researchers have identified the following characteristics: Empathy, Service orientation, developing others, Leveraging diversity, and Political awareness. Serrat (2017) says that today employees are evaluated based on the way they handle themselves and the people around them. This new yardstick requires an individual to develop emotional intelligence.

Managing the society/relationships

What are some of the social skills required for IT employees to survive the change process? Communication, interpersonal skills, Empathy and compassion are important. To manage relationships in an organization, it is important to understand the social values, cultures, and mores of that society within which the organization exists (Cuadra et al., 2017). It is important to understand the stereotypes and one needs to grow out of them. Transactional analysis is an excellent tool to improve interpersonal communication. Johari Window is used to increase one's arena (Gamayanto et al., 2019). According to researchers a few areas of importance for social management are: 1. How to influence others/motivate others in a direction that you want them to move. Or increase their productivity, performance, etc. 2. Communication- it is both telling and listening. More of listening. It is important to develop listening skills. 3. Leadership: it is the leader who acts as a role model for the rest of the employees. 4. Change catalyst: it is important to initiate change. Often a leader functions as a catalyst to get the change done. 5. Building

bonds 6. Teamwork and collaboration 7. Developing others (Nel & De Villiers, 2004; Serrat, 2017)

The need for emotional intelligence was felt by researchers studying different work environments. A health care profession is known as emotional labor. So is the work of an ITES employee. The call center employees often become the punching bag that absorbs the emotional outbursts of the customers. It is important to have such jobs to keep society going. They say that having social awareness makes you more compassionate while dealing with people, helps to develop empathy, and makes you other-centered. Momeni (2009) argues that more than 70% of employees' perception of organizational climate is from the leader's value system. Employees are observant and often they role model their leaders. Organizational culture is the outward reflection of an organization's working. It is important to understand what is the feeling that the senior management evokes among the employees. Issah (2018) talks of the role of EI in change management. Talks of the role of cross-cultural sensitivity in this process. In change management aspects such as effective communication, tackling fear and anxiety among the employees require good social skills. Good social skill is essential to overcome the resistance to change process.

Methodology

The research was conducted using a qualitative method. The researchers interviewed 22 IT managers with experience ranging from 7 years to 25 years. Forty IT managers were contacted from LinkedIn requesting to be interviewed however only 22 managers responded agreeing to be interviewed. The interview was conducted over the telephone as there was a lockdown imposed by the Covid-19. In order to avoid biases, the respondents were reassured of strict confidentiality. In order to ensure that the respondents gave candid answers, the interviewer did not disclose the questions in advance. They were asked eight questions to understand the respondents' emotional intelligence. These questions were derived from the EI constructs developed by Goleman and Boyatzis (2019)

The data collected was analyzed using the NVivo tool for qualitative data analysis. The researchers first color-coded words and phrases, created different visualization to represent the data in form of words cloud, tables, and mind maps.

Table – 1 List of participants and the companies representing with position and the years of experience.

Respondent	Age	Gender	Designation	Work Experience in years	Industry type
R1	37	Male	Assistant Vice President	10	Service
R2	35	Male	Global Head HR	12	Service
R3	37	Female	Director	14	Management consulting
R4	28	Female	Security Administrator	6.5	IT operations
R5	39	Male	Assistant Vice President	15	Service
R6	30	Female	Business Analyst	7	ITeS
R7	31	Male	Business Analyst	8	Service, ITeS
R8	38	Male	Director	15	Service
R9	41	Male	Manager (IT SOX), Internal Audit	17	Manufacturing
R10	34	Male	Senior consultant	13	Product, Service, ITeS

R11	31	Male	Lead Information Security & Compliance	10	Product, Service
R12	37	Male	Manager - Cyber Security	13	ITeS
R13	47	Female	AP	15	Service
R14	57	Male	Professor	20	Service
R15	42	Male	Associate Director	18	Service, ITeS
R16	42	Male	Team Lead	15	Product, Service
R17	45	Male	Ex. Director	21	Product, Sales, Service, IT
R18	47	Male	Snr. Software Engineer	25	Service
R19	29	Male	Manager	7	ITeS
R20	42	Male	VP - Customer Success	20	Product
R21	30	Male	Software engineer	7	ITeS
R22	47	Male	Cyber Security Consultant	20	ITeS

Analysis and Discussion

1. Self-Awareness

The first two questions were to understand the self-awareness of the respondents. The first question we asked was "Describe your feelings when you are not able to meet a deadline" and the second question was "What are those qualities you have that will help you to face a sudden change in your routine." After coding using NVivo we created a word cloud that represents all the words expressing the emotions of the respondents. The two most prominent feelings expressed were "frustrations" and "stress". They also expressed feelings such as irritation, tension, pressure, disappointment, embarrassment as important feelings. Frustrations and stress were used by more than five respondents. More than 8 people said they experienced stress. The collation of similar words that creates hyper psychosomatic reactions such as stress, tension, irritation, worry, pressure and panic was all expressed by the respondents. A total of 15 respondents said they experience the above feelings.

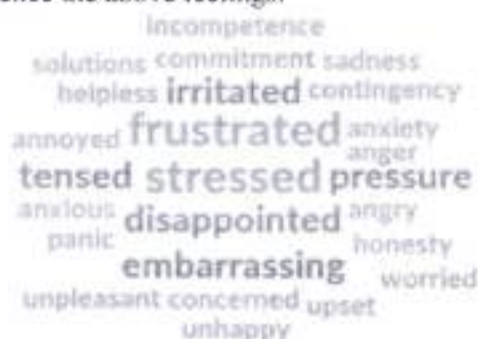


Figure 1 Word cloud on emotions experienced at work.

We also asked how they manage these emotions. The response to the question "What are those qualities you have that will help you to face a sudden change in your routine", is represented in the word cloud below. While the first question revealed all the negative feelings this question shows the self-awareness and the ability to regulate those negative feelings. Most of them felt that they should take the failures as a part of the work and need to adapt to the situations. The sooner they are able to adapt makes them cope

better. We also found them saying that they are adaptable, are patient, accept and manage change in the dynamic business environment.

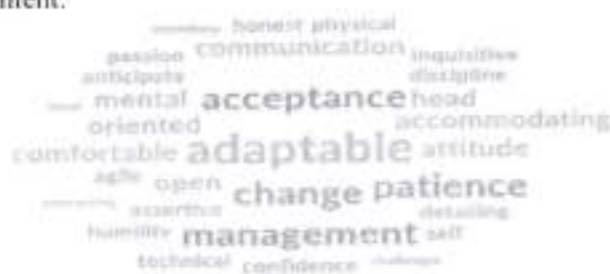


Figure 2 Word cloud on coping mechanisms

II Self-Management

After understanding one's feelings and dominant methods we use to cope with the feelings we went on to understand how people manage themselves in the organization they are working. To elicit the answer, we asked "What are one or two things that make you angry or frustrated at work? What do you do when you get angry or frustrated at work?" the below figure gives a glimpse of the responses. The responses were analyzed into two major categories namely causes of anger and responding to the anger. Causes of anger were further categorized into external factors and internal factors. We observed while twenty-nine words and phrases showed the influence of external factors as a cause of anger, only eleven instances they said that it is their own incompetency and inability that caused anger. However, while responding to the anger it was observed that people often search for internal strength over seeking help from outside. We may surmise while we are influenced by factors outside often times we rely on ourselves and our internal strength. Hence, it is important for developing inner strength and character to become more effective at workplace.

Name	Files	Referenc
Causes of anger	0	0
External factors	1	29
Internal factors	1	11
Responding to anger	0	0
External help	1	7
Self help	1	21

Figure 3 Cause and response to anger

When trying to understand how the respondent manage their emotions in stressful situations like getting feedback on their performance, the researchers asked the question "Describe a time when you received feedback on your performance, and you disagreed with the feedback. How did you handle the situation?". The responses were categorized as either reaction and response to the feedback they received. Reactions were further divided into acceptance and resistance. So, the coded data showed both having more or else similar weightage where there is healthy acceptance of the feedback. This shows that constructive feedback is provided to the employees in the IT organizations. The response to the feedback seems to be more emotional than rational.

Reaction		Response	
Resistance	Acceptance	Rational	Emotional
10	11	12	15

Some of the reactions and responses stated by the respondents are given below:

'...By discussing the feedback and providing pin-pointed data points about why I disagree...' [Respondent-1]

'.... There is no disagreement on feedback. You know your work and can be shown to leaders when and where required. So, no disagreement...' [Respondent-2]

When it came to handling the feedback, the response was either Rational or Emotional.

'...I would follow the Situation, behavior, and analysis (SBA) loop and put the logical facts out there. If there is still a disagreement, I would reflect back and self-assess myself to make things clear for my reference...' [Respondent-4]

'...Confronted and asked the reasons...' [Respondent-9]

'... the best part about sitting down together in the cafeteria and discussing these disagreements in an informal setting...' [Respondent-18]

III Social Awareness

Goleman realized the importance of social awareness for people in the organization especially people who are in a leadership position (Goleman, 2001). He in fact developed an entire model of leadership competencies based on one's emotional intelligence. We asked the question "How do you describe your team?" to seek the leader's awareness about his team. In a culturally diverse work environment, it is important for the leaders to hold an open mind to create a harmonious work environment. We identified twenty-six distinct words/adjectives respondents used to describe their team. Words that are repeated more than twice are represented in the table below.

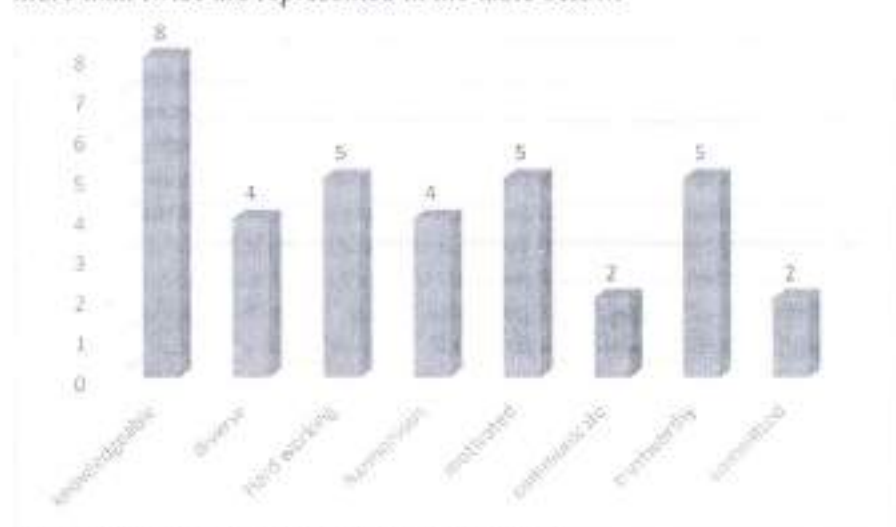


Figure-4 Manager's perception about his team

Regarding empathy, the IT Managers were aware of the emotional state of the team members they were interacting with and expressed that body language, facial expression, voice, foul mood, expressions, visible on the face, interaction, looking at expression, reactions indicate the frame of mind the team members are in. To elicit these responses, we asked the question "Have you ever noticed that someone at work was having a bad

day? How did you know? What did you do?" Below are some responses from the participants:

'...Try and create a fun environment and discuss if they are comfortable. ...' [Respondent-1, Respondent-14]

'... I ask them to take time off to...'[Respondent-3]

'...try not to pull but ease and motivate. Good words always help...'[Respondent-5]

'...if they are comfortable they can definitely chat. Else, I would buy them food (cookie or a smoothie) to make things a little better...'[Respondent-9]

IV Relationship Management

The ability to understand oneself and the society around us should help us to manage our interaction with the environment. It is important to understand our strengths and weakness and the various socio-economic and cultural milieu of the people working with us in order to relate with them in a healthier manner. In order to test the leader's perception of their subordinates, we asked "What according to you are 3 leadership qualities that will help you to become more effective?" question. In this section, we asked them leadership qualities they exhibit in their workplace. The responses were analyzed into personal and professional characteristics. As a response to the personal characteristics, they mentioned: *confidence, empathy, honesty, learning, listening, management, authoritative, assertive, calm, collective, courage, decisiveness, empathizing, foresight, passion, patience, proactive, respect, risks, skills, unbiased, walking the talk*. While for professional characteristics respondents used the words like *communication, management, knowledge, team spirit, appreciate, commitment, discussions, fairness, planning, collaboration, decision, futuristic, giving, goals, instilling, listening, skills, supportive, teamwork, mentorship, delegation*.

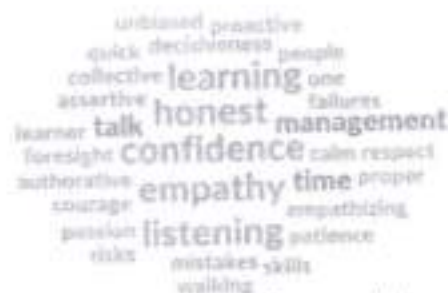


Figure 5 - Personal Characteristics

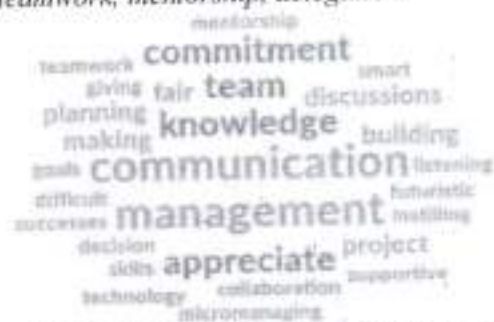


Figure 6 - Professional characteristics

When asked about "how as a leader they build a rapport with their team?", the responses prompted a large number of words and phrases. This we converted into a mind map. Leadership abilities were primarily divided into intrinsic and extrinsic qualities. Some of the intrinsic factors articulated by the respondents were categorized into a) Being authentic b) Being mindful and c) Lead by example. The extrinsic factors were categorized into: a) Being empathetic b) Being a good communicator c) People connect d) Warmth and e) Willingness to share. The mind map provided below elaborates on the various responses to the question.

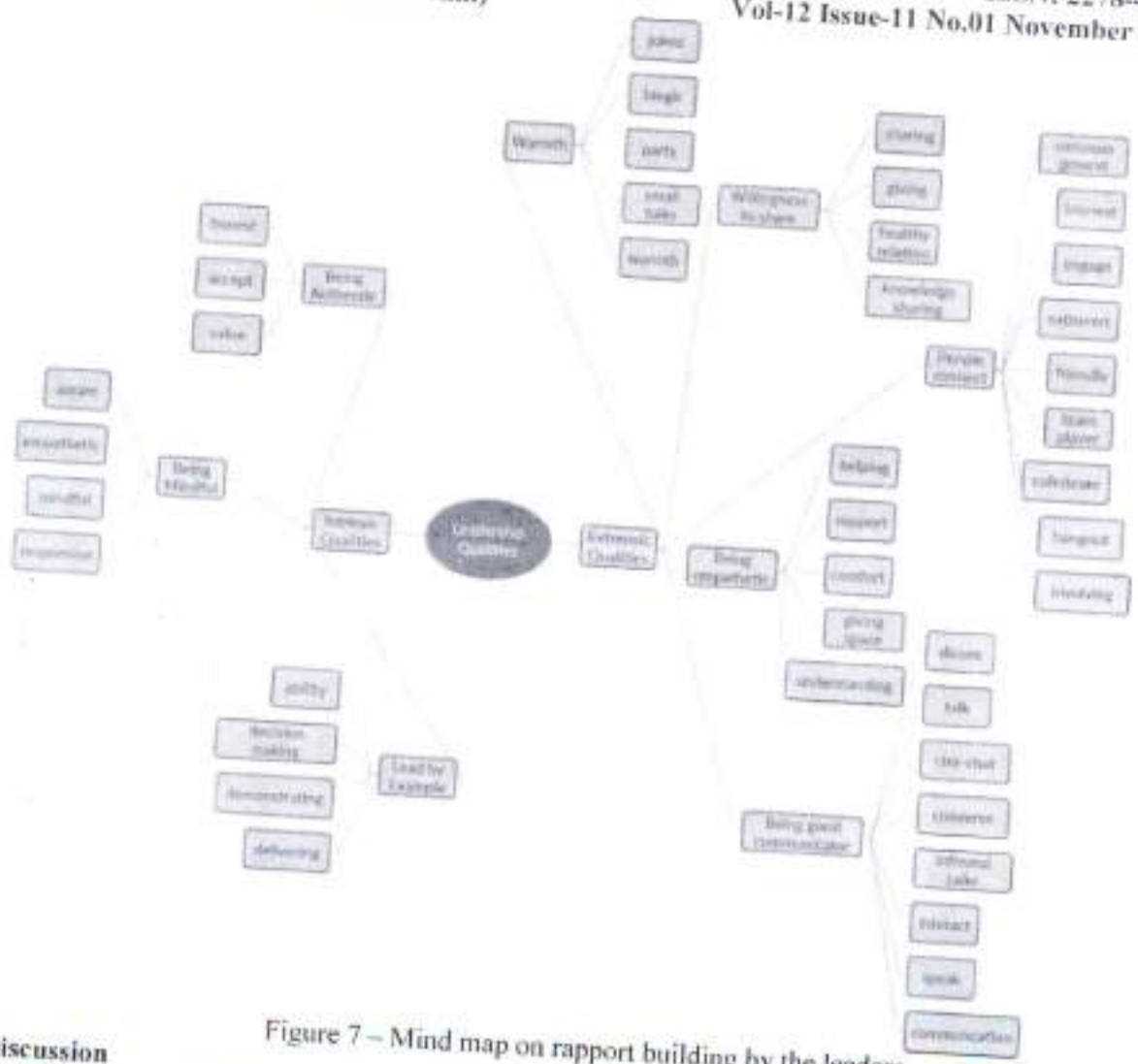


Figure 7 – Mind map on rapport building by the leaders

Discussion

The research objective was to understand whether self-understanding and understanding the society and culture help employees manage oneself and the relationship in the organization better. The high representation of negative words to represent their work place emotions indicate that employees experience a high level of stress and related feeling. we may say that on one hand employees feel incompetence, sadness, worry, embarrassment, tension which creates high stress and burnout. We also found that there is a high amount of frustration, irritation, anger, disappointment which may point towards a poor leader, or a lack of clarity at work, or inadequate remuneration for the hard work and long hours they put in. organizations may need to do lot more in order to keep their employees happy and engaged. The IT employees have high aspirations and expect many things from their managers and hence it is critical for managers to understand the employees and customize their approach to each individual. A few questions we might ask are weather our leaders ready to accept mistakes? Do they help employees cope with the changes? Are they patient? Is there proper communication in our Organisations? Do

they have confidence and trust in their subordinates? How accommodating are our leaders?

Answering to the questions on self-management the responses showed that employees look perceive that most of their problems are externally caused such as managers, culture, work pressure, managing work family relations, traffics, etc. However, the surprising thing was that they found very few instances where organization help them cope with these issues. Most of the respondents said that they manage themselves. It is high time Organisations help employees cope with those areas that causes emotional stress to employees? For example, what help do an organization provide to a call center employee who is abused by the customer? How do the organization ease the work family conflict that an employee experience during this work from home set up? Responding to the question on how they respond to a bad feedback it was noticed that their reaction often controlled by the emotion and not rationality. Their reaction has an equal amount of resistance and acceptance. Many managers complain the rude behavior of IT employees towards their managers during the feedback process. There are also a lot of employees who passively accept the feedback given (Moss and Sanchez 2004). Researchers point out that both these are unhealthy. Cannon and Witherspoon (2005) advocate for actionable feedback Lee et al 2021 says that leader's positive feedback positively influence innovative behavior.

To study the social awareness of the respondents the researchers focused on the awareness of their team members. They seem to be having good awareness of their team members. However, the researchers observed that very few used the word communication and commitment. Probably that is an area where organizations need to put more stress. Lyndon (2006) point out the role of communication in team work while studying patient care. Postmes et al (2001) argue that communication and commitment are closely related and Organisations need to take efforts improve this front. Another area which they mentioned is harmoniousness, however, not many have found this as something that characterize their organization. Zainun et al., (2018) has argued that communication help in destressing and remove role ambiguity leading to increased commitment among employees.

In this increasingly competitive and time crunching work environment leaders often ignore the personal issues of the employees. Charoensukmongko and Phungsoonthorn (2021) wrote that the supervisor support plays a crucial role to help employees during uncertain times and avoid emotional exhaustion. Chen and Eyoun (2021) talk of mindfulness and organizational support to avoid emotional exhaustion. Some of the things the respondents engage in are bringing fun into work, provide adequate leave, doing good to people around, engaging in chit chat with employees etc. Organisations need to focus on such activities to ensure that work place is healthy and are not emotionally exhausting.

All the above factors should lead to creating a good, healthy working environment in the organization. Leaders need to develop personal and professional abilities to ensure this healthy work environment. At a personal level leaders must inspire confidence in their subordinate that they will stand up for them and advocate for them when time comes. Along with this the values of honesty, empathy towards their subordinates, listening, and willingness to learning should be visible to employees. At a professional level communication and commitment are important. It is said admonish in private but appreciate in public. Shao et al., 2021 say that appreciation, fair treatment, providing mentorship as factors that improves commitment of employees in organization.

The above mind map provides a list of leadership characteristics important for emotionally intelligent leader. They are, Being authentic, (Hattke and Hattke 2019), Mindfulness (Hattke and Hattke 2019), Lead by Example (Hattke and Hattke 2019), Communication (Fowler 2018) , Empathy (Romney 2019),

Warmth (Dimitrova and van Hooft 2021), Willingness to share (Romney 2019), and People Connect (Dimitrova and van Hooft 2021). This qualitative research through a structured interview found that these are characteristics that the respondents feel that a manager/leader should have in-order to create a healthy work environment. These are the EI factors that every leader should develop.

Conclusion:

This paper is part of research conducted to understand the emotional intelligence of mid-level information technology leaders. Data was collected through a qualitative method and analyzed using the popular tool NVivo version 12. Emotional intelligence is increasingly gaining importance especially to manage the leaders and employees in the information technology sector. Given the fact that most IT tasks are done in teams working together, understanding the other in a multicultural multilingual context emotional intelligence plays a very prominent role. This research brought out some of the ways in which individuals understand themselves, manage themselves, their awareness of society and people around them in order to create a harmonious work environment.

Some of the implications derived from the research are

1. The research pointed to the fact that there is awareness among the leaders of their emotions and ways and means of coping with them.
2. Leaders tend to view the cause of their emotions/stress as externally created, however rely very high on inner strength and inner ability while coping.
3. Research also showed that leaders are aware of cognitive abilities relating to the task performance of their subordinates while the emotional side was not explored by them.
4. Leaders interviewed felt being authentic is important. Often time people in a managerial role exhibit a different personality which they are not at all and this disconnect creates discord.
5. Another important tenet of a leader as articulated by the respondents is being mindful.
6. A number of words used were representing a need for people connect by the leader. They need to interact, engage and find a common ground with their team members.

As the research was conducted during the Covid lockdown period. The research could not interview the respondents in a face-to-face manner and hence the interview data only elicit verbal information. At a later period, the researchers would meet these respondents to collect more authentic data.

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Digital Transformation's Influence on Marketing Management Strategies: An Exploration

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ABSTRACT

In the contemporary business landscape, the process of digital transformation has become a critical imperative for organizations, particularly within the dynamic domain of marketing. This study tries to examines the convoluted facets of digital transformation, shedding light on innovative strategies that serve as catalysts for both organizational adaptation and substantial growth. As businesses navigate the perpetually evolving digital landscape, a profound understanding of pioneering methodologies becomes indispensable. This study tries to presents insights into innovative approaches that transcend conventional paradigms. From leveraging cutting-edge technologies to composing inclusive data-driven campaigns, the study unravels a spectrum of strategies poised to reshape the marketing landscape. The focal point of this exploration lies in elucidating how these strategies not only adapt organizations to the digital milieu but also serve as potent instruments for fostering robust growth. This study has collected responses from 172 marketing managers, that were instrumental to bring in the transformation in their organization on the digital front and regression analysis done by SPSS through these variables. The study seeks to serve as a comprehensive guide for professionals and researchers alike, offering actionable insights into navigating the complexities of digital transformation in marketing.

Keywords: Digital Transformation, Marketing Management, Strategies

INTRODUCTION

The COVID 19 pandemic has only accelerated this phenomenon forcing companies and organizations to revamp their strategies and operational models. This transformation involves embracing technology as a response to the changes brought about by the crisis. DT, as a persistent force restructuring the business setting, has become a cornerstone for organizations striving to innovate and remain competitive in today's dynamic market. In the realm of marketing, its impact is profound, ushering in a new era where data-driven strategies, technological integration, and adaptive methodologies are imperative for success^[1, 16]. By investigating into the variables of data analysis, this study has unraveled the intricate dynamics of how digital transformation influences marketing management strategies. From leveraging advanced technologies to embracing e-commerce evolution and navigating the complexities of social media dynamics, the transformative power of digital initiatives underscores the need for organizations to not only adapt but strategically harness these changes to redefine their approach to marketing in the digital era^[2]. A number of authors have endeavored to condense the principal effects of DT on marketing practices within the framework of this research, incorporating elements such as the pervasive incorporation of information and communication technology into marketing communication channels, the possibility of communicating with customers in real-time, the emergence of novel relationships between producers and consumers, and the heightened efficacy of marketing initiatives via real-time data tracking^[3,4]. The significant shifts in the relationship between businesses and consumers have forced them to modify their marketing plans by heavily relying on digital technologies.

VARIOUS TYPES OF DIGITAL TRANSFORMATION AND IMPACT ON MARKETING

The term DT refers to a variety of tactics used by businesses to improve their operations, workflows, and overall business models by utilizing digital technologies. DT has a significant impact on marketing, changing how companies interact and connect with their target markets. To further elucidate the idea, let us examine few forms of digital change and their distinct effects on marketing.

1. Evolution of Technology and Marketing Approaches: A revolutionary period in digital marketing has been sparked by the introduction of cutting-edge technology like artificial intelligence, big data analytics, and the Internet of Things. These developments in technology have an impact on marketing tactics^[5, 15]. The influence of integrating data-driven decision-making, AI-driven personalization, and IoT-enabled consumer interactions on improving customer experiences and optimizing marketing endeavors is investigated.

2. E-commerce and Consumer Behavior: As e-commerce platforms have grown in popularity, there has been a noticeable change in consumer behavior. The effects of e-commerce's digital transformation and how those effects then affect customer behavior^[6, 7]. The analysis provides insights into the changing environment of consumer involvement by taking into account elements including social media's influence on consumer preferences, digital marketplaces, and the trends in online buying.

3. Social Media Dynamics and Brand Communication: Brand-consumer interactions have been redefined through the use of social media platforms. Examining the dynamics of social media and how they affect brand communication^[8, 9]. User-generated content, influencer marketing, and real-time interaction tactics provide insights into how businesses utilize social media to establish their brands and engage with customers.

4. Data-Driven Marketing and Personalization: As businesses leverage data analytics, they are focusing on personalized and data-driven marketing techniques. It explores how companies use consumer data to target campaigns, personalize marketing messaging, and improve overall customer experience^[10]. Critical analysis is also given to the ethical issues pertaining to data privacy and the harmony between personalization and intrusion.

5. Location-Based Services and Mobile Marketing: The widespread use of smartphones has changed the marketing environment and highlighted the importance of location-based services and mobile marketing. The effect of digital transformation on mobile strategies, such as augmented reality integration, location-based promotions, and mobile advertising^[11, 12, 20]. The key is to comprehend how businesses modify their marketing strategies to cater to the mobile-first, mobile-centric tastes of contemporary consumers.

6. Organizational Adaptation and Change Management: The successful implementation of digital transformation in marketing necessitates organizational adaptation. This section reviews literature on change management strategies and the challenges organizations face in transitioning to digitally-driven marketing practices^[13, 14, 19, 23]. It explores frameworks for managing organizational change, fostering a culture of innovation, and aligning internal structures with the dynamic requirements of digital transformation in marketing.

DATA ANALYSIS AND INTERPRETATION

The study had 172 marketing managers as their respondents, and been the instrumental to bring in the digital change in these organizations. Data was analyzed by SPSS and the test was regression analysis.

Table 1: Regression Statistics

Multiple R	0.75
R ²	0.562
Adjusted R ²	0.537
Standard Error	0.065
Observation	172

The regression analysis states statistically significant relationship between the DT factors and their impact on marketing. There is a statistically significant correlation between the factors influencing digital transformation and marketing, the correlation coefficient (R) of 0.75, the marketing impact variability is strongly positively correlated, accounting for 75% of the variation in marketing effect. The combined impact of digital transformation elements accounts for 56.25% of the

variation in marketing impact, as indicated by the coefficient of determination (R^2) of 0.5625. With model complexity taken into account, the adjusted R^2 is 0.5375, indicating that the selected predictors account for about 53.75% of the variation. The close fit of the model is indicated by the low standard error of the estimate ($\sigma = 0.065$), which suggests a close alignment between the projected and actual values of marketing impact. Thus these findings emphasize the substantial influence of digital transformation on shaping marketing outcomes, highlighting its pivotal role in contemporary business strategies^[17,18,21].

CONCLUSION

In conclusion, this study has undertaken a comprehensive exploration into the intricate relationship between DT and management strategies, employing various variables of data analysis. The investigation encompassed various technological integration impacting the digital transformation variables on shaping contemporary marketing practices. The integration of cutting-edge technologies has emerged as a pivotal driver, allowing businesses to harness the power of artificial intelligence and data analytics for personalized customer experiences and targeted marketing campaigns. E-commerce evolution has facilitated streamlined transactions and personalized product recommendations, while social media dynamics have transformed marketing through real-time engagement, influencer collaborations, and user-generated content. Data-driven decision-making has proven instrumental in creating targeted campaigns, adapting strategies in real time, and gaining a deeper understanding of consumer behavior. Mobile-centric strategies, driven by location-based services and responsive design, ensure that businesses effectively engage with consumers on their preferred devices. Organizational adaptation has been identified as a critical factor, fostering an environment where marketing teams are agile, innovative, and capable of navigating the complexities of the digital landscape. Through rigorous data analysis, this study has not only highlighted the individual impact of these digital transformation variables but has also emphasized their collective influence on shaping marketing management strategies. The variables are interconnected, forming a dynamic framework that organizations can leverage to stay competitive and responsive to the evolving needs of the market. As businesses continue to navigate the digital landscape, this exploration serves as a valuable resource for practitioners and researchers seeking a nuanced understanding of the quantitative aspects underlying digital transformation's influence on marketing. By embracing and strategically implementing these insights, organizations can position themselves at the forefront of innovation, ensuring sustainable growth and adaptability in the dynamic realm of digital marketing.

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Impact of AI on Human Psychology

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Abstract

AI has rapidly advanced, transforming many elements of human life and society. AI aids healthcare, transportation, and communication, but its effects on human psychology are still debated. This article summarizes AI's effects on human psychology and discusses potential psychological effects. AI has changed human-machine interaction. Intelligent virtual assistants, chatbots, and social robots are creating new human-machine partnerships. These interactions often induce social closeness, trust, and emotional attachment. However, blurring human-machine barriers can also cause isolation, dehumanization, and distrust. AI has changed work. Workers worry about job displacement and skills obsolescence due to automation and AI integration, causing stress, anxiety, and fear of unemployment. Upskilling and job changes might raise psychological stress. AI affects human psychology in privacy, data security, and identity. AI systems' massive data collection and processing pose privacy issues and the possibility of mind control. Concerns about personal information might increase anxiety, self-censorship, and a loss of control. Policymakers, developers, and academics must understand how AI affects human psychology to manage ethical and psychological issues. To create a future that supports human well-being, we must identify and mitigate AI technology's negative psychological effects while leveraging its benefits. The study aims to explore the multifaceted ways in which AI affects human psychology, specifically focusing on MBA students in terms of ethical & psychological implications & to examine the changing skill requirements, job market uncertainties, decision-making dynamics, and human-machine collaboration

Keywords: Artificial Intelligence, AI, Human psychology, Psychological consequences, ethical implications

Introduction

The rise of artificial intelligence (AI) as a revolutionary force that is transforming various facets of human existence and society has occurred in recent years. Artificial intelligence technologies are altering how we live, work, and interact in every aspect of our lives, from intelligent virtual assistants and autonomous vehicles to powerful data analytics and decision-making systems. The impact that artificial intelligence (AI) has on human psychology is becoming a topic of significant interest and worry. This is despite the fact that the benefits of AI are visible in greater efficiency, convenience, and problem-solving capabilities. This study offers a comprehensive introduction to the influence that artificial intelligence (AI) has on human psychology, focusing on the primary areas of influence as well as the potential psychological repercussions.

Interaction between Humans and Machines

The development of AI technology has resulted in the emergence of new modes of human-machine interaction. Intelligent virtual assistants like Siri, Alexa, and Google Assistant are becoming more widespread. These assistants

provide individualized support and companionship and have become increasingly popular. These exchanges have the potential to evoke psychological responses such as a sense of trust, emotional attachment, and social connection. (Hoffman & Breazeal, 2019) Research has revealed that individuals may engage in anthropomorphism, or the practice of attributing human-like attributes to artificial intelligence (AI) systems. This can lead to increased involvement with and dependence on these technologies. According to Larson et al. (2018), the blurring of lines between human and machine can also have negative repercussions, such as producing feelings of isolation, dehumanization, or distrust.

Making Decisions and Being Prejudiced

In important decision-making processes, such as those involving hiring and financing, as well as those involving the criminal justice system, the use of algorithms driven by AI is becoming increasingly common. Even if AI systems have the potential to improve objectivity and efficiency, it is also possible for them to demonstrate biases due to the training data or the algorithms themselves. Concerns concerning justice and equity are raised as a result of this. When decisions made by AI systems do not fit with individuals' expectations or ideals, those individuals may feel as though they have been treated unfairly or discriminated against. According to Barocas and Selbst (2016), the results can include a reduction in the individual's level of trust in the decision-making process, a loss of autonomy, and psychological suffering. In addition to this, individuals may lose faith in their own capacity for sound judgment and decision-making if they place an excessive amount of dependence on AI systems (Nunes et al., 2021).

Work and Job Opportunities

There will be substantial repercussions for employment as well as the emotional health of workers as a result of the introduction of AI technology into the workforce. There are growing concerns regarding the displacement of jobs and the obsolescence of skills as a result of the rising use of automation and AI-driven systems to replace human labor. (Davenport & Kirby, 2016) Research has shed light on the psychological strain, worry, and dread of joblessness that are experienced by persons who are confronted with the possibility of being made redundant by technology advances. According to research by Lombardi et al. (2019), the necessity of workers to acquire extra skills and adapt to ever-evolving workplace requirements might produce additional psychological stresses and obstacles.

Privacy, protection of personal data, and protection of personal identity

Artificial intelligence requires large volumes of individual data for the purposes of both training and making decisions. This raises worries over the possibility for individuals' attitudes and behaviors to be manipulated, as well as potential breaches of privacy and data security. According to Powell and Milstein's research from 2020, when AI systems collect and analyze personal data, it can result in increased anxiety, self-censorship, and a weakened sense of control over one's own personal information. The gradual loss of one's privacy can have substantial psychological repercussions, which can affect one's trust in both technological and society organizations.

Review Literature

The piece by **Krupiy (2020)** looked at the effects of how artificial intelligence (AI) makes decisions on different things, with a focus on social justice. The author did a vulnerability study to find out how AI decision-making affects people, society, and the differences between people. The study looked at how AI systems might cause bias, discrimination, and inequalities, and how they might affect marginalized groups. The story talked about how important it is to look at the ethical aspects of AI, such as concerns about privacy, fairness, accountability, and the balance of power between AI systems and humans. It emphasized the need to look at these problems from a social justice point of view to make sure that everyone gets a fair result and to avoid making social differences worse. The study helped us learn more about the social effects of how AI makes decisions. It shed light on potential problems and gave us ideas about how to promote social justice in the creation and use of AI technologies.

The researchers **Siebert, Kunz, and Rolf (2020)** investigated the connection between making proactive decisions and experiencing higher levels of life satisfaction. The authors of this study carried out research in the form of a massive survey to investigate the question of how individuals' proactive decision-making activities influence their overall level of happiness with life. According to the findings of the study, those who engage in proactive decision-making, which is characterized by actively seeking information, considering alternatives, and taking initiative in decision-making processes, tend to have better levels of life satisfaction than those individuals who do not. The ability to make proactive decisions was found to have a favorable association with a sense of autonomy, as well as self-efficacy

and perceived control. The study underlined how important it is to take an active approach to decision-making, and it implies that persons who are proactive in their decision-making processes have greater levels of fulfillment and pleasure in their lives. The findings contributed to a better understanding of the psychological elements that influence life satisfaction and highlighted the advantages of proactive decision-making in terms of boosting overall well-being. Individuals are encouraged to take an active position in their decision-making processes in order to improve their overall quality of life as a result of the findings of the study, which provided insights into the positive benefits that proactive decision-making may have on life satisfaction.

The ethical considerations that are associated with the application of artificial intelligence (AI) in the field of medicine were discovered by **Keskinbora (2019)**. The purpose of this study was to examine the implications and difficulties that are brought about by the incorporation of AI into healthcare settings. The focus of the study was on the junction of artificial intelligence and medical ethics. According to the findings of the study, the use of AI in the medical field requires the collecting and examination of enormous volumes of patient data. It is absolutely necessary to take measures to protect the privacy of patients and sensitive medical information in order to preserve patient confidentiality and confidence. Additionally, Keskinbora underlined that AI systems can be prone to biases, which might result in discrimination or unequal treatment in the medical field. To ensure justice and equal outcomes in healthcare, efforts should be undertaken to identify biases in AI algorithms and minimize the effects of those biases. The application of AI to the process of making medical decisions raises concerns about responsibility and accountability. It is vital to establish clear lines of accountability for AI-driven systems, including the roles and duties of AI developers as well as healthcare practitioners. There is a possibility that the integration of AI will have an effect on the professional autonomy of healthcare practitioners. When it comes to striking the right balance between human judgment and recommendations generated by AI, there are several ethical factors to take into account. The research highlighted the importance of establishing a thorough ethical framework to direct the development and application of AI technologies in the medical field. This demonstrates how important it is to address these ethical problems in order to guarantee the responsible and ethical application of AI in clinical settings. The findings of the study shed light on the ethical implications associated with using AI in healthcare and provide insights into the issues that need to be taken into account to ensure ethical and responsible integration of AI in the medical profession. The study was conducted to investigate the ethical implications associated with using AI in healthcare.

Artificial intelligence (AI) was the subject of investigation in **Kaplan and Haenlein's (2019)** research study. Specifically, the authors zeroed in on the ubiquitous voice assistant Siri as an example to illustrate their findings. The writers investigate a variety of AI interpretations and their potential ramifications, touching on a variety of important themes. The purpose of this study was to investigate the various ways in which individuals and society understand and interpret AI. The article covers how some people view artificial intelligence as either a danger or a transformational technology that has the potential to improve human skills. The writers brought attention to the moral dilemmas that may arise from AI as well as its possible effects on society. Concerns including privacy, data security, algorithmic biases, and the impact on jobs and society as a whole are among them. The importance of developing and deploying AI in a responsible and ethical manner was underlined throughout the study. The study examined the changing dynamics of human-machine contact as well as the part that AI plays in determining the form of these encounters. It investigated the possibilities that artificial intelligence has for enhancing user experiences, personalizing service delivery, and enhancing decision-making procedures. Anthropomorphism, which is when people attach human-like features and emotions to artificial intelligence systems, was one of the topics that the writers investigated. They talked about the possible repercussions of these attributions, which included problems with trust, accountability, and emotional commitment to AI. The administrative ramifications of implementing AI are also discussed in this paper. It examines the challenges and opportunities that AI brings for businesses, such as the need for human and AI collaboration, strategic decision-making, and resource allocation.

When it comes to the processing of social and emotional information, **Esposito, Esposito, and Vogel (2015)** investigated the requirements and challenges related with human-computer interaction (HCI). The writers emphasized the growing significance of social and emotional intelligence in HCI systems, which are increasingly being developed to interact with users in more human-like ways. As a result, the authors noted the growing importance of social and emotional intelligence in HCI systems. According to the findings of the study, nonverbal clues, such as a person's tone of voice, facial expressions, and gestures are all important components of human communication. It is crucial for human-computer interaction systems to incorporate and comprehend these nonverbal cues in order to improve the

efficiency and naturalness of human-computer interactions. An essential part of human-computer interaction is being able to identify and make sense of human feelings. In order to facilitate more empathic and context-aware interactions, the article places an emphasis on the requirement for accurate and reliable emotion identification algorithms to be implemented in computer systems. The emotional responses of humans can vary substantially from one person to the next. In order to give users with experiences that are unique to them and customised to their specific needs, HCI systems need to take into account these individual characteristics and adjust their responses accordingly. It is essential for human computer interaction (HCI) systems to be able to interpret social and emotional data in real time if they are to preserve the natural flow of interaction. It's possible that the user's engagement and overall pleasure would suffer if they receive delayed or erroneous responses. The research highlighted how important it is for human computer interaction (HCI) systems to successfully include social and emotional information in order to provide interactions that are more engaging, natural, and individualized. In addition to this, it brought to light the difficulties and ethical concerns that are linked with the processing of various kinds of information. It paved the way for more empathic and successful human-computer interactions by providing insights into the needs for designing HCI systems that are more responsive to human emotions and providing a pathway for more effective human-computer interactions.

Research Methodology

The secondary & primary both sources has been used to gather information. Quantitative research design has been used. Respondents has taken from JSPM'S Jayawantrao Sawant College of Engineering, Pune, Maharashtra (MBA students). Total 110 students participated in survey. Where number of male students was 65 & number of female students was 45. T-test has applied for analysis on the bais of mean & standard deviation.

Problem Statement

The science of artificial intelligence (AI), also known as machine learning, is evolving at a breakneck pace and has profound consequences for many facets of human existence, including psychology. Understanding how artificial intelligence technologies influence human psychology is becoming increasingly important as they continue to spread across a variety of business sectors and fields. The combination of artificial intelligence and psychology gives rise to a number of fascinating concerns regarding how individuals perceive, interact with, and adapt to AI-driven systems. This impact becomes especially crucial for MBA students since they are ready to negotiate the increasingly complicated corporate landscape, which is being influenced more and more by AI. This discussion aims to explore the multifaceted ways in which AI affects human psychology, specifically focusing on MBA students. By examining the changing skill requirements, job market uncertainties, ethical considerations, decision-making dynamics, and human-machine collaboration, we are able to improve our understanding of the psychological repercussions of integrating AI and the importance of this topic to the field of MBA education. Once we have a greater understanding of these implications, we will be better able to prepare MBA students to prosper in a future driven by AI, both emotionally and professionally.

Objective of the study

- To find impact becomes particularly relevant for MBA students who are preparing to navigate the complex business landscape, where AI is increasingly influential.
- To explore the multifaceted ways in which AI affects human psychology, specifically focusing on MBA students in terms of ethical & psychological implications.
- To examine the changing skill requirements, job market uncertainties, decision-making dynamics, and human-machine collaboration

Hypothesis of the study

H1 : There is no positive differences about ethical considerations between male & female in terms of impact of AI" is accepted.

H1 : There is positive differences about ethical considerations between male & female in terms of impact of AI" is accepted.

H2 :There is no positive differences about major common considerations between male & female in terms of impact of AI" is accepted.

H2 :There is positive differences about major common considerations between male & female in terms of impact of AI" is accepted.

H3 :There is no positive differences about psychological considerations between male & female in terms of impact of AI” is accepted.

H3 :There is positive differences about psychological considerations between male & female in terms of impact of AI” is accepted.

What are the moral and psychological consequences of the relationship between AI and people?

The interaction between human beings and artificial intelligence systems (AIS) raises a number of moral and psychological questions that need to be thought through carefully. Several important aspects are as follows:

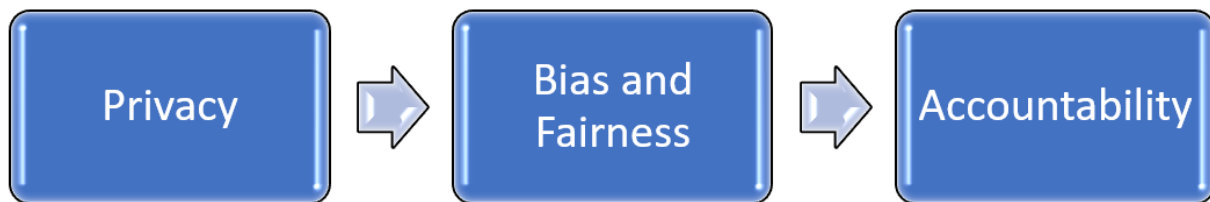


Figure 1: Factors of Ethical Implications

- AI systems frequently rely on enormous amounts of data, which raises worries about personal information privacy as well as the possibility of its misuse or access by unwanted parties. The establishment of trust and the maintenance of an ethical approach to data processing become essential issues.
- Fairness and Bias: Unintentionally, AI systems might unintentionally perpetuate biases that are already present in the data that they are trained on, which can lead to biased results. Concerns have been raised regarding the fairness and equity of decisions that have been driven by AI, which has resulted in the need for initiatives to address and mitigate bias.
- When AI systems make decisions, who is responsible for such decisions becomes a complicated question. It might be difficult to determine who is liable for errors, biases, or undesirable repercussions; therefore, transparent frameworks are required in order to distribute responsibility in an acceptable manner.

Psychological Implications:

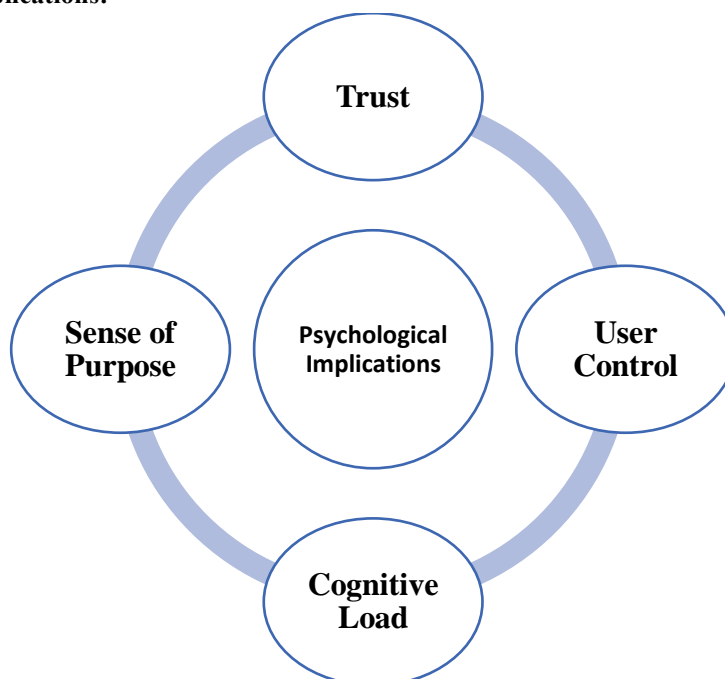


Figure 2: Factors of Psychological Implications

- There is a considerable psychological component involved in the building of trust between human beings and AI systems. Users need to have faith in the capabilities, dependability, and intentions of AI systems in order for those systems to effectively communicate and collaborate with users.
- The degree of control that a person feels they have over AI systems can have an effect on the mental health of that person. If users feel that they do not have influence over the processes or decisions that are driven by AI, they may suffer irritation or a loss of empowerment.
- Individuals may have increased cognitive load as a result of interacting with AI systems because this interaction requires them to comprehend, understand, and validate the results produced by AI. The mental effort required to absorb and integrate information driven by AI can have an effect on decision-making as well as the overall cognitive well-being of an individual.
- There is a potential for existential issues regarding human purpose and agency to be prompted by the growing role of AI systems in a variety of sectors. It is possible that people will struggle with the feeling of being replaced or undervalued by AI, which would require them to reevaluate their personal identity and the significant contributions they make.

Because of these ethical and psychological ramifications, it is essential that artificial intelligence systems be designed, developed, and deployed responsibly. To cultivate trust, transparency, and a harmonious relationship between AI systems and humans, it is essential to find a balance between technology progress and human values. To ensure the successful incorporation of AI into society, it is essential to address these issues by developing ethical rules, stringent restrictions, continuous educational programming, and a strategy that draws from other disciplines.

Challenges of Artificial Intelligence (AI) on human psychology

The influence of artificial intelligence (AI) on human psychology presents a number of issues, all of which must be recognized and tackled in order to be successfully overcome. Artificial intelligence (AI) has a large number of chances for technological advancement and improvement; nevertheless, it may also create certain psychological difficulties.

This section highlights some key challenges posed by AI on human psychology:

Trust and Reliance: As AI systems become more and more integrated into different parts of daily life, people may find it hard to trust and depend on them. Users must trust AI systems in order to fully accept and use them. But worries about how accurate, fair, and free of bias AI algorithms are can make people less likely to believe them and hesitant to rely on decisions made by AI (Hoffman & Breazeal, 2019). Overusing AI systems can also make people lose faith in their own sense and ability to make decisions (Nunes et al., 2021).

Emotional Impact and Connection: AI systems are made to interact with humans in ways that mimic emotions and build connections. But there is a chance of making shallow emotional ties that don't meet the real emotional needs of people. (Larson et al., 2018) say that people may form emotional ties to AI systems or show anthropomorphism by giving these machines human-like traits. This blurring of the lines between humans and machines can cause psychological problems, such as confusion about social rules and expectations, feelings of being alone, or a sense of being less human.

Psychological Effects of Automation: When AI and automation are combined in the workplace, it can cause psychological problems like job loss, loss of skills, and doubt about a career path. (Davenport & Kirby, 2016) say that the fear of technological unemployment and the need to adapt to new job requirements can cause a lot of stress, anxiety, and a loss of a sense of personal satisfaction and identity. Job insecurity and pressure to learn new skills or take on new jobs can have a big impact on a person's mental health.

Concerns about privacy and data security: AI systems often use huge amounts of personal data to learn and make decisions. Concerns about privacy, data security, and the possible misuse of personal information are raised by the gathering and analysis of such data. Powell and Milstein (2020) say that people may feel more anxious, limit themselves, and lose control over their own data and sense of self. In a world run by AI, it's important for people's mental health and trust in technology that they can keep their privacy.

Ethical and Bias Considerations: AI systems are not immune to flaws in their training data or algorithms. AI systems that are biased can reinforce and make social biases worse, which can lead to discrimination and unfair results. Barocas and Selbst (2016) say that the psychological effects of biased AI can include a sense of wrong, a loss of trust in systems that make decisions, and a sense of being left out or discriminated against. To

solve these problems, it is important to deal with biases and make sure that AI is designed in a responsible way.

It is necessary to understand these issues and find solutions to mitigate them in order to maximize the potential benefits of AI while simultaneously protecting the psychological well-being of individuals and the trust of society. To design and execute AI systems that promote openness, justice, privacy, and human-centric values, interdisciplinary collaboration among psychologists, ethicists, policymakers, and engineers is required.

Results & Discussion

Table 1: Results of t- test of significant difference for the Parameters of Ethical Implications

Parameters (Ethical Implications)	Gender	Mean	S.D.	t	Sig. (2-tailed)
Privacy	MBA Students (Male)	2.687	0.737	1.723	0.875
	MBA Students (Female)	2.593	0.631		
Bias and Fairness	MBA Students (Male)	1.731	0.762	0.561	0.819
	MBA Students (Female)	1.849	0.834		
Accountability	MBA Students (Male)	2.561	0.694	0.094	0.775
	MBA Students (Female)	2.612	0.703		

As per above table 1, a ethical implications construct containing 03 different impacting behaviour i.e. privacy (t value = 1.723), bias and fairness (t value = 0.561), accountability (t value = 0.094), and all plays a major role in ethical consideration. It has been observed that all parameters having high T-value as comparison to significant value i.e. 0.05). Therefore, alternate hypothesis, “there is positive differences about ethical considerations between male & female in terms of impact of AI” is accepted.

Table 2: Results of t- test of significant difference for the Parameters of Psychological Implications

Parameters (Psychological Implications)	Gender	Mean	S.D.	t	Sig. (2-tailed)
Trust	MBA Students (Male)	2.736	0.596	1.871	0.678
	MBA Students (Female)	2.451	0.563		
User Control	MBA Students (Male)	1.898	0.864	0.664	0.729
	MBA Students (Female)	1.936	0.821		
Cognitive Load	MBA Students (Male)	2.116	0.644	0.189	0.783
	MBA Students (Female)	2.453	0.685		
Sense of Purpose	MBA Students (Male)	2.497	0.711	0.183	0.678
	MBA Students (Female)	2.578	0.806		

As per above table 2, a psychological implications construct containing 04 different impacting behaviour i.e. trust (t value = 1.871), user control (t value = 0.664), cognitive load (t value = 0.189), sense of purpose (t value = 0.183) and all plays a major role in psychological consideration. It has been observed that all parameters having high T-value as comparison to significant value i.e. 0.05). Therefore, alternate hypothesis, “there is positive differences about psychological considerations between male & female in terms of impact of AI” is accepted.

Table 3: Results of t- test of significant difference for the Parameters of major common Implications

Parameters (Major Common Implications)	Gender	Mean	S.D.	t	Sig. (2-tailed)
Changing skill	MBA Students (Male)	2.689	0.450	1.235	0.589

requirements	MBA Students (Female)	2.674	0.472		
Job market uncertainties	MBA Students (Male)	2.362	0.673	0.314	0.651
	MBA Students (Female)	2.225	0.761		
Decision-making dynamics	MBA Students (Male)	1.197	0.705	0.216	0.674
	MBA Students (Female)	2.560	0.698		
Human-machine collaboration	MBA Students (Male)	2.498	0.721	0.302	0.691
	MBA Students (Female)	2.557	0.785		

As per above table 3, a major common implications construct containing 04 different impacting behaviour i.e. changing skill requirements (t value = 1.235), job market uncertainties (t value = 0.664), decision-making dynamics (t value = 0.216), Human-machine collaboration (t value = 0.302) and all plays a major role in common consideration. It has been observed that all parameters having high T-value as comparison to significant value i.e. 0.05). Therefore, alternate hypothesis, “there is positive differences about major common considerations between male & female in terms of impact of AI” is accepted.

Findings of the study

- When social questions about the effects of AI were looked at, there were big differences between men and women. The data shows that men and women have different ideas about how AI affects moral issues. There could be disagreements about privacy, algorithmic bias, openness, and who is responsible for what.
- When the psychological effects of AI were looked at, there were big differences between men and women. This shows that men and women react to AI in different ways, such as with trust, fear, acceptance, or worries about their own freedom.
- When the major shared concerns about how AI will affect people were looked at, there were big differences between men and women. This means that men and women look at the effects of AI from different points of view. These big common things to think about could include things like job loss, economic effects, changes in society, or technological advances.

Recommendations:

- AI development organizations should include various ethical perspectives in decision-making, including gender diversity.
- Give men and women thorough ethical AI development and deployment training. This will bridge the ethical divide.
- Promote collaborative study on gender-specific ethical issues. This will improve inclusive and ethical AI systems.
- Develop AI systems that consider male and female psychological requirements and responses using psychology research and user-centered design. This improves consumer happiness.
- Address psychological issues and develop trust with open and sympathetic conversation. Explaining how AI systems work, their limitations, and privacy and security safeguards can help.
- Implement feedback mechanisms and assess AI's psychological effects on different genders. This will enable early detection and action.
- Take into account gender differences in AI impact assessments. This will improve repercussions understanding and enable focused mitigation efforts.
- Create AI policies that address male and female concerns and priorities. Consider employment, reskilling, and social assistance.
- Open debate and public involvement to educate and involve diverse groups, including men and women, in AI issues. This will improve understanding and consensus.

Conclusion:

In order to address the ethical, legal, and social consequences of AI, it is essential to have a solid understanding of how AI will affect human psychology. It is vital to take measures to reduce the potential negative psychological implications of AI, despite the fact that AI provides immense potential to improve human lives. It is

imperative that policymakers, developers, and researchers take into account ethical design principles, emphasize human well-being, and promote openness and accountability in artificial intelligence systems. We are able to take use of the beneficial elements of AI while mitigating the threats that may be posed to people's mental health if we use it in a responsible and people-focused manner. According to the findings of the study, male and female perspectives on the ethical implications of artificial intelligence are significantly distinct. This has good implications. This demonstrates how important it is to take into account a variety of viewpoints and to make certain that ethical principles and practices take into account issues that are associated with gender. The development of artificial intelligence systems that are not only technologically advanced but also take into consideration the psychological well-being and requirements of all humans requires an understanding of these differences. Recognizing the existence of these distinct points of view is essential to the process of formulating effective plans and policies that address the needs of all relevant stakeholders.

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A STUDY ON NPAS OF SELECTED PRIVATE & PUBLIC SECTOR BANKS IN INDIA

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ABSTRACT

Banks play a very important role in any Financial System. It is the backbone of the Indian Financial System. The Rising NPA's of the Banks in India for the last 5 years has really posed a threat to the Indian financial system. Recently Standard & Poor Global Rating agency has expected the NPA's of Indian banks to remain elevated at 11.5 %. NPA helps to measure the Performance of any bank. It is quite evident that the Recent Covid Pandemic has badly hit not only India but the entire world to a greater extent. The Public and Private sector banks in India both have been adversely affected by the Rising NPA. Through this research, it has been observed that Public sector banks are more adversely affected than Private sector banks. My Study Focus on the Trend & Differences in the Non-Performing Assets of the Selected Indian Public and Private Sector Banks.

Keywords: NPA, Finance, Banks, Rating, Financial System.

JEL Classification Codes: E, G.

INTRODUCTION

The Indian Banking sector plays a very important role in the Indian Financial system. It acts as a link between lender and borrower. Banking in India has played a very important role to develop the saving habits among the masses. It helped to channelize the savings of the people into investment. In the past three decades Indian banking has outperformed and helped to develop the financial system in the country. Nevertheless Indian banking system has witnessed many revolutionary changes, for e.g. Nationalization of 14 major Private Banks in the year 1969. The Banking sector in India currently consist

of Public sector Banks, Private sector Banks & Foreign banks. In any Economy Banks plays a very major role in developing the financial system. Failure of banks reflects the failure of economy & it has many adverse impact across the sectors. Strong and Healthy financial system increase the confidence in the economy and thus help to further increase investment and GDP of the country. In the last 5 years Indian banks are witnessing the Increase in number of NPAs. A high level of NPAs impact the liquidity & Profitability of bank (Das & Uppal, 2021). Credit creation by banks also get hampered due to the Rising NPAs. Continuity in Increased NPAs adversely impacts the economy, whereby the confidence in economy is lost and investment starts decreasing which in turn affects GDP of the economy. It has been found that NPA of Public sector bank is higher than private sector bank (Joseph & Prakash, 2014; Miyan, 2017). Rise in NPA levels of Banks have also impacted their profitability (Wadhwa, 2020). Despite of different mechanism introduced by Government of India for the Quick Debt recovery such as Debt Recovery Tribunals throughout the country but this Debt Recovery Tribunal performance has been unsatisfactory from the evidence that the level of NPA has increased despite of Debt Recovery Tribunals (Alamelumangai & Sudha, 2019). A Revolutionary change was brought in banking sector by Bringing the Sarfaesi Act, 2002 as a tool to expedite the loan recovery process for the Indian banks. The performance of sarfaesi act, 2002 has been far more satisfactory than DRTs in Loan recovery Process. To overcome the shortcomings of the DRTs and Sarfaesi act, 2002, Insolvency Bankruptcy Code was passed in the year 2016 to overcome the NPA Problem of the Indian banking sector and give the time bound solution for the NPA Recovery process.

IBC saves the banking system from the clutches of willful defaulters and make the promoters understood that they can no longer swindle the banks.

The performance of IBC during the last four years has been excellent in institutionalizing a mechanism for faster implementation of insolvency laws in India, much more can be done in the coming years (Kumara, 2018).

Non-Performing Assets (As per the RBI Announcement)

A non-performing asset (NPA) is a loan or advance for which the principal or interest payment remained overdue for a period of 90 days.

Classification of NPAs (As per the RBI Guidelines)

- Substandard Assets: - An Asset which remains as NPA for less than or equal to 12 months.
- Doubtful Assets: - An asset which remain as NPAs for more than 12 months.
- Loss of Asset: - An Asset where loss is identified by the bank or RBI. Asset whose value is uncollectible, but there may be little value remaining in it.

Major Causes of NPAs.

External Factors

- Ineffective Recovery Tribunal
- Natural Calamities
- Poor Industrial Growth
- Willful defaults
- Changes made in the Government Policies.

Internal Factors

- Poor lending process
- Insufficient technology
- Poor Credit Appraisal System
- Inefficient Management.

LITERATURE REVIEW

Joseph and Prakash (2014) this paper deals with the comparative analysis of advances & Non-Performing Assets of Public & Private sector banks. 5 years data from the year 2008-2013 has been used for analyzing. It was observed that Public sector banks are having more NPAs than Private sector banks. Secondary Data was used for the Research Purpose.

Chaudhary and Sharma (2011) the Paper focus on comparing NPA data of Public & Private sector banks. The trend of NPA also have been studied and it was observed that, Public sector banks are unable to compete with private sector banks and needs to improve its performance in Management Information system and also there is a larger need of Imparting training to employees of Public sector banks to make them competitive in comparison with private sector bank employees.

Das and Dutta (2014) the study is done on comparing the NPAs of Public sector banks only. 26 public sector bank data on NPA was used. The comparison was done between SBI Associates and other Public Sector banks. Using the Anova test it was found that there is no significant difference in NPAs of SBI Associates and other Public sector banks.

Kaur and Saddy (2011) the paper mainly focused on understanding the concept of NPA & factors contributing towards NPA. It also studies how NPA affect banking operations.

Mittal and Suneja (2017) the paper mainly examine the level of NPAs in the Indian banking sector and then analyzing the causes for Increasing NPAs. The study also concludes that the magnitude of NPA in Public sector banks is more than Private sector banks.

Miyan (2017) comparative analysis of selected Private and Public sector bank has been done on various performance parameters such as GNPA, ROA, and NNPA. 5 years data was use for analysis from 2011-2016. It was found that Performance of PSU banks is way behind the private sector banks. T- Test was used to find the significant difference.

Kumar et al. (2021) the study examines the impact of NPA on Profitability of banks. Only 2 banks HDFC & SBI were used for comparison. It was found that Increase in the provisions for NPA declines the profitability of banks. It was also found that If NPAs are reduced then the Public sector banks could have a higher profitability.

Singh (2013) the magnitude of NPA is comparatively higher in public sectors banks than private sector banks. To improve the efficiency and profitability of banks the NPA need to be reduced and controlled.

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Boddu (2019) this study compares the Loans and Advances, NPAs of both public and private sector banks in India to explore the preventive measures to control the rising NPAs. Suitable preventive measures help banks to decrease the level of NPAs in India. A lower level of NPAs helps the banks in consolidating their position, increasing confidence to depositors and increasing market share of the banks.

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declines the profitability of banks. It was also found that If NPAs are reduced then the Public sector banks could have a higher profitability.

Sahoo and Majhi (2020) the Paper analyze the recovery mechanism of NPAs with its three important wings i.e. recovery through Lok Adalat, Debt Recovery Tribunals (DRTs) and Securitization and Reconstruction of Financial Assets and Enforcement of Securities Interest Act (SARFAESI Act) and its impact on NPA.

OBJECTIVES OF THE STUDY

- To Ascertain the Trends in the Level of NPAs
- To know the Position of Private and Public sector banks in respect of NPAs of last 10 years.
- To compare the Level of NPAs of Selected Private & Public sector banks in India.
- To suggest few measures to improve the level of NPAs of banks.

RESEARCH METHODOLOGY

As per the literature review it has been observed that the present study mainly focus on NPAs comparison of Public sector banks and Private sector banks. My study also focus on comparison of NPA level of Private and Public sector banks. Only selected prominent banks from each Private & Public sector is taken for the study. Last 10 years data has been used for the meaningful study on NPAs. The secondary data has been used for analysis which is mainly taken from authentic sources such as RBI Publications etc. The data has been analyzed in tabular form, Trend analysis and ANOVA test has been used to find out significant difference.

DATA ANALYSIS

Table 1. Gross Non-performing Assets percentage to Gross Advances of the Private sector banks for the year 2011-12 to 2020-21

Year	HDFC			ICICI			AXIS		
	Gross NPA ¹	Gross Advances ²	Gross NPA to Gross Advances percentage	Gross NPA	Gross Advances	Gross NPA to Gross Advances percentage	Gross NPA	Gross Advances	Gross NPA to Gross Advances percentage
2020	12559.38	1002726.8	1.25	40829.09	676290.3	6.04	26604.1	588797.7	4.52
2019	11135.91	827334.92	1.35	45676.04	618985.2	7.38	27146.45	511096.4	5.31
2018	8506.87	664254.34	1.28	53240.18	537945.1	9.9	30876.32	454550.9	6.79
2017	5825.88	558566.64	1.04	42159.38	482460.4	8.74	20045.65	384723.4	5.21
2016	4297.6	467579.38	0.92	26221.25	450182.6	5.82	5848.48	342312	1.71
2015	3265.81	367887.84	0.89	15094.69	398962	3.78	3866.88	284008.7	1.36
2014	2775.37	304963.21	0.91	10505.84	347211.5	3.03	3001.42	232498.8	1.29
2013	2048.06	241306.07	0.85	9607.75	298416.4	3.22	2371.41	198900.7	1.19
2012	1814.9	190968.9	0.95	9292.6	192333.8	4.83	1720.2	145904.9	1.18
2011	1660.32	156705.26	1.06	9815.96	169181.8	5.8	1586.99	124119.8	1.28

Source: RBI Reports

Observations

- Gross Advances of HDFC Bank is comparatively more than ICICI & Axis bank, Whereas Gross Advances of ICICI bank are comparatively more than that of Axis Bank.

¹ All outstanding loans and advances including advances for which refinance has been received but excluding rediscounted bills, and advances written off at Head Office level.

² Sum of all loans given by the bank defaulted by the borrowers.

- Gross NPAs of HDFC Bank are comparatively Low than that of than ICICI & Axis bank, whereas ICICI NPA are highest in comparison of other two banks.
- All these bank have the higher NPAs for the year 2019 & 2020 mainly due to corona pandemic.
- All the Banks have seen decrease in NPAs in the year 2020 in comparison to the year 2019.
- The financial position of HDFC in terms of Gross advances and NPAs is far better than other two banks.

Table 2. Gross Non-performing Assets percentage to Gross Advances of the Public Sector Banks for the year 2011-12 to 2020-21

Year	SBI			BOB			PNB		
	Gross NPA	Gross Advances	Gross NPA to Gross Advances percentage	Gross NPA	Gross Advances	Gross NPA to Gross Advances percentage	Gross NPA	Gross Advances	Gross NPA to Gross Advances percentage
2020	149091.85	2422844.77	6.15	69381.43	738096.45	9.40	73478.76	516928.83	14.21
2019	172750.36	2293454.12	7.53	48232.77	501706.39	9.61	78472.70	506194.30	15.50
2018	223427.46	2048387.31	10.91	56480.39	460744.36	12.26	86620.05	471296.60	18.38
2017	112342.99	1627273.00	6.90	42718.71	408510.92	10.46	55370.44	441751.36	12.53
2016	98172.80	1509499.82	6.50	40521.04	405517.24	9.99	55818.33	432775.04	12.90
2015	56725.33	1335423.71	4.25	16261.45	437280.38	3.72	25694.86	392422.15	6.55
2014	61605.35	1245122.44	4.95	11875.90	403699.43	2.94	18880.06	359645.78	5.25
2013	51189.39	1078557.11	4.75	7982.58	332811.32	2.40	13465.79	315244.03	4.27
2012	37156.00	757888.60	4.90	3881.80	205453.60	1.89	8689.90	276107.70	3.15
2011	23073.52	662444.06	3.48	2786.23	171801.48	1.62	4379.39	243998.78	1.79

Source: RBI Reports

- Gross Advances of SBI Bank is comparatively more than Bank of Baroda & Punjab National Bank.
- Gross NPAs of SBI Bank are comparatively Low than that of than Punjab National Bank & Bank of Baroda, whereas Punjab National Banks NPA are highest in comparison of other two banks.
- Since 2016 there is a considerable rise in the Gross NPAs of all the above banks.
- The financial position of SBI Bank in terms of Gross advances and NPAs is comparatively better than other two banks.

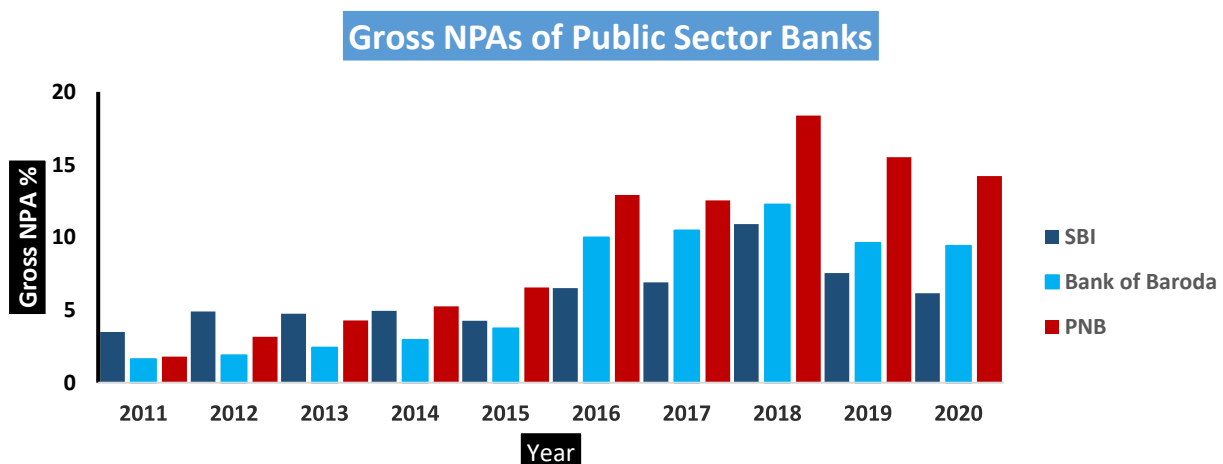


Figure 1. Gross NPAs of Public Sector Banks
Source: RBI Reports

- There is Considerable rise in the level of NPAs of all the above banks since 2016.
- Gross NPAs of Punjab National Bank has reached the highest to level of around 18 % in the year 2018.
- Since 2018 Slight decline in the Gross NPAs percentage could be seen in all the above banks.

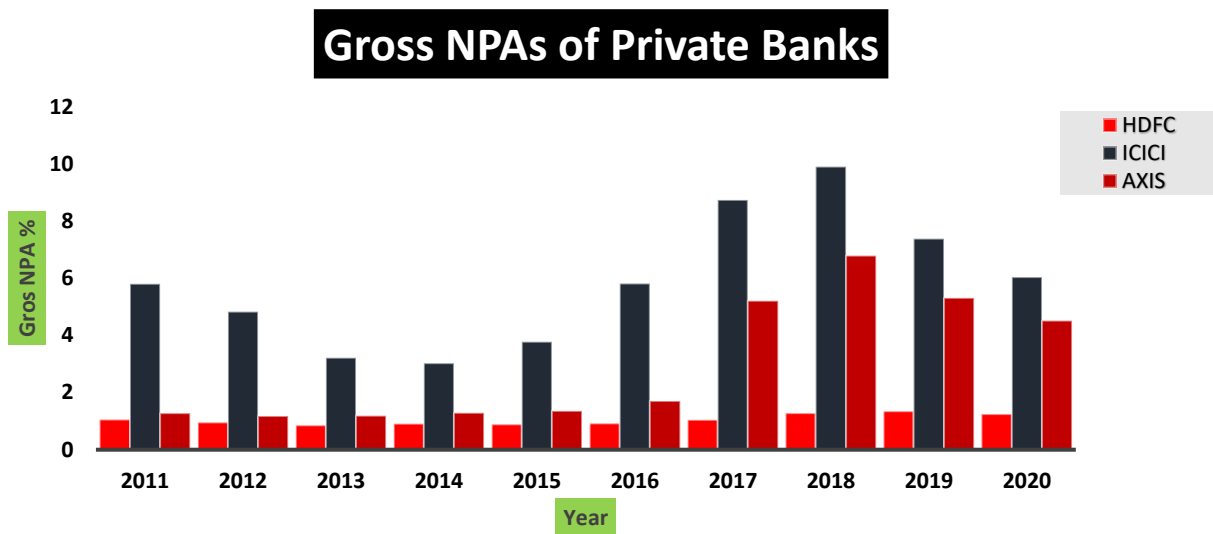


Figure 2. Gross NPAs of Private Banks
Source: RBI Reports

- There is Considerable rise in the level of NPAs of all the above banks since 2016.
- Gross NPAs of ICICI Bank has reached the highest to level of around 10 % in the year 2018.
- Since 2018 Slight decline in the Gross NPAs percentage could be seen in all the above banks.
- Gross NPAs of HDFC Banks is more or less stable since 2011 to 2020.

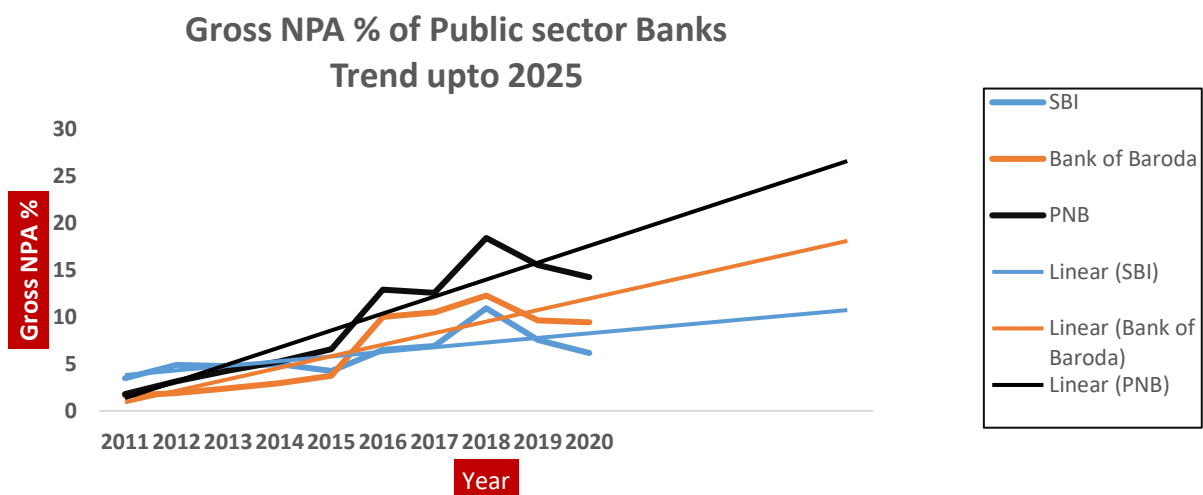


Figure 3. Gross NPA % of Public sector Banks Trend up to 2025
Source: RBI Reports

- Up to the year 2025 an upward trend could be seen of the NPAs of PNB and BOB, whereas SBI bank could be seen a flat level of NPAs till the year 2025

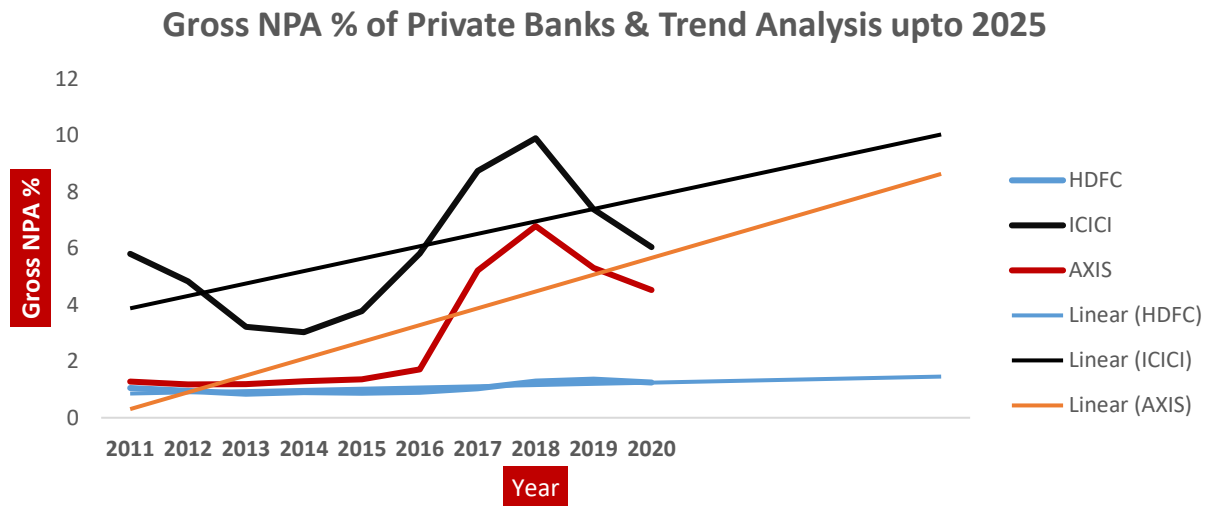


Figure 4. Gross NPA % of Private Banks & Trend Analysis up to 2025
Source: RBI Reports

- Up to the year 2025 an upward trend could be seen in the level of NPAs of ICICI and Axis bank, whereas level of NPAs of HDFC Bank are likely to remain stable until upcoming year 2025.

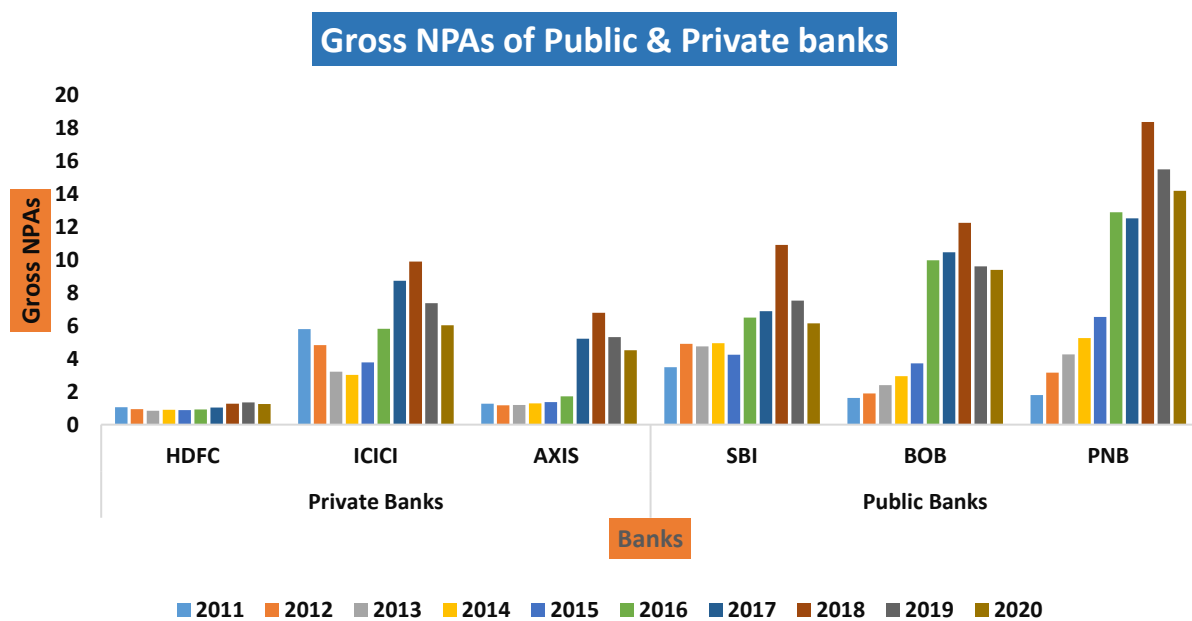


Figure 5. Gross NPAs of Public & Private banks
Source: RBI Reports

Observations

- In Private Banks above, HDFC NPAs are stable throughout the years. NPAs of ICICI bank are quite high than HDFC & AXIS Bank.
- In Public sector banks above, NPAs of Punjab National Bank is higher than other two banks SBI & BOB.

- All the banks whether Private or Public sector banks could see increasing trend in the level of NPAs since the year 2016 except HDFC Bank whose Level of NPAs is stable throughout the periods.

Table 3. Performance of Public sector and Private sector banks.

Year	Private Banks			Public Banks		
	HDFC Bank	ICICI Bank	Axis Bank	SBI	Bank of Baroda	Punjab National bank
2011	1.06	5.8	1.28	3.48	1.62	1.79
2012	0.95	4.83	1.18	4.9	1.89	3.15
2013	0.85	3.22	1.19	4.75	2.4	4.27
2014	0.91	3.03	1.29	4.95	2.94	5.25
2015	0.89	3.78	1.36	4.25	3.72	6.55
2016	0.92	5.82	1.71	6.5	9.99	12.9
2017	1.04	8.74	5.21	6.9	10.46	12.53
2018	1.28	9.9	6.79	10.91	12.26	18.38
2019	1.35	7.38	5.31	7.53	9.61	15.5
2020	1.25	6.04	4.52	6.15	9.4	14.21

Observation

- The performance of Public sector banks is very poor in comparison of Private sector Bank.
- HDFC is a top performer in Private sector banks whereas SBI is the top performer in Public sector banks.
- NPA level of Punjab National Bank are very serious in comparison of all other banks.

T-Test Analysis

A t-test is a type of inferential statistic used to determine if there is a significant difference between the means of two groups, which may be related in certain features. A t-test is used as a hypothesis testing tool, which allows testing of an assumption applicable to a population.

Hypothesis

Ho: There is no significant difference in the average values of the selected Private and Public sector banks.

H₁: There is significant difference in the average values of the selected Private and Public sector banks.

Table 4. Findings of T-test Analysis

t-Test: Two-Sample Assuming Unequal Variances		
	Variable 1	Variable 2
Mean	3.296	7.304666667
Variance	2.271337778	15.95755605
Observations	10	10
Hypothesized Mean Difference	0	
df	12	
t Stat	-2.969065558	
P(T<=t) one-tail	0.005860761	

t Critical one-tail	1.782287556	
P(T<=t) two-tail	0.011721522	
t Critical two-tail	2.17881283	

As P value is less than 0.05 it can be interpreted that Ho will be rejected and H1 would be accepted as there is a significant difference between the Average values of NPAs of Selected Public & Private sector banks.

Measures to Reduce NPAs of the Banks

- Conducting Credible Credit appraisal of the company before giving loan.
- Continuously assessing the financial position of the company after giving Loan to avoid further bankruptcy and take timely action
- Selling off NPAs
- Use of Sarfaesi act, 2002
- Use of Insolvency Bankruptcy Code, 2016

Importance of Insolvency & Bankruptcy Code, 2016 in Recovery of NPAs of the Financial Institutions

Insolvency & Bankruptcy Code, 2016 was introduced to resolve the claims which involved Insolvent companies. Although many other law were present in India to deal with the insolvency problem such as Sarfaesi Act, 2002, Debt Recovery Tribunals and Lok adalats. The average recovery rate after enactment of IBC.2016 has increased to around 45%. The average recovery time has also been decreased dramatically from 4 years earlier to this act. Insolvency & Bankruptcy code has remarkably help in speedy recovery of loans on the basis of which Indian ranking in “Ease of Doing Business” 2020 Report of the World Bank has improved to 63rd Position from 142nd Position prior to the Introduction of this act.

FINDINGS

- The study makes it clear that all the above banks both private and public sector banks are facing serious problem of NPAs.
- Rising level of NPAs are impacting the Profitability and Liquidity of these banks.
- Condition of Public sector banks is very poor due to Rising NPAs.
- Performance of Private Banks is better than Public sector Banks in case of NPAs.
- HDFC Bank is best performer when it comes to NPAs. The level of NPAs is stable throughout the years.

SUGGESTIONS

- Evaluate CIBIL score of the borrower before giving any loan.
- Circulating Information of Defaulters in the Society.
- Continuously assessing the financial position by the lender of the borrower for timely recovery or avoiding huge losses.
- Using the speedy dispute settlement mechanism such as Insolvency & Bankruptcy Code, 2016 for the recovery of bad Loans.
- Lending more to the Growing Sectors in the economy.

CONCLUSION

The study makes it clear that all the above Private& Public Sector banks are facing the problem of NPAs. NPAs are affecting the liquidity and Profitability of these banks. ICICI Bank has a very high rate of Gross NPAs in Private sector banks compared to other 2 private sector banks HDFC & AXIS Bank. Punjab National Bank has the higher rate of NPAs in Public sector banks and Private Banks. The Performance of HDFC bank is far better than ICICI & Axis Bank as NPA Percentage of HDFC is more

or less stable since last 10 years. Rising NPAs since last 5 years is a matter of concern for Indian banking system and also Indian financial system. It is equally important to take necessary steps by the banks and at government level to bring the NPAs down to restore the confidence in the banks. These banks should more focused on providing Quality Loan as “Prevention is always better than Cure” yes recent steps taken by government in respect of Insolvency code has got some relief to the banking sector to get fast recovery of loans but this mechanism of recovery of loans is post mortem and cannot enhance the economy, Ultimately giving Quality Loans is essential for the development of the economy and meeting its need.

FUTURE SCOPE OF THE STUDY

- The Research can be extended to other private and public sector banks.
- Foreign banks can also be included in comparison of level of NPAs.
- Many Variables other than NPAs can be used for meaningful comparison between banks such as Capital Adequacy Ratio, Liquidity Ratio, Profitability Ratio, etc.
- Other statistical test could also be used to analyse the data.

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CONFLICT OF INTEREST STATEMENT

The authors declare that they have no competing interests.

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All authors contributed equally to the conception and design of the study.

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SUSTAINABLE CONSUMPTION AND PRODUCTION: ISSUES, CHALLENGES, STRATEGIES AND WAY FORWARD

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Abstract

Production and consumption are the drivers of world economies which heavily depend upon the use of resources and natural environment. Inefficient, improper and careless use of finite resources has destructive & negative impact on the environment. Worldwide the dynamic changes have been observed in the last few decades. The socio economic progress improved standard of living of the people at the cost of environmental destruction and overuse of resources. The unsustainable consumption and production is sighted as a major cause behind continued destruction of environment and global economy. This paper addresses the issues, challenges, barriers and strategies related to sustainable consumption and production. The secondary resources like working papers, research publications, web articles, news, blogs, research papers has been used to collect and analyze the data. This paper highlights the importance of SCP as a one of the sustainable development goal and suggested useful strategies to deal with the issues and challenges in sustainable consumption and production.

Key words: Sustainable consumption and production, Natural resources. Environment, Global economy

Nature has provided you everything to satisfy your need but not to satisfy your creeds.

...M.K. Gandhi

1.0 Introduction

Production and consumption are the drivers of world economies which heavily depend upon the use of resources and natural environment. Inefficient, improper and careless use of finite resources has destructive & negative impact on the environment. Worldwide the dynamic changes have been observed in the last few decades. Socio economic standards of people increased and improved at global level. But this socio economic development happened at the cost of deteriorating environment which cannot be easily compensated.

Nature loss threatened future development, human existence and global economy. Social and economical progress achieved by the countries in the last few decades improved standard of living of the people and reduced poverty but at the same time caused environmental harm in the form of waste, pollution, climate change, global warming, over use of resources, increased consumption. Increasing demands for water, food, energy and other resources to feed the rising global population put pressure on the finite natural resources. This resulted in resource depletion and resource degradation.

Already two third of natural resources has been used. If the unwise consumption of natural resources are not controlled in timely manner, the earth will push to it's environmental limits. This is dangerous signal for human existence.

Now it's alarming bell for the current generation to take care of environment in such a way so that future generations can meet their needs as we met our need today. Ecological crisis arise owing to accelerated use of natural resources and it's adverse impact on the environment. Economic growth is achieved at the costs of resource depletion and negative ecological impacts. Managing limited natural resources to meets the increasing and growing need of the world's population has become the greatest challenge in front of the world's economies

Unsustainable production and consumption was recognised as a major cause for the continued degradation and deterioration of the environment especially in the industrialised countries as sighted by United Nations Conference on Economic Development (UNCED) held Rio de Janeiro in 1992. This conference notified that current patterns of development are unsustainable as human is now consuming the more resources than ever. The economic logic of human development based on consumption and production is challenged as it fails to deliver healthy & good life.

Sustainability and sustainable development is catching the attention of the global arena. The world recognised the importance of sustainable development for the human survival. Sustainable approach to look at human development is an idea to deal with the problems and issues of depleting natural resources, reducing waste, avoiding pollution, ensuring food security, controlling climate changes, handling global warming, protecting environment, improving energy efficiency, protecting environment and finally making human life better for the existing and future generations. Sustainable production and consumption is identified and

recognised as one of the powerful approach to manage the unsustainable use of resources for the existing and future mankind. The worldwide strong need has been felt to relook and rethink about the role of consumers, producers and governments in the socio economic system to recognise and address the issue of unsustainable consumption and production which has destructive effects on the environment and human survival.

1.1 What is SCP?

The concept of SCP has evolved over time and is defined in a number of ways. *A commonly used definition is: “the use of services and related products which respond to basic needs and bring a better quality of life while minimising the use of natural resources and toxic materials as well as the emission of waste and pollutants over the life cycle of the service or product so as not to jeopardise the needs of future generations”* (ISSD 1994).

Another widely used and more recent definition is provided by UNEP: *“SCP is a holistic approach to minimising the negative environmental impacts from consumption and production systems while promoting quality of life for all”* (UNEP 2011).

Regardless of definitions, the key principles of SCP can be briefed as follows:

1.1.1 Key principles of SCP:

1. Decoupling economic growth from environmental degradation by improving energy efficiency, reversing trends towards sustainable consumption
2. Applying production and consumption life cycle approach to avoid or reduce negative environmental impact.
3. Protecting environment and improving quality of life without compromising the needs of future generations
4. Guarding against the re-bounce effect received from increased efficiency (UNEP 2011).

1.2 Evolution of SCP as a SDG

The importance of sustainable consumption and production (SCP) has been recognised in global area. Unsustainable production and consumption patterns especially of the industrialised nations has been identified as a major cause of continued environmental deterioration in the United Nations Conference on Economic Development (UNCED) held in Rio de Janeiro in 1992. Many governments of the open working group were of the opinion to consider the sustainable consumption and production as a standalone goals or to make it as an important element of the other millennium development goals(SDGs) linked to water, health, energy, climate change and sustainable growth etc. Chapter 4 of Agenda 21 (UNCED) emphasized that the shifting and changing the consumption and production patterns is necessary for sustainable development.

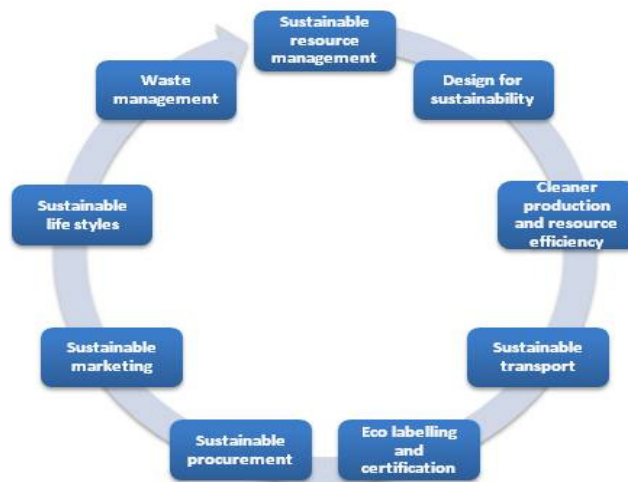
The concept of SCP was recognised and adopted in Johannesburg Plan of Implementation in 2002 at the World Summit on Sustainable Development (WSSD). In 2012, Marrakesh

Process was initiated to develop the 10 years framework for the implementation of the SCP programme. The strong need to bring fundamental changes in the consumption and production patterns of society was considered important for the sustainability development in the United Nations Conference on Sustainable Development (Rio+20) held in 2012. Eventually, Sustainable Consumption and Production (SCP) was recognised as a standalone sustainability development goal (SDG). The SDG 12 read as –ensure sustainable consumption and production. The SDG goal 12 has interlink ages with the SDG goals 6,7,8 and 13 which deals with sustainable management of water, sustainable growth, energy and climate change.

1.2.1 SCP and Green Economy:

Green economy is an application of green growth ideas extracted from the key principles of sustainable consumption and production. It's primarily focus on Asia-pacific region with an objective to attain environmentally sustainable economic progress. Green economy stress on fostering enhancing energy and resource efficiency, socially inclusive development, preventing loss of bio diversity and reduction in carbon emissions and pollution by making public private investments to drive growth in income and employment. Investment and financing are the two critical elements in driving sustainable production and consumption.

Figure 1.1 Sustainable consumption and production



Source: (UNEP n.d.a.)

1.2.2 Resource Efficiency and SCP

Resource efficiency refers to getting more with less. It achieves same or more resource output with less resource inputs. It can be achieved through resource intensity (resource use / value added) or resource productivity (value added / resource use). Business based on market opportunity. Businesses produce those goods and services which are mostly demanded and

preferred by the customers. Hence productions of sustainable goods and services largely depend upon the demand for the sustainable products and services.

1.3 Sustainable Consumption and Production -Global Facts and Figures:

- The global material footprint grew from 73.2 billion metric tons in 2010 to 85.9 billion metric tons in 2017, a 17.4 per cent increase.
- In 2015, the material footprint per capita in high-income countries was over 10 times larger than in low-income countries.
- From 2010 to 2019, e-waste generated globally grew from 5.3 to 7.3 kilograms per capita annually.
- The percentage of food lost after harvesting and during transport, storage and processing stands at 13.8 per cent globally, amounting to over \$400 billion a year. Regional estimates suggest that the highest level of food loss occurs in Central and Southern Asia (20.7 per cent), followed by Europe and Northern America (15.7 per cent).
- Each year, an estimated one third of all food produced – equivalent to 1.3 billion tonnes worth around \$1 trillion – ends up rotting in the bins of consumers and retailers, or spoiling due to poor transportation and harvesting practices.
- If people worldwide switched to energy efficient light bulbs the world would save US\$120 billion annually.
- Should the global population reach 9.6 billion by 2050, the equivalent of almost three planets could be required to provide the natural resources needed to sustain current lifestyles.
- According to latest projections, the global population could grow to around 8.5 billion in 2030, 9.7 billion in 2050. The equivalent of almost three planets could be required to provide the natural resources needed to sustain current lifestyles.
- 93 per cent of the world's 250 largest companies are now reporting on sustainability.
- Less than 3 per cent of the world's water is fresh (drinkable), of which 2.5 per cent is frozen in the Antarctica, Arctic and glaciers. Humanity must therefore rely on 0.5 per cent for all of man's ecosystem's and freshwater needs.
- Humankind is polluting water in rivers and lakes faster than nature can recycle and purify
- More than 1 billion people still do not have access to fresh water.
- Excessive use of water contributes to the global water stress.
- World needs USD 8.1 trillion investment in nature by 2050 to tackle triple planetary crisis...
- Investments in Nature-based solutions need to triple by 2030

1.4 The conceptual framework: SCP

Sustainable production concerns the supply side, focussing on the economic, social and environmental impacts of production processes. The focus is on achieving more resource

efficient and cleaner production, which aims at reducing the risks to humans and the environment. Producing sustainably refers to optimising the use of natural resources such as raw materials, energy, and water at all stages of the production cycle, thus reducing the ecological footprint of products.

Countries need to either reduce their footprint, or might increase it only to the extent that they remain within global and regional bio-capacities (Kitzes *et al.*2008). The changes in consumption and production patterns must be led by the developed world where per capita consumption is high and that has particular responsibility in sharing SCP-related technologies (High-Level Panel of Eminent Persons on the Post-2015 Development Agenda (HLP), 2013). Sustainable consumption can be promoted through a mix of policy, economic and voluntary instruments, including formal and informal education. Sustainable consumption and production (SCP) promotes social and economic development within the carrying capacity of ecosystems, raises efficiency and ensures sustainability in the use of resources and production processes, reducing resource degradation, pollution and waste.

Sustainable consumption addresses the demand side, focussing on consumers' choices of goods and services such as food, shelter, clothing, mobility and leisure, to fulfil basic needs and improve the quality of life (UNEP, 2006). It means buying goods and services that do not harm the environment, society, and the economy. However, it is important to understand that sustainable consumption is not necessarily about consuming less; it is about consuming better, i.e. more efficiently, with less risk to our health and environment.

1.5 Issues, Challenges and Barriers to sustainable consumption

1.5.1 Issues

Current unsustainable consumption patterns are destroying the environment. The consumption habits are depleting stocks of natural resources. Distributing resources in an inequitable manner, so that a part of population is deprived of it. It is contributing to social problems such as poverty; and hampering sustainable development efforts. Focusing on the demand side, sustainable consumption compliments sustainable production practices and achievements. Sustainable consumption requires a multidisciplinary and multinational approach. Teams composed from various disciplines are required to create and implement policies. Developed nations need to assist rather than exploit developing nations. The issue to sustainable consumption include: lack of awareness and training; lack of support from the community, government and industry. A key issue is the extent to which necessary improvements in environmental quality can be achieved through the substitution of more efficient and less polluting goods and services (patterns of consumption), rather than through reductions in the volumes of goods and services consumed (levels of consumption). Political reality in democratic societies is such that it will be much easier to change consumption patterns than consumption volumes, although both issues need to be addressed.

1.5.2 Challenges

The main challenges faced by consumers in Asia in embracing sustainable consumption practices:

- limited access to green products and services
- lack of transparency and credibility
- low consumer awareness on low impact product use
- lack of appropriate waste infrastructure
- Few take-back mechanisms.
- No after-sales support.

These challenges are broken down into the three points where consumers have to make decisions: what to buy, how to use, and how to discard.

1.5.3 Barriers

The main barriers to sustainable consumption include:

- Lack of awareness and training.
- Lack of support from the community, government and industry.
- Reluctance to include the true environmental and social costs in the price of goods and services.
- Ingrained unsustainable thinking and behaviour patterns.
- Lack of alternative sustainable products and services.

1.6 Strategies for implementing sustainable consumption and production

Making consumption patterns sustainable is one of the greatest current challenges to humanity. It requires timely and concerted action of government, firms, and consumers. The key strategies to deal with the issue of sustainable consumption and production can be briefly explained as below:

1. Countries now need to operationalize the principles of sustainable economic growth

The national policies, initiatives should integrate with the implementation of the 10-Year Framework of Programmes on Sustainable Consumption and Production.

Our country should be committed to create a sustainable and resource-efficient economy is clear – including through multilateral cooperation to accelerate behavioural change across trade flows and value chains, the alignment of ambitious national policies, and the eventual generation of benefits for all. Best practices, good examples and science-based evidence on sustainable consumption and production and data on policy impacts are crucial to ensuring effective action.

2. Encourage companies, especially large and trans-national companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

Sustainability reporting in the environmental, social, and institutional and governance dimensions that is aligned with the minimum requirements outlined in SDG indicator

3. Promote public procurement practices that are sustainable in accordance with national policies and priorities

4. Support developing countries to strengthen their scientific and technological capacities to move towards more sustainable patterns of consumption and production

India should receive assistance from developed countries in developing its scientific and technological capabilities in the form of financial and technological assistance.

5. Develop and implement tools to monitor sustainable development impacts for sustainable tourism which creates jobs, promotes local culture and products

India recognises the importance of the tourism sector in the promotion of faster, sustainable and more inclusive economic growth. Recognising its role in promoting sustainable tourism, the Ministry of Tourism, Government of India, identified the tourism sector's capability as a driver of sustainable and inclusive development was renewed with the National Tourism Policy, 2002.

The Ministry of Tourism has also framed Sustainable Tourism Criteria and indicators for India applicable to tour operators and the accommodation sector.

6. Rationalise inefficient fossil fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances. Phasing out harmful subsidies, restructuring taxation etc can be taken into account considering the specific conditions and needs of country. The adverse impact on the developmental needs of the poor people should get due consideration.

7. Attempts should be made to improve energy and resource efficiency through life cycle approach in production and consumption activities.

8. Sustainable consumption lifestyles need to be encouraged through environmental awareness and education.

9. Businesses should explore the opportunities to **develop the sustainable business practices** in terms of sustainable product design, opportunities for reducing, recycling and reusing wastes, improving energy efficiency and eco efficiency of products and services.

10. Reducing per capita global food waste at the retail and consumer-level, and reduce food losses along production and supply chains including post-harvest losses

11. Sound environmental management of chemicals and all wastes throughout their life cycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimise their adverse impacts on human health and the environment.

12. Reduce Waste Generation through Prevention, Reduction, Recycling, and Reuse

1.7 Conclusion

If we're going to transform our relationship with the living world in a way that allows humans to flourish within planetary boundaries, then we will need to re-examine how our economies function, what we value and how we measure progress. We will need to restructure our economies so that they are circular and regenerative instead of linear and extractive. And we will need to harness the full power of science to trigger this transformation by presenting policymakers with ways to get out in front of the problem.

India does not have a comprehensive sustainable consumption policy framework, though most of its elements are captured in several policies in different areas. Having an integrated policy or framework could be a good idea. Energy efficiency has been an important policy concern in India for several decades, but same cannot be true for other resources, particularly in case of water and mineral resources. While, per capita resource consumption is quite low, India must adopt measures to ensure delinking of its economic growth from resource consumption. The Government of India very recently launched programmes and campaigns like Clean India, Make in India and Smart Cities. Efforts should be made to leverage such programmes and campaigns to promote sustainable consumption and production by mainstreaming resource efficiency and sound management of wastes. While, finance and technology will have important roles to play, significant achievements can be made by awareness generation, education and promotion of good habits and practices.

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Causes of Poor Financial Literacy in India

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Abstract:-

Financial literacy is a topic of Concern not only for India but also for the whole world. The condition of India is very poor when comes to Financial literacy. Although Indian Govt has taken many initiatives to improve the financial literacy but still the efforts are not up to mark. Many More steps need to be taken to enhance the financial literacy of the people of India. Sound Financial Decisions not only help Individuals to get financial well-being but also contribute in the growth of the economy by channelizing the funds into right direction.

Recent survey shows that 76% of the Indians are financially illiterate which a matter of Concern. Financially Illiterates are not able to take informed financial decisions, they are not properly financially secured and don't have any concrete retirement planning as well. My Paper mainly focus on the present condition of India on financial literacy and the various reasons for the poor financial literacy in India

Keywords: - Financial literacy, Financial well-being.

Objectives of the Research

- 1) To understand the concept of financial literacy.
- 2) To know the current investment pattern of citizens of India.
- 3) To discover the reason for the poor financial literacy in India who was once termed as “Sone Ki chidiya”

Introduction to the Term Financial Literacy.

Financial literacy is the ability to use skills and knowledge to take effective and informed money-management decisions. Some of the Well recognized Definitions of Financial Literacy

The financial literacy definition developed by the **National Financial Educators Council:**

“Possessing the skills and knowledge on financial matters to confidently take effective action that best fulfills an individual’s personal, family and global community goals”.

The Center for Financial Inclusion

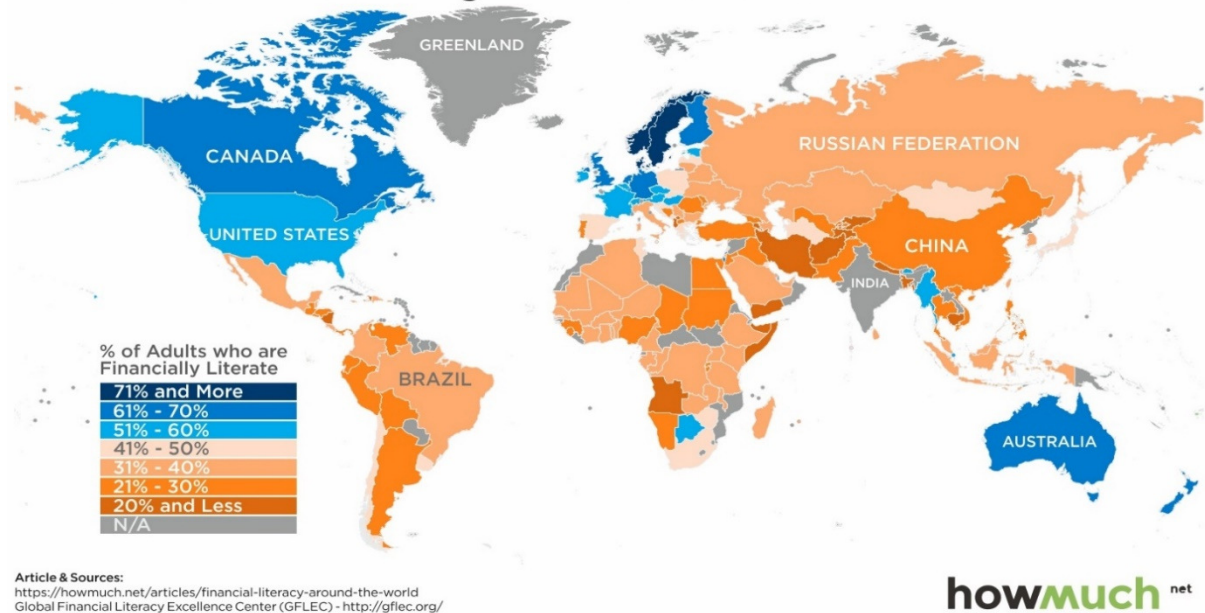
The combination of knowledge, skills, attitudes and ultimately behaviors that translate into sound financial decisions and appropriate use of financial services.

According to RBI, Financial literacy can broadly be defined as “providing familiarity with and understanding of financial market products, especially rewards and risks, in order making informed choices”.

The European Commission defines financial literacy as “the capability of consumers and small business owners to understand retail financial products with a view to making informed financial decisions”.

The OECD INFE has defined financial literacy as follows: ‘A combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing.’

Financial Literacy Around the World



FINANCIAL LITERACY IN INDIA

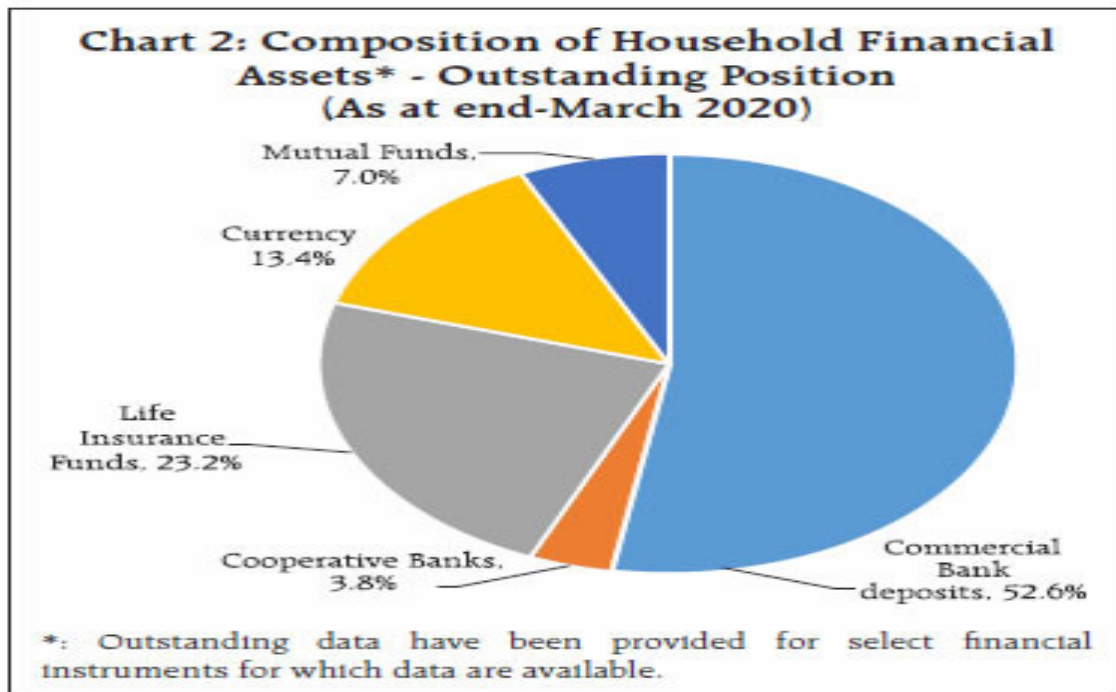
As per a global survey by Standard & Poor’s Financial Services LLC (S&P) less than 25% of adults are financially literate in South Asian countries. For an average Indian, financial literacy is yet to become a priority. India is home to 17.5% of the world’s population but nearly 76% of its adult population does not understand even the basic financial concepts.

Investment Pattern in India Some Statistics

Financial Assets of the Indian Households (2012-19) (in Rs Crore & at approx current prices)					
Year	Bank Deposits	Non-Banking Deposits	Life Insurance Funds	Provident & Pension Funds	Shares & Debentures
2012-13	575,080	27,911	179,949	156,479	17,027
2013-14	639,304	22,816	204,469	177,841	18,930
2014-15	579,272	28,915	299,322	190,883	20,364
2015-16	622,364	18,082	264,177	290,729	28,356
2016-17	938,574	34,856	354,321	325,539	174,466
2017-18	510,174	16,538	343,959	369,445	177,324
2018-19	744,156	34,086	258,529	396,348	77,789

* Life Insurance Fund includes Central or State Governments employees' insurance funds and postal insurance funds.
 * Shares and Debentures include investment in shares and debentures of credit / non-credit societies, public sector bonds and mutual funds (other than Specified Undertaking of the UTI).
 ReLakhs.com

From the above table it is crystal clear that majority of the population of India is inclined towards Bank deposits. Shares and Debentures are given the least priority for the Investments.

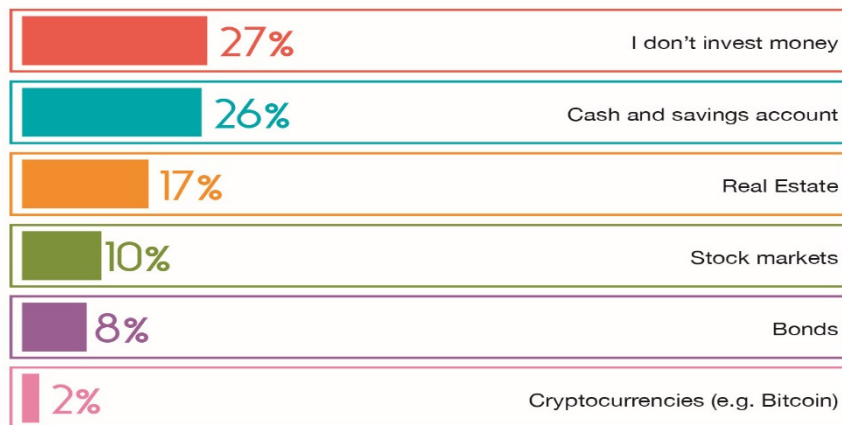


From the above Pie-chart we can clearly state that more than half of Indian investors are preferring to invest in commercial bank deposits and have cash balances. Whereas only 23 % are having insurance cover while only around 7 % prefer for mutual fund and 2 % for Stock investments.

So the above charts make clear that Indians are very poor in insurance coverage, Pension and provident fund investment and investing in modern financial instruments like shares, debentures and Ulips etc.

Indians and Investing Money

What do Indians believe is the best investment for their money?



dealsunny.com

(Dealsunny survey on spending behavior of India-2016)

Some surveys and Report findings depicting the Poor financial behavior of Indians.

- According to a [survey](#) published by SEBI in 2017, more than 95 percent of Indian households preferred to keep their money in bank deposits. Fixed deposits were followed by life insurance policies, precious metals, post office savings and mutual funds as

preferred investment destinations. Only 9.7 percent of the surveyed households invested in mutual funds and 8.1 percent in stocks.

- An [article](#) published in Bloomberg noted that less than 1.5 percent of India's population invests in Indian equities. By comparison, 10 percent of Chinese citizens and 18 percent of Americans have invested their savings in their local equity markets.
- The Household Finance Committee set up by the Reserve Bank of India (RBI) published a [report](#) in 2017. According to it, 56 percent of Indian households have unsecured debts, which signifies high reliance on non-institutional sources of lending such as private money lenders who charge a high rate of interest. Another disturbing finding was that 77 percent of respondents weren't saving for retirement, as most had decided to depend on their children for financial support.
- As per the Economic Survey published in 2018, general insurance penetration in India was 0.77 percent and life insurance penetration was 2.72 percent. The global average is 2.81 percent and 3.47 percent respectively.

Main Causes of Poor Financial literacy in India.

- 1) In India Still Financial literacy is not provided at school level, whereas in many western and European countries Financial Knowledge is imparted to the student right from their schooling and also integrated into their curriculum. Although NSFE is working on it but still implementation has not been done.
- 2) Indians play safer when it comes to investments they don't want to take high risk and prefer to have a steady return without or minimum risk. So they mostly invest in fixed deposits of Banks whereby they get steady returns which are not even enough to beat the inflation.

- 3) Financial literacy programs are organized mainly in isolation by banks, broker houses, RBI, Stock market etc. There need to be coordinated and collective efforts to have a comprehensive program on financial literacy. After all overall aim of financial literacy is to have Financial-Well Being.
- 4) Most of the Financial literacy programs organized are not effective or we can say that they don't serve the purpose for what have they been organized for. Even after attending the Program, Audience Financial knowledge, attitude and behavior doesn't have a desirable change.
- 5) Majority of Indian woman's are house wives and they do not participate in financial matters of household. All such decisions are taken by senior male members of the family.
- 6) Financial literacy education should be compulsory curriculum for the youths across their specializations which is still not included in college education.
- 7) Risk appetite of majority of Indian is very less and so they believe in keeping themselves away from the Complex financial instruments such as equity, bonds, ulips etc.
- 8) As per a report from the Digital Empowerment Foundation in 2018, around 90% of India's population is digitally illiterate. As many of the Financial Products are sold through digital platform it is very difficult for digitally Illiterate person to get access to such products.
- 9) As per the Indian Readership Survey 2019, less than one percent of the population is reading daily financial newspaper like the Economic times & The Business Standard. These newspaper play important role in spreading the financial literacy but as these papers are in English it's outside the reach of non-English speaking Population.

- 10) Financial literacy is not a compulsory subject & also not optional in either school or Colleges. So students are deprived of basic understanding about money and money matters. The importance of savings and investing.
- 11) Indians traditionally have been investing in Land, Gold or a house. That thought process is still prevailing in their mindset. People still believe that these investment give the better return than any other investment and that too at a lower risk. So due to this mentality Indians restrain themselves from getting even basic understanding of modern financial instruments.
- 12) Since ages India has been known for its rich culture and values. As per the dominant value which prevails among majority of Indians is they are satisfied with meagre things also. Aspiring for more money is never a priority of Indians. Well we should admit that now the things are changing. But still those values are imbibed in majority of the population which makes them stranger from learning and understanding the different financial instruments and benefits from prudent investing.

Conclusions

- Improvement of Financial literacy of Indians has to go a long way. It's a gradual process
- Financial literacy Programs should be organized for school levels and to integrate it with the syllabus.
- Programs like money smart which are carried in Australia should also be started in our country.
- Strong Implementation of the Strategy for Financial Education is required.
- The government should make the provision for the necessary Funds in the budget for this cause.

- The robust program on financial literacy should be carried at all levels i.e. central government, state government. Public and private enterprises, NGOs etc.
- More emphasis should be given to physical programs on financial education post covid pandemic.

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**IMPACT OF E- LEARNING ON STUDENT LEARNING AND EMPLOYABILITY-A
STUDY IN MAHARASHTRA**

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Abstract

The high utilization of web frameworks in learning infers that e-learning is turning into a typical fruitful learning technique in more extensive scholastic settings. To improve and uphold tutoring and proficiency, e-learning incorporates utilizing data and correspondence innovation (ICT). The motivation behind the examination was to decide the relationship between's e-learning also, the scholastic accomplishment of understudies in higher learning. With the increase in the cases of covid-19 pandemic all the Physical learning Infrastructure resources were closed down. But with closure of institutions the learning practices has not been stopped. During this covid-19 pandemic situation all the Teaching Learning process right from Kindergarten to PG including all streams is conducting via E-learning with the help internet enabled devices. The perception and clarity in learning of all the stake holders varies with the teaching methods. With the fast development of the utilization of e-learning frameworks all throughout the planet, evaluating the achievement and effect of such frameworks is turning out to be progressively important. Through this paper researcher carries a descriptive research to check Impact of E- learning on student learning and employability.

Keywords:-E-learning, Education, Internet Enabled Devices, Impact.

Introduction

A learning movement can be characterized as a connection between a student and a Environment, prompting an arranged result. It is the agreed outcome that makes learning an intentional action. Learning is characterized as an adjustment of conduct. All in all, learning is drawn nearer as a result – the finished result of some cycle. It tends to be perceived or seen. Learning is quantifiable and moderately long-lasting change in conduct through experience, guidance or study. While individual learning is specific, bunch learning is basically political. Its results largely depend on the power play in gathering. Learning itself cannot be estimated, but its results can be. In the expressions of Harvard Business School clinician Chris Argyris, learning is "detection and correction of error" where a mistake means "any mismatch between our intentions and what actually happens." There are many sorts of learning strategies and hypotheses yet e-learning is growing exceptionally quick. E-learning is very much acknowledged because of numerous reasons and same regions are investigated in this exploration study. Learning is a result of connection. Contingent upon the epistemology basic the learning plan, students might connect with teachers and coaches, with content and additionally with others. Numerous teachers exhaust huge measures of work to planning their figuring out how to augment the worth of those cooperation's. Despite the methodology taken, a series of inquiries reliably emerges: How powerful is the course? Is it addressing the necessities of the understudies? How might the necessities of students be better upheld? What collaborations are viable? How might they be additionally improved? In case we are to know whether "huge learning" is occurring in the homeroom, we should be equipped for remembering it when it happens. Looking into the meaning of "learn" in a word reference, will in general prompt the following outcomes:

- 1) To secure information regarding a matter or expertise through schooling or experience,
- 2) To acquire data about a person or thing, or
- 3) To retain something, for instance, realities, a sonnet, a piece of music, or a dance.

This definition is not especially quick, despite the fact that it advises us that the word can be utilized to depict the securing of both information and expertise, and that obtaining can be by a assortment of means, including schooling, experience, or retention.

All things considered, we are left without an unmistakable comprehension of acquiring information or expertise. Other things that we gain are acquired by actual means. Comprehend how it

identifies with learning. Furthermore, it is applicable to comprehend in case there are various levels of obtaining and provided that this is true, regardless of whether they address equivalent kinds of learning. For instance, there is a checked contrast in remembering a reality and learning to decipher a perplexing text. The Oxford English Dictionary additionally gives a definition that recognizes the significance of instructing as a vehicle for learning, a greeting update for educators. Taking an alternate view, Atkinson et al. (1993) portray learning as "a generally long-lasting change in conduct that outcomes from training." Others (e.g., Simon 1996) have brought up that the reason for learning has as of late moved from having the option to review data (surface figuring out how) to having the option to discover furthermore, use it (profound learning).

The review would help Educational sheets and Institutions to move up to the mechanical need of the market. It would assist instructive organizations with disentangling also, make the projects more shopper cordial by effectively accessible. It would likewise learn about the ascent of the mechanical necessities like the Internet, different programming also, applications, need for gadgets like PDAs, PCs and I-cushions. The examination would likewise assist with seeing how organizations seeing the flood in requests need to adjust to the necessary framework than the conventional homeroom based writing boards and chalks. This review would likewise help Internet based specialist co-ops to concentrate on the interest and move up to higher innovative adaptations as far as web speed.

E-Learning, a New Way of Learning

Education today has developed significantly in view of advances in Web innovation. The Internet empowers the conventional individual to approach ceaseless amounts of data and information productively and advantageously. The development of the World Wide Web, high-limit corporate organizations, rapid work stations what not sorts of cell phones will make learning accessible to individuals 24 hours every day, seven days seven days all throughout the planet. Since numerous conventional instruction associations are utilizing Web innovation to convey instructive substance, it is conceivable now for a high school understudy to look for help with math inquiries whenever of the day or an alumni understudy at home to take a few courses through significant distance instruction. Online learning not just works on the accomplishment of understudies from kindergarten to college, yet additionally improves the efficiency of the corporate labor force.

Fierce professional workplaces, brought about by market elements, have made information and abilities irreplaceable for viable execution in the working environment. Information in the work environment is as of now not suggested yet needed at various occasions and various amounts. Generally, corporate preparing has existed in associations to give information to individual specialists as off-the rack learning bundles. In this model, learning adopts a receptive strategy to critical thinking experienced by associations, and learning programs occur in a particular area. Notwithstanding, ongoing advances in the fields of appropriated and pervasive registering, fake knowledge, intellectual learning hypothesis, and sight and sound have joined to give more dispersed learning frameworks over the Internet and World Wide Web (WWW). A prerequisite for information and abilities appropriation across various frameworks, space, and time is appropriate to novel learning prerequisites of individual students inside all sorts of associations. The foundation to help such information appropriation is in the type of electronic learning, typically alluded to as e-Learning. Ordinarily, eLearning is characterized as Internet-empowered learning, or intermingling of learning and the Web, including any utilization of PCs and the Internet to work with instruction [Downs 1998]. The parts of e-Learning can remember content conveyance for various configurations through the Internet, the executives of the learning experience, and a arranged local area of students, content designers and specialists. E-Learning covers a wide arrangement of uses and cycles, for example, Web-based learning frameworks, PC based learning frameworks, virtual homerooms, and advanced communitarian learning GroupWare bundles. E-Learning content is mostly conveyed through Internet, intranet/extranet (LAN/WAN), sound and tape; satellite transmission, intuitive Television, DVD and CD-ROM, the still to arise remote application conventions (WAP) [ASTD, 2001]. It is assessed that the e-Learning business sector will develop significantly over the course of

the following five years. Additionally, with the improvement of transfer speed, video, and capacity innovation, the interest for e-Learning items and administration will increment dramatically [Wiley 2001].

E-Learning Types – Internet based mode

Web based Learning-

□ In this kind of learning the student can get to the all review material online in type of word archives, visuals, pictures, recordings with sound.

Video Conferencing-

□ In this kind of learning the student can discuss eye to eye with educator or then again teacher who is seating elsewhere. In video conferencing teacher can speak with various students. As contrast with other e-learning innovations this innovation is costlier.

Online courses/Web based Learning-

□ This sort of learning resembles online workshop so it is called as Webseminar/online course. In this sort of learning the educator utilizes the sound, video to teach different students online as class. After entire show members can inquire related inquiries or questions. For the most part these types of online courses are industry center and exceptionally useful on the grounds that it saves season of members and furthermore helps in diminishing expense of voyaging and other consumption.

Remote Access-

□ This type of technique is extremely extraordinary. In this strategy the teacher can access the gadget of student and teacher plays out all exercises on that gadget all things being equal of student. Teacher can directs how to perform different assignments on gadgets for better comprehension of student

Literature Review

SangeetaKakoty, et. al. (2011) examinations the current e-learning method and appearing the new element of exploration work on this space that follows the significant and most disregarded exploration regions till today in this area. It additionally investigations the significance of e- training framework and ongoing business sector of e-learning system. This review shows that globalization of schooling, cross-culture viewpoints and socially complex understudy emotionally supportive network in distance schooling just as in e-learning climate is a planned exploration region. Enhancements here could be made by coordinating new innovations and ICT apparatuses. The ELAM (E-learning Acceptance Model) recognizes four determinants of e-learning acknowledgment are – (1) Performance hope, (2) Effort hope, (3) Social impact and (4) working with conditions.

Ventatesh, et.al. (2003) recognizes the critical variables in acknowledgment of e-learning as estimated by social aim to utilize the innovation and real use in the Unified Theory of Acceptance and Use of Technology. It can't be stressed sufficient that singular learning styles should be taken into account in the informative plan format utilized in web-based training.

Alina Zapalska furthermore, Dallas (2010) contend that when understudies' learning styles are recognized, it is conceivable to characterize a fitting setting of learning. Showing methodologies in on the web courses while perceiving the four learning styles can be distinguished as (1) Auditory students, (2) Visual students, (3) Kinesthetic students, (4) Read/compose students.

Kyriaki Anagnostopoulou et.al (2009) talked about the connections that first-year understudies have with learning and with innovation. Proof of a shortage way to deal with eLearning seems to show itself in the two gatherings and advancements that advance social cooperation were principally saved for individual use instead of inside an institutional setting.

Keiko Watanabe (2005). In light of contextual analyses, this paper explains the accompanying two focuses: first, understudies like working understudies, unfamiliar understudies, and the people who study specific regions are the fundamental recipients of types I furthermore, II ; second, various types address understudies' issues by working on the characteristics of classes. It appears reason-

ready to infer that type III is relied upon to turn into the most famous model of e-learning since it reacts to the necessities of understudies and colleges and that advancement of type I and additionally II is conceivable in case colleges are effective in giving educational plans that suit the necessities of expected understudies. This paper utilizes a more extensive meaning of e-learning since it plans to comprehensively cover different practices made by colleges, particularly full-scale, college wide practices and practices that can be appropriately situated as frameworks.

Objectives of the Study

Online e-Learning is an option in contrast to conventional vis-à-vis schooling. Numerous establishments will execute e-Learning to address understudies' issues, particularly those of non-customary understudies with everyday positions. Since e-Learning is directed utilizing the Web and World Wide Web, the learning climate turns out to be more muddled. Understudies' underlying saw fulfillment with innovation based e-Learning will decide if they will utilize the framework persistently. This examination recognizes basic elements impacting e-Learners' fulfillment and employability. The review will audit the key components affecting e-Learning execution and will give a complete audit of its effect on the partners i.e., students (understudies/ representatives), Educators and Employers.

The objectives of the research are mentioned as under:

- 1) To have a look at the diverse factors of e-learning on stakeholders i.e., learners and employers.
- 2) To determine the perceptions and attitudes of Prospective learners about e-learning education.
- 3) To learn about the key challenges confronted with the aid of learners in an e-learning program
- 4) To learn about the influence of e-learning both positive and negative on the employability of the student.

Research Methodology:

Descriptive Study:

The examination is Descriptive in nature. The reliant factors in this review have been picked as:

1. Student's expected results
2. Student's employability.

Student's expected results: To concentrate on the viable' utilization of ILT (data and learning innovation) on understudies' middle of the road results, in particular:-

- Acquisition of information and abilities and
- Development as independent students.

Impacts identifying with information and expertise could be isolated into: commitment factors, making understudies more open to learning; intellectual components, making the learning materials more open and helping comprehension; and execution factors, delivering better yields and creating abilities. Impacts identifying with creating development as independent students consolidated: the improvement of confidence, especially for understudies who have had little achievement in the past; inspiration to learn; and independence, assuming greater liability for their own learning and figuring out how to learn. Student's Employability could be estimated as results that add to student's execution at work and by and large further developed business execution. This depends on directing factors like ROI and usefulness proportions. The Learner's Learning Outcomes and Learner's Employability are affected by the following free factors or components:

1. Student's characteristics
2. E-learning Environment
3. The learning Activity

Student's characteristics - Age, schooling, encounters, work profile, needs, thought processes, earlier experience of learning, social and relational abilities, favored learning styles, ICT ability. Learning climate (vis-à-vis or virtual) – accessible assets, devices, offices furthermore, administrations and their match with the students' necessities. The learning movement and approach taken - the means by

which the staff brings about learning and tries to impact the improvement of the students by the utilization of different learning styles, incorporation, and evaluation.

The Secondary Data is gathered from different accessible sources through work area research counting writing study and alluding e-libraries and so forth Audit of writing and other accessible data from different distributed and unpublished reports, Journals, books, papers and so forth (counting information bases like Ebsco, Pro-mission, India Business Understanding Databases and others).

Size and Design of Sample

The study was carried out in Maharashtra. The sampling method was used as Stratified Random Sampling. The sample units selected were HR-Executives and E-Learners across Maharashtra. Sample Size: The total sample selected for study was 153 E-Learners & 36 HR Executives.

Majors Findings from the survey.

The environment of advanced education is developing from one side of the planet to the other. Increasing expenses, contracting spending plans and an expanding need for distance schooling has made instructive establishments reconsider the way that training has been conveyed. In light of this evolving climate, e-learning is being carried out increasingly more habitually in advanced education, setting out especially intriguing open doors for both instructive establishments and understudies. E-learning, or electronic learning, has been characterized a number of various routes in the writing. By and large, e-learning is the articulation extensively used to depict "informative substance or learning experience conveyed or empowered by electronic advances". The more extensive definition, which will be utilized for the reasons for this examination, can incorporate the utilization of the Internet, intranets/extranets, sound and tape, satellite transmission, intelligent TV, and CD-ROM, not just for content conveyance, yet additionally for connection among members. Thinking about the most recent mechanical patterns, this definition can be additionally extended to incorporate portable and remote learning applications. The e-learning models of advanced education today find their underlying foundations in ordinary distance instruction. Distance learning was at first acquainted with permit people in remote and country regions to access higher schooling; but it has developed fundamentally over the long haul. All the more as of late, the appearance of the Internet has empowered enormous advancement in the conveyance of training by any means grades – kindergarten to proficient courses. As time passes by, an ever increasing number of individuals are accessing the Internet, bringing about the expense of PC proprietorship diminishing, and generally speaking PC proficiency expanding. These patterns give instructive organizations an optimal channel for the conveyance of instructive substance. There are many explanations behind the development of the advanced education e-learning industry, both from the organizations' and understudies' viewpoints. Around the world, the interest for post optional training is expanding. For instance, in the United States, school enlistment among secondary school graduates expanded from 56% in 1980 to 67% in 2003 (Morrison, 2003). In Canada, it is normal that more than 70% of new positions made will need some post auxiliary instruction (Industry Canada, 2001). With the restricted limit of existing homerooms at scholarly organizations and the restrictive cost of building new offices, e-learning is an appealing other option.

E-Learning in India

Larger part of populace in India lives in provincial regions and acquainting them with a new idea like that of eLearning is a significant test. Absence of framework as far as network, accessibility of Internet, and so on is another issue. The public authority has started taking different measures to further develop the correspondence frameworks and has presented new advancements like 3G and 4G web offices. In most provincial regions at least a fundamental 2G web office is accessible. The Social Implications of E-Learning is another section of study that is vital to be perceived for the achievement of e-learning in India. They might be arranged into the accompanying sorts of issues: social, way of life, geological, sex, strict/otherworldly, proficiency, and handicaps. Social issues incorporate substance, interactive media, composing styles, composing structures, Web plan, and

member jobs. Some substance, albeit significant to the course, may either be unsatisfactory or ominous with specific individuals from the class. For instance, if there is a delicate part to a topic to be examined during the class, it turns out to be really significant for the staff to recognize the best procedure to lead the class. This likewise turns out to be valid in the event that the class comprises of people from different societies all throughout the planet. What might be satisfactory in the West may not be acknowledged in India. Strict and otherworldly contemplations should be tended to and respected. Maybe it would be imprudent for an educator to require work be done on specific days, considering that these days might be strict days for certain religions; recommend, maybe, a square of time when exercises may be appointed. And surprisingly the innovation issue of Web access should be thought of. In certain networks, dial-up access is the just potential method for interconnect; there are no other options. And surprisingly the innovation issue of Internet access should be thought of. In certain networks, dial-up access is the main potential method for interconnect; there are no other options. Understudies are propelled to utilize e-figuring out how to access advanced education. For some's purposes, it could be a part of a conventional course; while for other people, the whole course may be totally on the web. If there should be an occurrence of the last mentioned, e-learning might make admittance to higher schooling that they would not have in any case due to geographic or time requirements. Conversely, there are fluctuated limitations to the E-learning design. ELearning presents an altogether new learning climate for understudies, accordingly requiring a distinctive range of abilities to be fruitful. Basic reasoning, examination, and assessment abilities are filling in significance as understudies have expanding volumes of data from a assortment of sources to figure out. Likewise, particularly in courses that are altogether electronic, understudies are substantially more autonomous than in the conventional study hall setting. This necessitates that they be exceptionally energetic and focused on learning with less friendly cooperation with peers or an educator. Understudies in internet based courses will in general do just as those in study halls, however there is higher frequency of withdrawal or fragmented grades. Considering E-gaining according to the employability point of view, we see that there is frequently a propensity for bosses to see online instruction as it were from truly trustworthy customary organizations in a more certain light; but the acknowledgment of online degrees overall is expanding. This is a positive pattern for e-learning overall and for establishments giving simply online instructive foundations specifically. Businesses are progressively spurred to consider e-learning as a higher instruction elective. This could be because of the expanding mindfulness that denying the worth of e-learning will confine their pool of expected recruits. It will likewise restrict the accessibility of courses and expert advancement exercises that their workers may take an interest in. Since numerous understudies seek after advanced education with the end goal of starting or propelling their vocations, an absence of help for e-learning by businesses could dissuade workers from seeking after their coursework through electronic means, accordingly limiting their chances. One issue however those businesses have with elearning is the diminished relational connection inborn in large numbers of these courses.

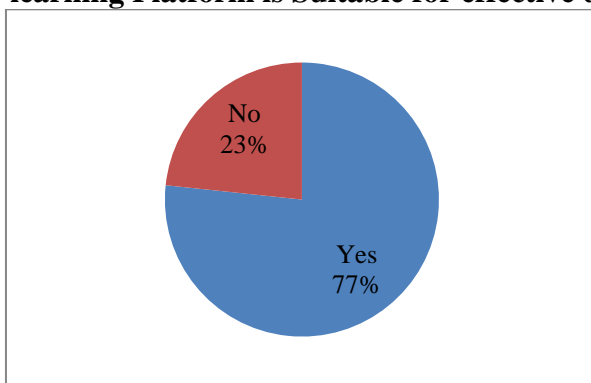
Key Findings from the Learner's Survey:

From the review led on the E - students, it has been discovered that greater part of the example apportioned the most noteworthy inclination to the simplicity of accessibility of the course. The research additionally investigated that the example thought about the creator/educator of the course to be vital. Not really set in stone express that innovation that is needed to embrace the course is likewise a significant perspective for the students. In the request of the factual assurance, it has been seen that the foundation giving the course is likewise viewed as a significant factor while choosing a course. Area and cost of the course not really settled to be significant variables. Notwithstanding, the information examination called attention to that the adaptability of the ideal opportunity for undertaking the course was given minimal inclination by the example. Additionally, there was unimportant contrast of decisions between the male and female people in the example. Regarding the significance of the course materials; both male and female people likened a similar worth to the factor. The example likewise viewed as that the assumptions of the teachers had been plainly

expressed to them throughout the review. There was no stamped contrast been between the male and female people in the example regarding the testing and assessment techniques. While considering the responsibility against the credit hours designated; the two guys and females expressed the experience to be comparative and no distinction was noticed. Coming up next were the surmising's gotten on breaking down the foundation's help with respects to the offices gave. They were investigated based on whether the administration was accessible on a cell phone or not. With respect to getting to the library assets; a larger piece of the understudies expressed that the help was accessible on a cell phone. The exploration showed that a lot of the understudies expressed that they had the option to check their grades online on a cell phone. A greater part of the understudies expressed that they had the option to enlist for their courses online through a portable telephone while many expressed that they had the option to get to monetary guide data. With respects to the LMS framework; a reasonable greater part of the understudies guaranteed that they were ready to effortlessly get to the framework for concentrate on purposes. Most understudies expressed that they had the option to arrange their records on the web. An unmistakable larger part of the understudies expressed that they had the option to get to data about occasions and understudies exercises from a cell phone. Furthermore, practically every one of the understudies certified that they had the option to plan arrangements through a versatile entry. In every one of the elements, there was no stamped distinction between the reactions got from male and female understudies. Concerning the institutional rating, both male and female appraised the establishment emphatically. There was no stamped distinction between their appraisals. Both male and female partners expressed that the organization had a decent library asset.

Data Analysis & Interpretation:

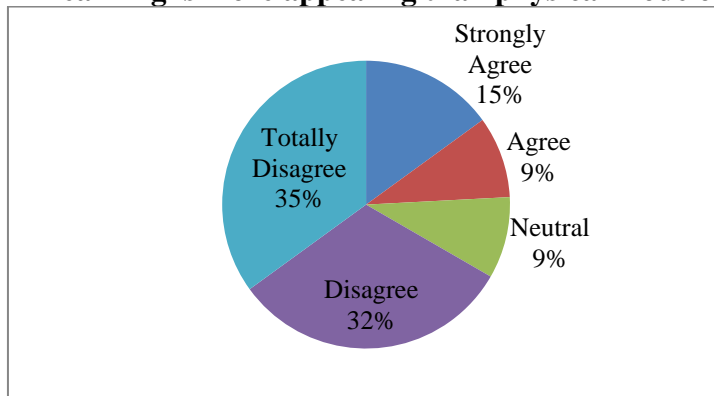
Chart No.1-Does E-learning Platform is Suitable for effective delivery of lectures ?



[Source-Primary Data]

Interpretation: The above chart shows opinion of the respondents about suitability of e-learning platform. 77% respondents said yes where 23% said no. Therefore it is cleared that most of students e-learning is not suitable for most of the student.

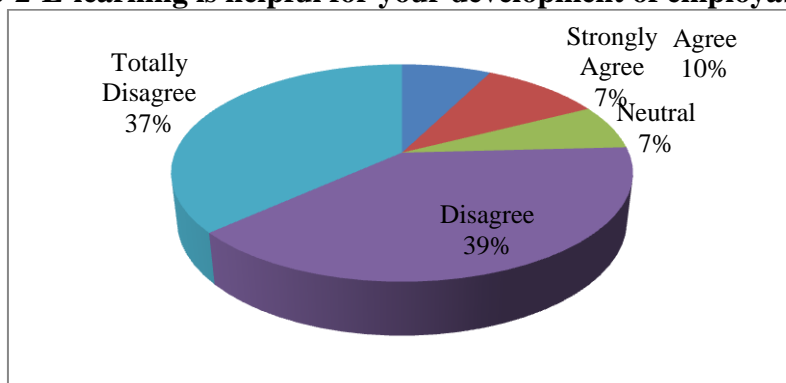
Chart No-2-E-learning is more appealing than physical mode of Education.



[Source-Primary Data]

Interpretation: The above chart shows opinion comparison between e-learning and physical learning is shown. 15% respondents are strongly agree, 9% are agree, 9% are neutral, 32% are disagree where 35% are totally disagree with the same. Therefore it is cleared that most of students are disagree with e-learning is more appealing than physical mode of learning.

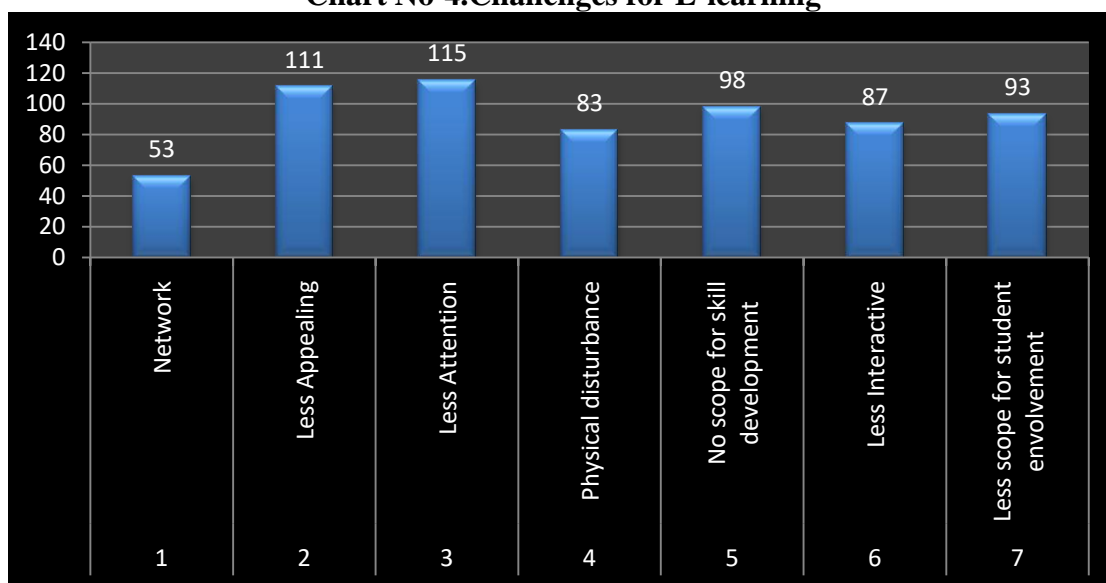
Chart No-2-E-learning is helpful for your development of employability skills



[Source-Primary Data]

Interpretation: The above chart shows opinion of the respondents about e-learning is helpful for development of employability skills among the students. 7 % respondents are strongly agree, 10 % are agree, 7 % are neutral, 39% are disagree where 37% are totally disagree with the same. Therefore it is cleared that most of students are disagree with e-learning is helpful for development of employability skills among the students.

Chart No-4.Challenges for E-learning



[Source-Primary Data]

Interpretation: The above chart shows opinion of the respondents about challenges in e-learning. There are various challenges are observed in e-learning. Less attention, less appealing, no scopes for skill development, less scope for student interaction etc. are the major problems in e-learning method.

Recommendations and Suggestions

1) It has been determined from the exploration that there is no separation in sex in the inclination of E-learning courses. Be that as it may, it has been found out that the male sex favored the nature of the creator and the innovation of the course. In this manner, these perspectives should be featured while advancing the course. This further gives experiences on how the E-learning industry can increment its market presence in India with focusing on the male crowd for the courses.

2) It has been seen that the female sex gave more significance to the area, time plans and the accessibility obviously material. In this way the adaptability in the timings of the course could be a benefit to tap the market for female understudies.

3) The examination review attempted among the HR's demonstrates that understudies acquiring degrees from customary study hall showing courses are more liked to the understudies seeking after the E-learning courses. There ought to be a mindfulness made among the HR about the comparability of e-learning courses.

4) The quantity of the understudies deciding to seek after E-learning courses is higher in the age gathering of 30-40 followed by 20-30. The quantity of student's undertaking E-learning courses in the age of 40 or more is low a result of the innovative intricacies included. In order to handle this issue, establishments should make the LMS more understudy amicable and simple to utilize.

5) The auxiliary investigates express that there are different difficulties that are confronted by E-students while undertaking the course. The respondents expressed that they had no trust on the legitimacy of the courses and the worth expansion that the E-adapting course will have on their profession perspective. Also, another challenge that was expressed was the difference in the mechanical advances with the understudies being not able to meet the developing changes and up-degrees required. These fundamental issues should be addressed in other to build the simplicity of undertaking the E-learning courses and in this way uplifting higher compatibility.

6) The exploration called attention to that there is as yet a higher inclination being given by scouts to people with a customary study hall learning degrees as against those from E-learning courses. It is consequently proposed that more mindfulness should be made with regards to the comparability of the E-learning courses.

7) The inclinations of student's are additionally observed to be higher in the center the board and followed by the lower level administration. So this exploration assists the organizations with understanding that the center administration experts should target while advancing e-learning courses.

Conclusion

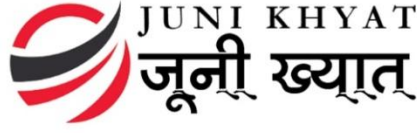
The improvement of employability abilities is an acquiring cycle. Constructivist epistemology of learning depends with the understanding that students are effectively associated with the learning system. Through the immediate experience of the students will get a more profound comprehension of learned material and not simply knowing what he had realized. E-learning, is one type of picking up utilizing constructivist epistemology, where the student can participate in independent learning measure (Computer Mediated learning) and the directed (Computer Assisted learning). E-learning configuration ought to be founded on the idea of learning, while the actual innovation is a supporting-specialist which serves to work with the conveyance of material.

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IMPACT OF HEALTH ISSUES ON EMPLOYEE PRODUCTIVITY

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Abstract

This paper examines two health problems with crucial importance to practitioners and policy makers: the work setting and structure factors that absolutely influence workers' health and well-being, and also the relationship between healthy workplaces and productivity. Analysis in various disciplines agrees on the importance of supporting staff to be effective in their jobs in ways in which promote, not compromise, their health. The ingredients embrace leadership that values staff as key assets, validatory direction in the slightest degree levels, worker participation, programme, communication, opportunities to be told, and a culture that offers priority to work-life balance and individual health. There's conjointly proof of causative links between operating conditions, interventions designed to form healthier workplaces, worker health, and firm-level productivity. The world continues to face a serious infectious agent pandemic. The virus underlying the COVID-19 illness, SARS-CoV-2, has caused over ninety eight million confirmed cases and 2.2 million deaths since Jan 2020. though the foremost recent metabolic process infectious agent pandemic sweptwing the world solely a decade past, the means science operates and responds to current events has practiced a paradigm shift within the interim Studies counsel that in healthy geographic point initiatives area unit comprehensive in scope, integrated with alternative human resource programs, and have neat implementation methods supported robust leadership, sensible communication and intensive participation. Whereas important data gaps stay, these mustn't deter employers, staff and policy manufacturers from taking action currently to form healthy organizations.

Keywords: Heath problems, productivity, performance, working condition, covid-19, SARS-CoV, pandemic, illness, healthy organization, healthy workplace, work productivity, work-life balance, multitasking.

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Correspondence Author: Dr. N.S.Bhand

1. Introduction

Poor health has affected the economy of various nations across the world. There square measure direct and indirect prices related to illness. However Health Affects Performance. If we have a tendency to square measure healthy, we have a tendency to square measure additional productive. We have a tendency to take fewer absences that means that there square measure fewer probabilities of labor column up once taking time to rest. Being healthy conjointly implies that we have a tendency to square measure additional intended to figure, recover quicker from illness, and square measure less susceptible to semi-permanent ailments. Temperature, air quality, lighting and condition within the workplace have an effect on the work concentration and productivity. Varied studies have systematically demonstrated that characteristics of the physical workplace surroundings will have a major result on behavior, perceptions and productivity of staff.

2. How will Health have an effect on Your Work?

a. Poor Health results in minimal Productivity: According to the Department of Labor, productivity is that the live of economic performance that indicates however with efficiency inputs square measure reborn into outputs. Once Associate in nursing worker is far away from work because of Associate in nursing malady, there'll possible be a case of poor productivity. The middle for Retirement analysis at Beantown School detected that poor health contributes to a persistent loss of earnings. Considering this, once staffs fall sick, they must be inspired to hunt treatment now to make sure minimal disruption in productivity.

b. Work Health Hazards have an effect on staff Morale: Occupational health and safety play a vital role in making certain the success of companies. it is the employer's job to form certain

staff square measure safe. Whereas accidents will happen within the work, they must be decreased. To lower work risk, the leader ought to talk over with the staff regarding safety measures and confirm warning messages square measure clearly displayed. When staff want they don't seem to be protected against health hazards, their morale and productivity are going to be lower. However, once managers guarantee their staff square measure taken care of, it's easier for the employees to feel intended.

c. Healthy employees can deliver smart client Support: One's mood is greatly suffering from poor health. With a poor mood, the staff won't be able to deliver to the expectations. Therefore, they're possible to fail once it involves meeting deadlines. This, in turn, affects your customers. Eventually, your customers can begin dodging from you and ne'er returning. Consider the case of a secretary World Health Organization is usually stressed by family matters or work stressors. Once your prospective customers come back seeking steerage from the secretary, they find yourself feeling neglected and poorly served. It's clear to US all; the front table will build or ruin your future in business. Once a shopper feels turned away by a secretary World Health Organization is affected by stress, it becomes terribly onerous to bring the client back. Employers have to be compelled to take into account ways in which to assist improve their employees' moods at the work and on the far side the work, for instance, to home-related problems. Permit your employees time without work to attend to family matters, in order that they come rested and prepared to handle business. All-time low line is correct client service depends on the mood of the staff and stress can have a negative result.

d. Poor Health may result in a very Poor name: If your reception employees is stressed and lands up reprehension a client or your employees impolitely, the name of your business is at stake. Constant applies once your senior managers square measure systematically absent from attending clinical checkups, as there'll be nobody approved to sign documents on their behalf. The result is that your business associates and customers can expertise delays once seeking services. In turn, the name of the organization goes to be affected. To avoid exploit a poor business name, from stressed staff World Health Organization insult customers or delayed service, encourage your employees to require their health seriously. Some staff square measure unaware of once they square measure experiencing poor health that is why it is vital for your organization to speak frequently to the staff on health matters. Offer staff with no matter resources can facilitate and inform them. Some businesses have even employed counselors for his or her employees, in order that they have somebody to speak with once they square measure below stress.

e. Wastage of your time and Resources because of Poor Health: Poor health, or activity health and safety, would possibly cause the corporate to lose valuable time and resources. As an example, take into account Associate in nursing accident at the work that then results in loss of your time because of controversy at the court for a settlement. On the opposite hand, it's going to be a senior manager World Health Organization has had to require a week's leave owing to respiratory illness or fever. the worker won't be able to perform well and thus it slow is lost looking forward to the worker to recover. Typically, a salaried staff pay isn't subtracted once the worker is out on a sick day. thus then the question becomes, however will an organization account for salaried staff World Health Organization square measure oftentimes ill? Businesses square measure losing a large quantity in direct and indirect prices because of poor worker health.

f. Delayed comes because of absence: Business comes last a hard and fast amount to become profitable. However, what happens once the individuals responsible of the project fall ill? The results delayed delivery that reduces the profit of the full project. Therein regard, it's vital for the business to form certain that their employees members, World Health Organization square measure alleged to be responsible of those day-after-day comes, square measure in physiological state, which is able to facilitate in delivering comes on time. By meeting essential deadlines, your customers can appreciate your service and reciprocate by referring your business to their friends and relatives; all this can be as a result of your staff square measure on the market to complete the comes that matter on time and at intervals budget

3. Objectives

1. To study effect of health problems on employee productivity.
2. To develop health policy to workers its helps to increasing productivity of employee.
3. To determine ergonomic problems when working from home during the COVID-19 pandemic with regard to musculoskeletal pain, sleep conditions, physical activity, resting, equipment, and productivity.
4. To know the various problems of workers.
5. To suggest suitable strategies to increase health condition of workers.

4. Benefits of a Healthy Workforce

Your workers have to be compelled to be healthy to feel smart. Solely then can they perform their best and additionally encourage others around them. Healthier workers area unit happier, and this resonates at intervals the remainder of the hands. Having healthiness within the geographical point motivates workers. It additionally reduces absence. Most significantly, it displays your concern for your employees' overall health and well-being. In today's world, individuals search for jobs in corporations that care concerning the health of their hands. Once you specialize in worker health in your organization, you're higher able to attract prime talent and additionally retain your best workers. By promoting healthiness among workers, you'll forestall ill health among your workers. Healthy workers area unit less possible to suffer from fatigue, stress, and physical and mental burnout. Also, such workers area unit higher able to avoid geographical point injuries and accidents. When you promote healthiness among workers, you create them a lot of alert to their bodies and minds. They're a lot of possible to remain off from unhealthy health habits like smoking and drinking. And as a result, such workers suffer from fewer health issues, within the long haul, serving to save insurance and health care prices. Summing up, here is a unit the advantages of healthy hands – Increased productivity, reduced absence, reduced health care prices, improved work culture, Enhanced company image, increased work satisfaction, reduced geographical point stress, inflated job retention rate, better geographical point safety, increased worker engagement, reduced ratio.

5. Statement of Problem

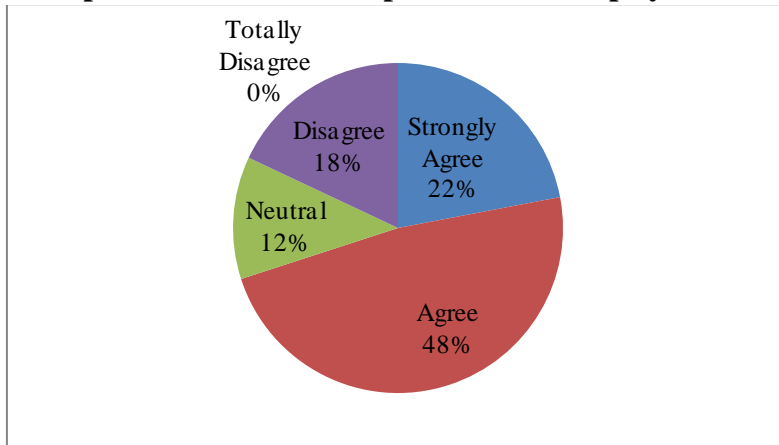
The statement being researched is 'Impact of health issues on employee's productivity.' In any organization employees are facing various types of heath problem, when employees are feeling better than it's having negative impact on employee's productivity.

6. Methodology

It is exploratory type of research. There are two types of data collection methods available: Primary data collection method and secondary data collection method. For the purpose of collection of primary data questionnaire was prepared. Questionnaire was made for employees in the organization. The researcher focused on a comprehensive set of workplace practices that influence employee motivation, commitment and willingness and desire to achieve at work. The researcher identified this policies and a deep understanding of typical organizational programs to ensure that the questionnaire covered the broadest spectrum of tangible and intangible aspects of the work environment. As a result, the questionnaire included items about the employee's health, health issues, and management effectiveness, communication, culture and attributes related to these tangible and intangible aspects. By this questionnaire, the researcher tried to find out the effectiveness of such health policies as well as the satisfaction level of the employees. Personal approach, surveys, mails, telephonic discussions and meetings with different employees were conducted. Secondary data such as internal to the firm HRD documents Papers and external to the firm such as published data or commercially available data. Sources of Secondary Data are: Journals, Research Papers, News Papers, Websites, Magazines and Books. Sample size is 50. A comparative study of health problems has been done in different organizations. The respondents are employees of organization. The sampling technique was judgmental and the research tools were questionnaire.

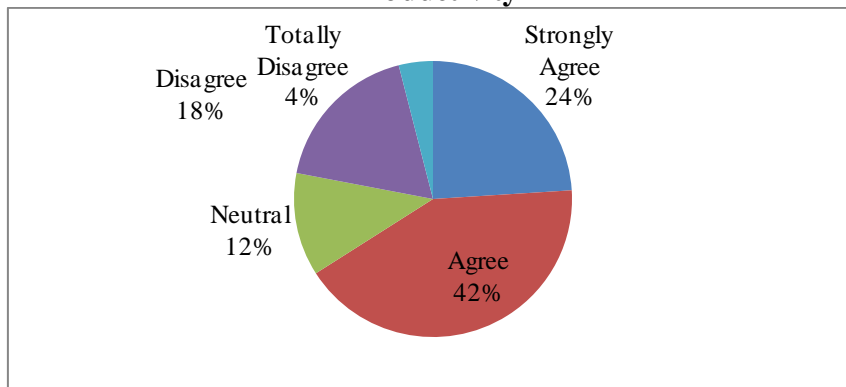
7. Analysis and Discussion

Chart 1: Impact of health related problems on Employee Productivity



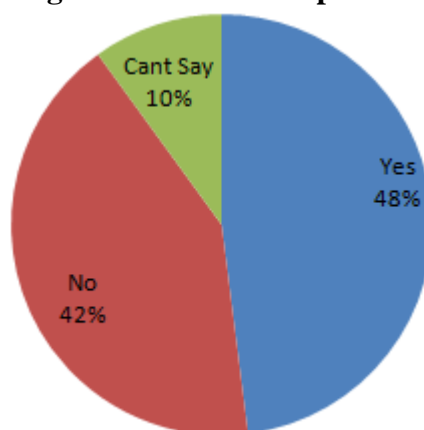
Above chart shows opinion of the respondents about impact of health related problems on employee productivity. 22% respondents are strongly agree, 48% are agree, 12% are neutral and 18% are totally disagree with impact of health related problems on employee productivity. It is cleared that most of the respondents are agree with the impact of health related problems on employee productivity.

Chart 2: Effective organizational Health Policy is helpful for increasing organizational Productivity



Above chart shows opinion of the respondents about Effective organizational Health Policy is helpful for increasing organizational Productivity 24% respondents are strongly agree, 48% are agree, 12% are neutral and 18% are totally disagree with this. It is cleared that most of the respondents are agree Effective organizational Health Policy is helpful for increasing organizational Productivity.

Chart 3: Opinion of the respondents about There is scope for improvement in Your existing organizational health policies



Above chart shows opinion of the respondents about scope for improvement in your existing organizational health policies. 48% respondents said yes, 42% said No and 10% can't say anything about the same. It is cleared that most of the respondents are agree with scope for improvement in your existing organizational health policies.

8. Conclusion

Employees/worker's job satisfaction should be the target for health system improvements. Employee/ worker satisfaction is associated with intent to stay, and employee/worker retention is necessary for the provision of high quality health care. The results from this study have shown the effect of workplace environmental factor on health workers performance and productivity and suggest that efforts should be geared towards improving the physical environment, social environment, and work system associated with the workplace. Effort should focus on providing healthcare workers with the infrastructure and tools they need to do their jobs. Occupational safety and health should not be sidelined as a service delivery issue. Health worker health and well-being is an important aspect of workers' motivation and job satisfaction, which influence productivity as well as retention. Health worker safety also affects the quality of care; caring for the caregiver should be a priority area of concern for the health system's performance. What is good for employee health is good for patient health. Multi-stakeholder initiatives that include global principles, national policy advocacy, and the involvement of professional councils, schools, and health facilities can facilitate OSH risk reduction measures and fill the gaps. The PPE Campaign represents an important approach to bringing occupational safety and health policies to practice, ensuring the well-being of the health sector's most important resource and in turn that of the patients and populations they serve, thus helping to transform the health system at large.

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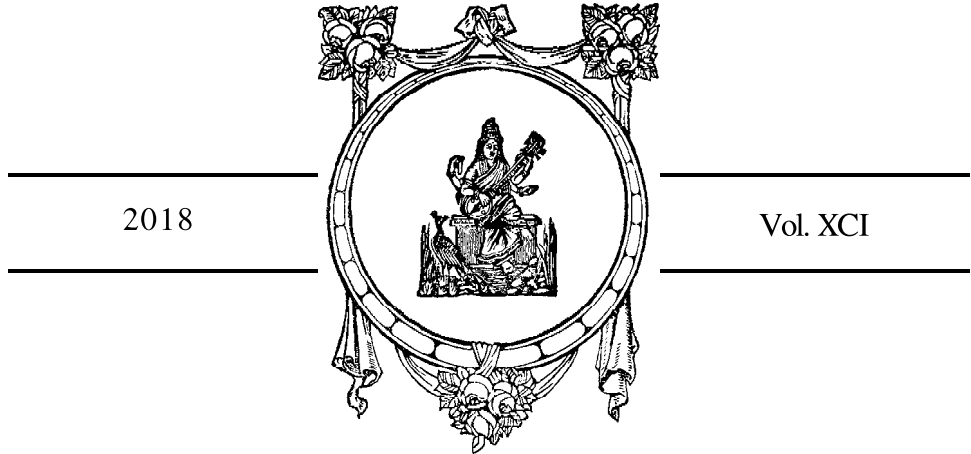
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PREFACE

The institute is happy to bring out this present Annual issue Vol. 91 of the *Journal of Oriental Research*, Madras for the year 2018. Maintaining the academic standard set by Mm. Prof. S. Kuppuswami Sastri, which was upheld by Dr. V. Raghavan and Dr. S.S. Janaki, the present volume contains eleven articles and reviews of nearly thirty books.

The subject matter of the articles span the wide spectrum of Sanskrit literature. Starting from Rgvedic poetry and Vedic Āyurveda, the volume comprises of themes related to Tamil Śivayoga, *Sāmudrikālakṣaṇa*, the concept of *Tattvamasi*, the enigmatic śloka 'anurāgavatī sandhyā', Snake poison, therapeutic value of Sun's rays, Bhoja's *avyayas*, universal application of Rasa theory, and Physiology in *Varāhopaniṣad*.

The four Dictionaries of Sanskrit quotations of - (i) Botany and Agriculture, (ii) Agricultural Sciences in Ancient India (iii) Chemistry in Ancient India and (iv) Medical Science in Ancient India, reviewed in this volume deserve special mention and these books should be kept on the libraries of all Sanskrit colleges or Sanskrit departments.

The Volume, as usual, is inclusive of the activities of the Institute in the past four years (2015-18), since the last issue (Vol.90) beings a special issue commemorating the 70th Anniversary Celebrations of the Institute, did not carry these details. The report of the Institute would throw light on the growing academic activities of the Institute year by year.

Starting from the first issue of JOR in 1927, Prof. Kuppuswami Sastri had envisaged of publishing critical editions of rare valuable texts, part by part. Texts like *Vibhrama Viveka* of Maṇḍana Mīśra edited by the great savant himself, *Vīṇāvāsavadatta* by Dr. C. Kunhan Raja and *Citrapaṭa*

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AN ANALYTICAL STUDY OF ROLE PLAYED BY MANAGEMENT INFORMATION SYSTEMS ON ORGANIZATIONAL PERFORMANCE OF PRIVATE HOSPITALS IN AHMEDNAGAR REGION

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ABSTRACT

Healthcare Organization is mainly deal with maintenance or improvement of health via the prevention, diagnosis, and treatment of disease, illness, injury, and other physical and mental impairments in human beings. Healthcare is delivered by health professionals (providers or practitioners) in allied health professions, physician associates, physicians, dentistry, midwifery, nursing, medicine, optometry, audiology, pharmacy, psychology, and other health professions. It includes the work done in providing primary care, secondary care, and tertiary care, as well as in public health. Patient care is critical and crucial element in hospital. The quality of patient care depends upon the quality of the diagnosis made by medical staffs. Organizational effectiveness is also linked with patient care. Patient care can be defined as the creation of more value for patients through the removal of all non-value-added steps or actions. The current administrative emphasis on the management of frequently used resources, cost control, the effectiveness of patient care, and improved quality and responsibility, reinforces the importance of optimal patient care. Timely Diagnosis by the doctor and patients care is very important elements in the health care organization.

Keywords: Management Information system, Healthcare, Patient, Organizational Performance, Private Hospitals.

Introduction

In the present study researcher has studied the Hospital Management system in Ahmednagar region. Researcher has explored some challenging and interesting issues that hospitals are facing as they move in the present scenario. Hospitals are facing lot of challenges about Patient database i.e. handling the queries on the existing patients and the patients treated and discharged and queries can also come from the visitor, a doctor or other employees of the hospital. It is directly impact on satisfaction level of patients. Hospitals have very poor Medical server database, Resource planning and control, Medical case history database. It is resulted into hospitals efficiency and effectiveness. Hospitals are not having proper planning related to manpower and personnel planning, payroll and employee related applications, hospital billing and the recovery, an inventory control procurement, the planning and the control, the expiry date management, resource utilization and the analysis, financial accounting, capital budgeting and the expense control, maintenance of the service facilities it is resulted into poor decision making. Hospitals are also facing lot of challenges related to controlling functions like patients waiting time and the service cycle, not using the critical

resources, Stock outs of the critical drugs, Analysis of the delays in terms of the duration and the causes, new trends in the service demands and the service performance in such cases.

Literature Review

Organizations that do not have formal Information sharing practices fails to leverage their managers' intellectual capital for business innovation and growth (O'Neill & Adya, 2007). MIS enables the exchange of experiences, which transfers the required information to the management levels to sustain competitive advantage since it affects the decision making to improve the quality of services provided. Therefore, Barachini et al. (2009) supported that it is imperative that these organizations continuously motivate their employees to share valuable information so that their intellectual capital can be leveraged. Management Information System gives the management field a new dimension in managing its knowledge and help in carrying out and maximizing the management's initiatives in harmonizing the appropriate strategies in the short and long planning (Edmondson, 2002).

The performance as stated by Hunger and Wheelen (2007) is an end result of an activity,

and an organizational performance is accumulated end results of all the organization's work processes and activities. Managers measure and control organization performance because it leads to better assessment for management, to increase the ability to provide customer value, to improve measures of organizational knowledge, and measure of organizational performance do have an impact on an organization's reputation. When the performance of the organization is assessed, the past management decisions that shaped investments, operations and financing are measured to know whether all resources were used effectively, whether the profitability of the business met or even exceeded expectations, and whether financing choice were made prudently (Shaukat et al., 2008) Organizational performance is conducted to support decisions concerning whether program or project should be continued, improved, expanded, or curtailed (Rossi et al., 1999) From the literatures presented, we can easily perceive that the importance of the role of both middle and top management to maintain a consistent approach to develop, use, and evaluate MIS systems within the Organization. MIS is used at various levels by top-management, middle and even by the operational staff as a support for decision making that aims to meet strategic goals and strategic objectives.

Research Methodology

Rationale of the study: Healthcare management system is playing crucial role in providing various health related services to the society. Role of information in effective working of hospital is very much important in the present scenario. Therefore in this study researcher wants to study impact of management information system on organizational performance of private hospitals of Ahmednagar region.

Objectives of the study

1. To study various factors affecting on organizational performance of private hospitals.
2. To study role played by Management Information systems on organizational

performance of private hospitals in Ahmednagar Region.

3. To study challenges and opportunities in implementation of Effective MIS in private hospitals of Ahmednagar Region.

Hypothesis

H₀: Effective Implementation of Management Information systems does not have as significant impact on the organizational performance.

H₁: Effective Implementation of Management Information systems have as significant Impact on the organizational performance.

Research design: In the present study researcher has collected data by using exploratory study research design and descriptive research design.

Primary Data

The researcher has collected primary data through structure questionnaires, interviews and field visits. In order to get first hand and authentic data the researcher has used the following method.

Research Technique : Survey Method Survey tools

Survey tools : Questionnaire methods

Questionnaire Method: The researcher has systematically framed the questionnaire to collect the data. Primary data has been collected by using two different structured questionnaires.

Researcher has used first questionnaire for the collection of data from Top Management Representatives, Administrative Officers and System Administrators.

Secondary Data

The secondary data has collected from: Publications of the Government Reports. Periodicals, publications of World health organization. Report Published by Zila Arthik Samalochan, Reports of various committees, District Statistical Reports, District Social & Economic Review Reports, Websites of selected sample size. Researcher also reviewed various books, journals, magazine and newspapers.

Sample Design

Population/Universe of the study: Universe of Hospital includes all those hospitals which are

registered with competent government authorities such as District Medical Officer and those which have capability to admit patients for medical treatment are included in the universe.

Sample Area: Ahmednagar District.

Sample Technique: Quota sampling

Sample size: 60 respondents (20 CEO's & 40 Admin Officers)

Statistical Tools Used

- a. For representation of data researcher has used table, pie-chart, histogram & percentage analysis.
- b. for testing of hypothesis researcher has used Anova test.

Data Analysis & Interpretation

Table No.1. Total Number of Respondents

Sr.No	Designation	Frequency	Percentage
1	C.E.O	20	33%
2	Admin Officer	40	67%
	Total	11	100.00

{Source-Primary Data}

Interpretation: The above table and chart shows type of the respondents visited by the researcher. The key personnel in the implantation and controlling of MIS are CEO and Admin officer. Hence researcher has visited 33% CEO and 67% of Admin officers.

Table No.2. Type of MIS used by Private Hospitals in Ahmednagar region

Sr.No	MIS (Status of MIS)	Frequency
1	Automated MIS	24
2	Manual MIS	24
3	Partial Automated Partial Manual	12
	Total	60

{Source-Primary Data}

Interpretation: The above table and chart shows various types of MIS implemented by private hospitals in Ahmednagar region. 40% respondents are using automated MIS, 40% using manual MIS and 20% of them are using partial automated and partial manual MIS. It is evident from the study that most of the respondents are using Automated as well as

manual MIS in private hospitals of Ahmednagar region.

Table No.3. MIS is playing an important role in the Effective Functioning of Organizational Performance.

Sr.No	Performance	Frequency
1	Strongly Agree	12
2	Agree	30
3	Neutral	6
4	Disagree	18
5	Totally Disagree	00
	Total	60

{Source-Primary Data}

Interpretation: The above table and chart shows performance various types of MIS implemented by private hospitals in Ahmednagar region. 18% Respondents are strongly agree, 46% are Agree, 9% are neutral and 27% are disagree. From the above analysis it is clear that most of the respondents are agree with MIS is playing an important role in effective functioning of private hospitals in Ahmednagar region.

Table No.4. Challenges for implementing MIS in Hospitals (Multiple Response Question)

Sr. No	Challenges for implementing MIS in Hospitals	Frequency
1	Lack of Top Management Support	6
2	Poor Skills sets among users	66
3	Resistance to change	50
4	Insufficient Software Evaluation	25
5	Poor Communication	20
6	Benefit Realization	15

{Source-Primary Data}

Interpretation: The above table and chart shows challenges of MIS implemented by private hospitals in Ahmednagar region. From the study it is observed that most of the respondents said that poor skills among users, resistance to change, insufficient availability of software, poor communication, benefit realization and lack of top management support are the major problems in the implementation of MIS in the Ahmednagar region.

Table No 5. Impact of MIS on organizational performance of Private hospitals

Sr.No	Impact of MIS on Hospital Functioning	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
1	Better accessibility to information in the Hospital	11	9	2	15	23	60
	Percentage	18.3333	15	3.33333	25	38.3333	100
2	More efficient administration of Hospital	9	8	2	15	26	60
	Percentage	15	13.3333	3.33333	25	43.3333	100
3	Higher utilization of Hospital resources	12	7	4	14	23	60
	Percentage	20	11.6667	6.66667	23.3333	38.3333	100
4	Reduction in workload	8	6	4	14	28	60
	Percentage	13.3333	10	6.66667	23.3333	46.6667	100
5	Better time management	1	1	1	3	5	11
	Percentage	9.09	9.09	9.09	27.27	45.45	100
6	Improvement in the quality of reports	8	11	1	12	28	60
	Percentage	13.3333	18.3333	1.66667	20	46.6667	100
7	MIS can provide administrators, Doctors and Nurses with the information required for informed planning, policy-making, and evaluation	11	9	2	15	23	60
	Percentage	18.3333	15	3.33333	25	38.3333	100
8	MIS have changed Hospital management in the areas of leadership, etc.	1	1	1	3	5	11
	Percentage	9.09	9.09	9.09	27.27	45.45	100
9	MIS can assist the Hospital Top Management, Administrators in determining the aims of the hospital etc.	8	6	4	14	28	60
	Percentage	13.3333	10	6.66667	23.3333	46.6667	100

{Source-Primary Data}

Interpretation: From the above table it is clear that in the percentile analysis most of the members are agree with the role of management information system is playing an important role in the efficient functioning of organizational activities.

Testing of Hypothesis

H₀:Effective Implementation of Management Information systems does not have a significant impact on the organizational performance.

H₁:Effective Implementation of Management Information systems have asignificant impact on the organizational performance.

Table 6: Testing of hypothesis

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	746.9778	8	93.37222222	7.636	1.14E-05	2.244396
Columns	1804.356	4	451.0888889	36.894	1.46E-11	2.668437
Error	391.2444	32	12.22638889			
Total	2942.578	44				

Interpretation: In the above table researcher has tested hypothesis by using Annova-test. It is observed that F-Table value (7.63) > F-Critical Value (2.24). Therefore it is cleared that calculated value is greater than critical value. Hence one should reject null hypothesis and accept alternative hypothesis i.e. Effective Implementation of Management Information systems have a significant impact on the organizational performance.

Findings, Conclusion and Suggestions of the study

Findings of the study

In this research paper researcher has derived his findings on the basis of primary and secondary data. Following are the major findings of the study:

1. Researcher has derived his findings on the basis of responses of two major stakeholder i.e. Chief executive officer and Admin officer of the private hospitals.
2. Private hospitals are using both systems for MIS i.e. Automated as well as manual system.
3. The study revealed that existing MIS system of private system is functioning satisfactorily in the Ahmednagar region.
4. From the study it is found that there are various challenges for implementation of MIS such as poor skills among users, resistance to change, insufficient availability of software, poor communication, benefit realization and lack of top management support are the major problems in the implementation of MIS in the Ahmednagar region.
5. There are various impacts observed due to MIS implantation in the private hospitals such as Better accessibility to information in the Hospital, More efficient administration of Hospital, Higher utilization of Hospital resources, Reduction in workload, Better time

management, Improvement in the quality of reports, MIS can provide administrators, Doctors and Nurses with the information required for informed planning, policy-making, and evaluation, MIS have changed Hospital management in the areas of leadership, decision making, workload, human resource management, communication, responsibility, and planning.

Conclusion of the study

Understanding of the IT technology, knowledge and skills in operating the hardware and software is a prime requirement for implementation of the MIS. The skills related to software development, computer programming, system management, database management are essential. Inadequate or limited knowledge or skills is major hurdle in the efficient performance of MIS. The study shows that MIS is playing important role in effective functioning of Organizational activities. It is concluded that effective Implementation of Management Information systems have a significant impact on the organizational performance. Patient is end beneficiary of healthcare organization. The quality of patient care depends upon the quality of the diagnosis made by medical staffs. Organizational effectiveness is also linked with patient care. Timely Diagnosis by the doctor and patients care is very important element in the health care organization. The interpretation of the diagnosis is related with the quality of information received and processed by the medical staff. The generation of data and converting that data into information is a significant process which is carried out through hospital management information system. Management Information System implementation seems essential to meet increasing healthcare demands and the associated diagnostic, treatment and administrative system burdens; to support

better patient care planning, and clinical or administrative decision making. The level of Management Information System implementation varies from hospital to hospital. The degree of implementation of Management Information System in health care industry makes an impact on decision making of which the information is key resource.

Suggestions of the study

1. It is observed that only four Hospitals have automated Management Information System in the Ahmednagar District. This is suggested that remaining hospitals should adopt the fully automated Management Information System in the hospitals. It is observed that presently hospitals only have two automated functions i.e. case papers and billing part. It is suggested that hospital should atomize remaining process i.e. Patients Admission to Patients discharge.
2. Role of Top Management is very important for implementation of Management Information System and execution of Management Information System in the hospitals. Top management should provide the required support and technical, financial and infrastructure resources for the implementation of Management Information System.
3. Improving Operational Efficiency- Investments in information systems technology can help in making a hospital's operations significantly more efficient, which could allow the hospital to dramatically cut costs and improve the quality and delivery of its services. For example the distribution of information can be improved by proper communication system, telephone, Computer network etc. Operational efficiency allows a hospital to adopt a low cost leadership strategy. By making investment in information technology systems, technology that increases its operational efficiency, a hospital could also erect entry barriers. These could be made possible by increasing the amount of investment or the complexity of the technology required to compete in the same line of service (business) and deter external organizations from entering the service (business).
4. Patient/ Employee Focused Culture Hospitals should develop the employee and patient's centric culture which will help to increase the efficiency and effectiveness of staff and which will lead to organizational performance.

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MANAGEMENT INFORMATION SYSTEM IN PRIVATE HOSPITAL- A LITERATURE REVIEW

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ABSTRACT

Success or survival of any healthcare organization is depending upon its approach, service/ treatment to patients. Patient is end beneficiary of healthcare organization. Patient care is critical and crucial element in hospital. The quality of patient care depends upon the quality of the diagnosis made by medical staffs. The interpretation of the diagnosis is related with the quality of information received and processed by the medical staff. The generation of data and converting that data into information is a significant process which is carried out through hospital management information system. If Management Information System is not installed or implemented it adversely influence decision making. The poor decision making have its side effect on poor patient care increasing cost, poor time management etc. In the light of this scenario it is important to observe the level of impact of Management Information System in the health management organization.

Keywords: Healthcare, Management Information System, Patient care, Organizational effectiveness.

Introduction

Competition and advancement in health care industry pushing hospital to improve patient quality care by making appropriate quality decisions. Healthcare industry especially in the developed world is highly sophisticated, developed and characterized by rapidly increasing use of information technology in its every healthcare functions. To make healthcare affordable of the common people, it is become essential to explore opportunities to reduce cost and improve the decision making on the basis of processed information. The past research studies identified that hospital performance is an outcome of quality hospital information system. But it is also observed that study related to Management Information System differs from hospital to hospital.

Objectives of the study

To study the Management Information System in Private Hospital.

Methodology

The study is exploratory in nature. It is based on secondary data. The literature review of the selected papers taken. These papers were extracted from the reputed journals. The study analyzed the literature reviewed and formulated hypothesis.

Review of Literature

The review of literature helps to understand the importance, background and present situation related to the subject selected for the research work, therefore it is necessary to review relevant and latest literature in relation to the subject matter. This section of the chapter deals with Literature review which totally depends on all the relevant and reliable published literature in the context of research topic.

Management Information System (MIS)

Adeoti-Adekeye (1997) mentioned that there is a lot of research on the approaches, techniques and technologies for the design and development of MIS. However, there are a few articles that cover the impact of Management Information System on planning strategies and decision making. While there are no universally accepted definitions of MIS and those that exist in literatures are just prejudices of the researchers Lee (2001) defined MIS as “a system or process that provides information needed to manage organizations effectively”. Additionally, Baskerville and Myers (2002) broadly define MIS as “the development, use and application of information system by individuals, organizations and society”. Becta (2005) describes an information system as “a system consisting of the network of all communication channels used within an organization”.

Laudon and Laudon (2003) have defined MIS as “the study of information system focusing on their use in business and management”. The abovementioned definitions showed that MIS has underlined the development, application and validation of relevant theories and models in attempts to encourage quality work in the area”.

Baskerville and Myers (2002) Referring to the literatures, the field of Management Information System (MIS) has had a variegated development is its relatively short life span. MIS has developed its own theme of research and studies”.

Tracing previous literatures, we can report that during its first few decades, MIS concentrated on the information in the context of:

- Electronic data processing which carries out transaction processing functions and records detailed factual data.
- Management reporting system which scrutinize the operational activities of an organization, providing summaries, information and feedback to management.

Only during the last two decades, the MIS field has shifted to the primary, considered the second type of communication, namely, instruction-based. This has become known as the domain of expert system (Sasan Rahmatian, 1999).

In attempts to review published studies on MIS and articles, Alavi and Carlson (1992) have identified popular research topics, the dominant research perspective, and the relationship between MIS research and practice.

In contract, Baskerville and Myers (2002) have examined the MIS field and found a constant shift of MIS research from a technical focus to a technology-organizational and management-social focus.

Skyrius (2001) underline the decision maker’s attitudes toward different factors influencing the quality of business decisions; these include information sources, analytical tools, and the role of information technologies.

Handzic (2001) also pays attention to the impact of information availability on people’s ability to process and use information in short and long term planning and in decision making tasks. He revealed that the better the

availability of information, the better the impact on both efficiency and accuracy of business decisions.

Liu and Young (2007) talk about key information models and their relationship in business decision support in three different scenarios. The authors proved that global businesses are in advance due to the Enterprise Applications System provided by modern IT tools such as Enterprise Resource Planning (ERP), Knowledge Management System (KMS) and Customer Relations Management (CRM) to enhance the efficiency and effectiveness of the Decision Making process.

In order to improve the financial organizational capability and enhance its level of competition in the market, financial organizations understand the dimensions of the Information Management, and clearly define and develop the resources in case of human, technological, and internal operations, among others, and manage them well across the organization boundaries. However, establishing the link between Information System Management, planning and decision making is, at best.

In an article by Shu and Strassman (2005), a survey was conducted at 12 banks in the US between 1989 and 1997. They noticed that even though Information Technology had been one of the most essentially dynamic factors relating all efforts, in could not improve bank’s earnings. However, conversely, there are many literatures approving the positive impacts of Information Technology expenses on business value.

Kozak (2005) Investigates the influence of the evolution in Information Technology on the profit and cost effectiveness of the banking zone during the period between 1992 and (2007) mentioned that Lf the relevant information required In a decision-making process or an organization planning is not available at the appropriate time, then there is a good changes to be poor organization planning is not available at the appropriate time, then there is a good change to be a poor organization planning, inappropriate decision-making, poor priority of needs, and defective programming or scheduling of activities”.

“Jahangir (2005) states that based on the significant role that Information plays in choice of decision to be made, organization must

ensure that they have a good management information system. As a notable general observation, a good MIS ensures good decision making just in the same way bad propel the making of bad decisions”.

“UStudy.in (2010) supports the above observation by saying that “The quality of managerial decision-making depends directly on the quality of available information” and the managers should therefore cultivate an environment that encourages the growth and viable sprouting of quality information”.

“Essentially, before deciding on which MIS strategy to use, it is vital to ensure that the choice made is fully compatible with your current system. This is not only helps in avoiding erratic choice but it is also save the time and money that would have been otherwise wasted by that person (Rhodes, 2010; Jahangir, 2005)”

“In addition to that, it is not worthy for the MIS strategy or tool used to be in line with the decisions that are to be made. In other words, there should be a connecting point between the decision to be made and the MIS to be used by individual or corporate business owners (Jerboa, 2005)”

As a key consideration, Management Information System is a highly complex and delicate arena that calls for a lot of caution to be taken by its managers. It is for this reason that it is recommendable for organizations to ensure that they carefully select the individuals who are placed to control the systems. The more cautious and professional a person is, the better the person gets an assurance of positive prospects of in MIS with regards to decision making and other related areas of business (Lingham, 2006)

“MIS provides a flitting platform for good decision making (Kumar, 2006) essentially, without the established system of getting information in MIS, It would be extremely difficult for organizations to make their decisions. This is because they would be forced

to making baseless information due to the lack of confirmed information”. Moreover, MIS normally lays a firm foundation for the establishment of concrete decisions through its systematic tools, timely information and adequate managerial policies and regulations.

On the basis of the aforesaid literature following hypothesis can be developed

- 1] There is significant relationship between the Information system quality and MIS performance.
- 2] There is significant relationship between IT skills of the employees and efficient Performance of MIS.
- 3] People characteristics mix in private hospitals has significant impact on patient’s perception about service quality.

Conclusion

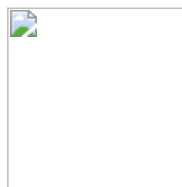
Researcher comes to the conclusion that maximum of the hospitals are dealing with demanding situations and issues. Those issues are related to databases of sufferers, medical doctors and nurses. The character of hassle were related to handling queries of patients, visitors, doctors and nurses which can be deeply involved issues with the overall pride. Agencies are within the race for enhancing their capability so that you can continue to exist inside the competitions of the new century worldwide market. Therefore, agencies try to strengthen their eligibility degree via enhancing the choice making method to be extra green and fairly effective to meet the successive fluctuations of the marketplace. The one clinic which is lacking in important infrastructure, training and able IT body of workers suffers the greater troubles. Hospitals preference making is terrible way to unavailable or inadequate degree of facts that is ad-hoc in nature. Useful resource making plans, allocation and usage selections are rarely systematic based totally on the medical gear and strategies of managers.

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