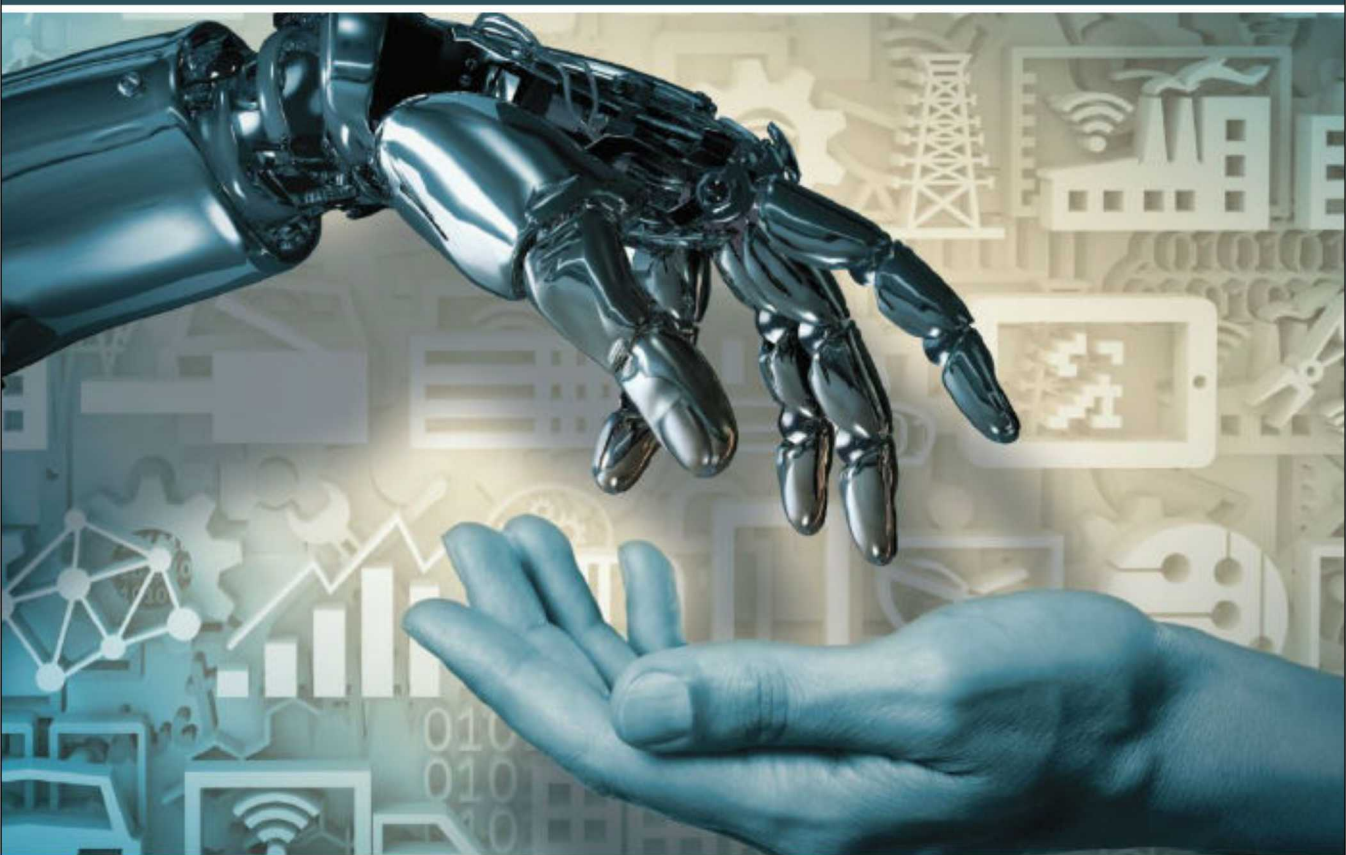# Proceedings of
INTERNATIONAL CONFERENCE
on
Contemporary Issues in Sustainable Management Practices & Technology Innovation (ICCISMPTI21)

(Digital Platform)

Krishan Lal Grover

Department of Commerce
Sri Guru Hari Singh College, Sri Jiwan Nagar (Sirsa)

OUR INSPIRATION

**His Holiness Sri Satguru Uday Singh Ji
Head, World Namdhari Mission**

Proceedings of
INTERNATIONAL CONFERENCE

on

Contemporary Issues in Sustainable Management Practices & Technology Innovation (ICCISMPTI21)
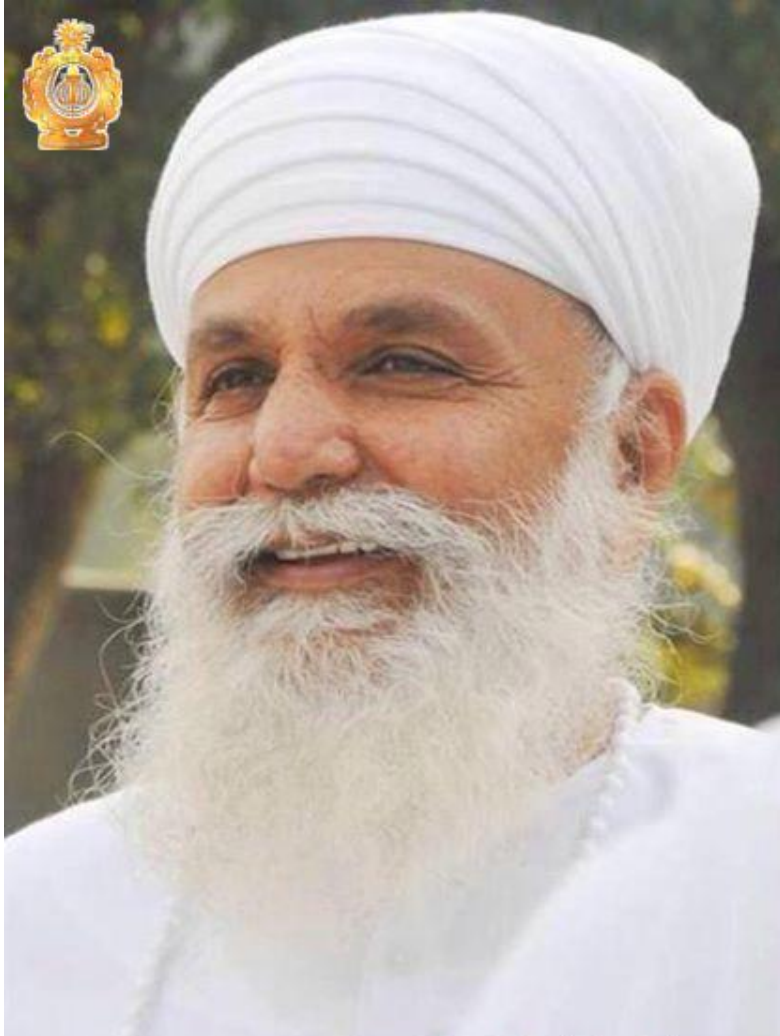
(Digital Platform)

Krishan Lal Grover

Editor

Department of Commerce

Sri Guru Hari Singh College, Sri Jiwan Nagar (Sirsa)

Proceedings of
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Management Practices & Technology Innovation
(ICCISMPTI21)

Author: Krishan Lal Grover, Associate Professor
Sri Guru Hari Singh College, Sri Jiwan Nagar (Sirsa)

PREFACE

I take this opportunity to welcome you all to the Proceedings of the first International Conference on Contemporary Issues in Sustainable Management Practices & Technology Innovation organised on 24th July, 2021.

The Namdharis, who have their origin in Sikhism, under the spiritual leadership of His Holiness Satguru Ram Singh Ji boycotted the British and their educational system as a Nationalistic step towards the goal to achieve emancipation from the shackles of British Slavery during 19th and mid-20th Century. After deportation of Satguru Ram Singh Jiby the Britishers in Jan 1872, Sri Satguru Hari Singh Ji continued the struggle for freedom. During the partition, His Holiness Satguru Partap Singh Ji, along with thousands of his followers, fled to India and settled at SriJiwan Nagar and the adjacent villages, encompassing 30-40 kilometres in Haryana. At that time, this area was educationally extremely backward; there was a demand for education from all strata of society, particularly from those who had been denied education for one reason or another. Sri Satguru Partap Singh Ji initiated and opened a school in remembrance of Sri Satguru Hari Singh Jiat Sri Jiwan Nagar in 1958 to provide primary and middle education which was eventually upgraded to a High School. Keeping in view the need for higher education, His Holiness Sri Satguru Jagjit Singh Ji blessed this area by opening a college named Sri Guru Hari Singh College, Sri Jiwan Nagar, in remembrance of a renowned liberation warrior and social reformer Sri Satguru Hari Singh Ji in the year 1983 registered with UGC u/s 2(f) and 12 (B). With the blessings of His Holiness Sri Satguru Uday Singh Ji, Head, World Namdhari Mission, the college is currently managed by a fully formed governing body in accordance with the CDLU, Sirsa, and Haryana government statutes. The college started functioning with only 50 students and has now blossomed into a full-fledged college with three undergraduate streams (Arts, Commerce, and Science) as well as a post-graduate programme in Commerce. The college imparts a happy blend of traditional and modern education to the students so that they may achieve a better place in this competitive world. The college excels in academic, cultural and sports activities and has produced many Olympians as well as international and national players. The college ensures a friendly, supportive and drug free safe environment for the students.

The outbreak of COVID-19 is a human tragedy that is having an increasingly negative influence on the global economy. The tragedy's ripple effects are difficult to calculate and assess, but it is taking a horrible toll on human lives and scaring businesses all over the world. In light of the worldwide pandemic's disruption, our college hosted an international conference which is entirely conducted on a digital platform following the social distancing norms. The conference focused on the theme "Contemporary Issues in Sustainable Management Practices & Technology Innovation," penetrating virtually almost every aspect of management, business operations, technology, and innovation as well as educational practices. The conference aimed to provide every participant with an interactive platform for sharing, collaborating, and creating knowledge on various themes and sub-themes under the realm of business. It also served as a platform for highlighting the most recent advances in research and practice, encouraging conversation, showcasing innovation, and establishing an opportunity to change the post-crisis business landscape. The conference is the most important event for our institution because it is the first international conference in our college's history, as well as the number of research papers received and presented, and the number of individuals that participated and attended. The first international conference in the history of our college was a remarkable, memorable, and informative event that attracted the attention of academicians, students, corporates, and industry experts across the globe.

Sri Jiwan Nagar   **Krishan Lal Grover**
24th July, 2021   Editor

International Conference on Contemporary Issues in Sustainable Management Practices & Technology Innovation (ICCISMPTI21)

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President, SGHS College Governing Body

Patron
Dr. Harjwant Singh
Principal

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Associate Professor
Head, Department of Commerce

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International Conference on Contemporary Issues in Sustainable Management Practices & Technology Innovation
(ICCISMPTI21)

Chief Guest- Inaugural Session

Dr Sanjeev Sharma
Professor
University Institute of Applied Management Sciences,
Panjab University, Chandigarh (Pb)

Keynote Speakers

Dr. Amarjit Gill
Department of Finance and Management Science,
Edwards School of Business,
University of Saskatchewan Saskatoon
SK, S7N-5A7, Canada

Dr. Sudhir Rana
Faculty of Marketing and Strategy
College of Healthcare Management & Economics,
Gulf Medical University, UAE

Chief Guest- Valedictory Session

Prof. Gurinder Pal Singh
Registrar,
Maharaja Ranjit Singh Punjab Technical University,
Bathinda (Pb)

Proceedings of International Conference on Contemporary Issues in Sustainable Management Practices & Technology Innovation

The Inaugural Session of the conference commenced with the welcome address by Dr Harjwant Singh, Principal of the college, followed by the address by Krishan Lal Grover, Convener of the conference who informed that the conference aims at discussing various aspects of Sustainable Management Practices, technologies and Innovations. He introduced the Chief Guest of the Inaugural Session, Professor Sanjeev Kumar Sharma, University Institute of Applied Management Sciences, Panjab University Chandigarh. In his presiding address Dr Sharma emphasised that sustainability has become a diligent act of corporate and non-profit organisations because it derives institutions and organizations toward superior performance and he also appreciated the efforts of the host for organising the international conference in this pandemic period. Ms Bhawna, Co-ordinator, introduced the first keynote speaker Dr Amarjit Gill**,** Department of Finance and Management Science, Edwards School of Business, University of Saskatchewan Saskatoon, Canada. Dr Gill defined Sustainable management practices as incorporating social, economic, and environmental factors for business decisions and adopting new information technology (IT) to improve the firm's sustainability. He stressed that IT implementation and innovation have become a need of the modern organizations to improve profitability and cash flows for enhancing sustainability, prosperity, and growth of the organizations as well as minimizing organizational problems and to maximize shareholders' wealth.

Ms. Suhana welcomed the keynote speaker Professor Sudhir Rana**,** College of Healthcare Management & Economics, Gulf Medical University, UAE. Dr Rana gave an inspirational speech filled with pragmatic philosophies to implement corporate sustainability initiatives. He told that Sustainable Development Goals, also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy pace and prosperity. Such development must balance social, economic and environment.

The scholars, academicians, researchers, practitioners, professionals, and industry specialists presented their research papers at the conference in five parallel technical sessions. These sessions were chaired and co-chaired by the academicians from renowned educational institutions.

Technical Session	Chaired by	Co-Chaired by	Track Executive
Track-1 (Banking & Insurance)	**Dr. Monika Aggarwal** Associate Professor, UIAMS, Panjab University, Chandigarh	**Dr. Sahila Chaudhry** Assistant Professor, Department of Business Administration, CDLU, Sirsa	**Ms. Bhawna** Research Scholar Panjab University, Chandigarh
Track-2 (Accounting & Finance)	**Dr. Pradeep Gupta** Associate Professor, Thapar Institute of Engineering and Technology(Deemed-to-be-University), Patiala	**Dr Rajroop Singh Chahal** Associate Professor CRA College, Sonepat	**Ms. Rupinder Kaur** Assistant Professor Sri Guru Hari Singh College, Sri Jiwan Nagar (Sirsa)

|			
Track-3 (General Management)	**Dr. Dyal Bhatnagar** Associate Professor University School of Business Studies, South Campus, Punjabi University, Patiala	**Krishan Lal Grover** Associate Professor Sri Guru Hari Singh College, Sri Jiwan Nagar (Sirsa)	**Ms. Suhana** Assistant Professor Sri Guru Hari Singh College, Sri Jiwan Nagar (Sirsa)
Track-4 (Marketing)	**Dr. Vikasdeep** Assistant Professor University School of Business Studies, South Campus, Punjabi University, Patiala	**Dr. Randeep Kaur** Assistant Professor JCD Institute of Management Sirsa	**Ms. Ambhika Sharma** Assistant Professor Sri Guru Hari Singh College, Sri Jiwan Nagar (Sirsa)
Track-5 (Technology & Innovation)	**Dr. Dinesh** Associate Professor GZS Campus College of Engg. & Tech. MRSPTU, Bathinda	**Dr. Silender Hooda** Associate Professor Department of Commerce CDLU, Sirsa	**Ms. Sharda** Assistant Professor Sri Guru Hari Singh College, Sri Jiwan Nagar (Sirsa)

The valedictory session was presided by Prof. Gurinder Pal Singh, Registrar, Maharaja Ranjit Singh Punjab Technical University, Bathinda. In his valedictory address, Dr Singh appreciated the role of KUKA movement in Indian liberation struggle and praised Namdharis for producing numerous Olympians as well as international and national hockey players in his valedictory address. He congratulated the management, the principal and the organising team for successful completion of the first International Conference in the college. In the end he announced the best research paper selected from each technical session.

On behalf of the organizing committee, Prof. Krishan Lal Grover, Convener, expressed his gratitude and appreciation to honourable Chief Guests, Keynote speakers, Chairpersons of technical sessions, and presenters who shared their knowledge and experiences in fostering a robust debate and transformative intellectual exchange. The session concluded with a vote of thanks by Dr Harjwant Singh, Principal of the college, to all those who have been involved in making this conference a grand success.

Krishan Lal Grover
Associate Professor
Convener

Screenshots of International Conference on Contemporary Issues in Sustainable Management Practices & Technology Innovation (Digital Platform) on 24th July, 2021.
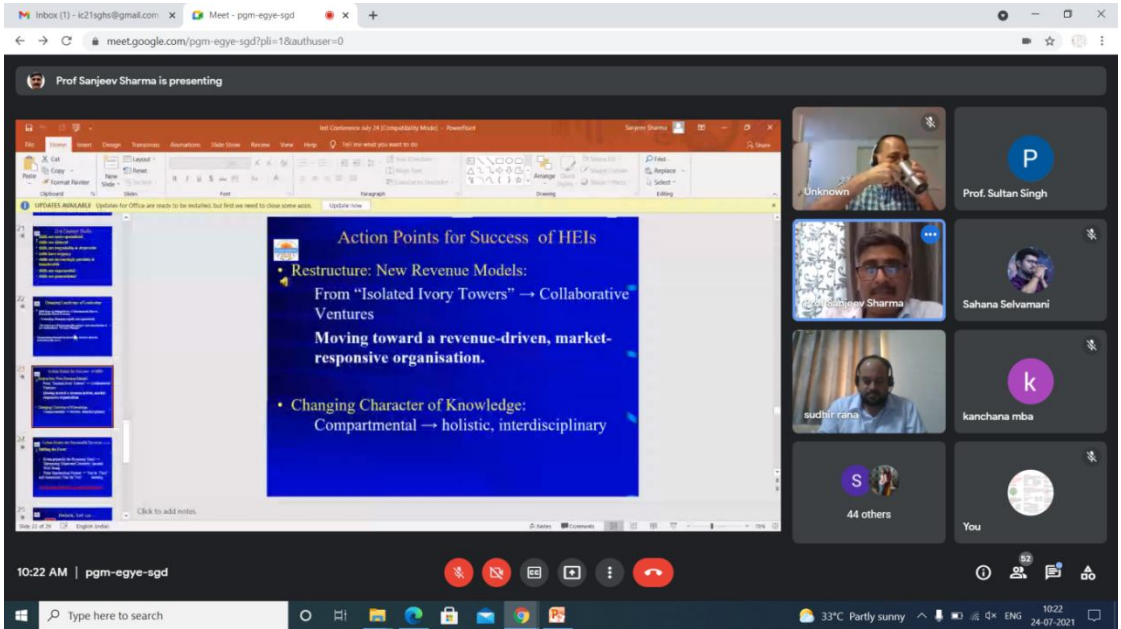
Address by Professor Sanjeev Sharma, Chief Guest of the conference in progress
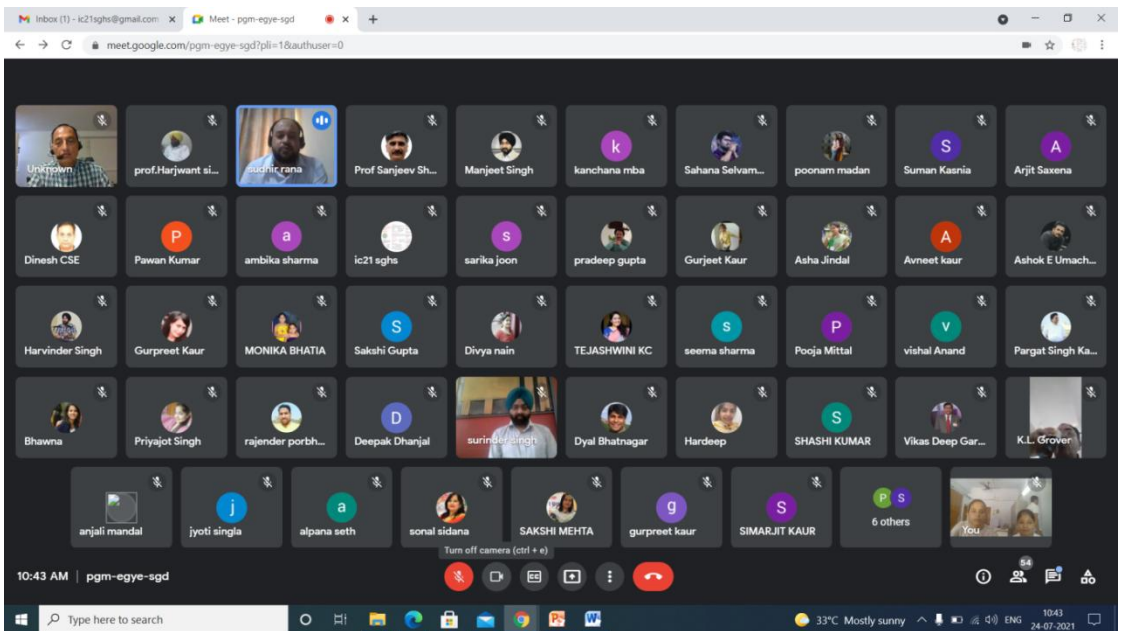
Participants of the Conference
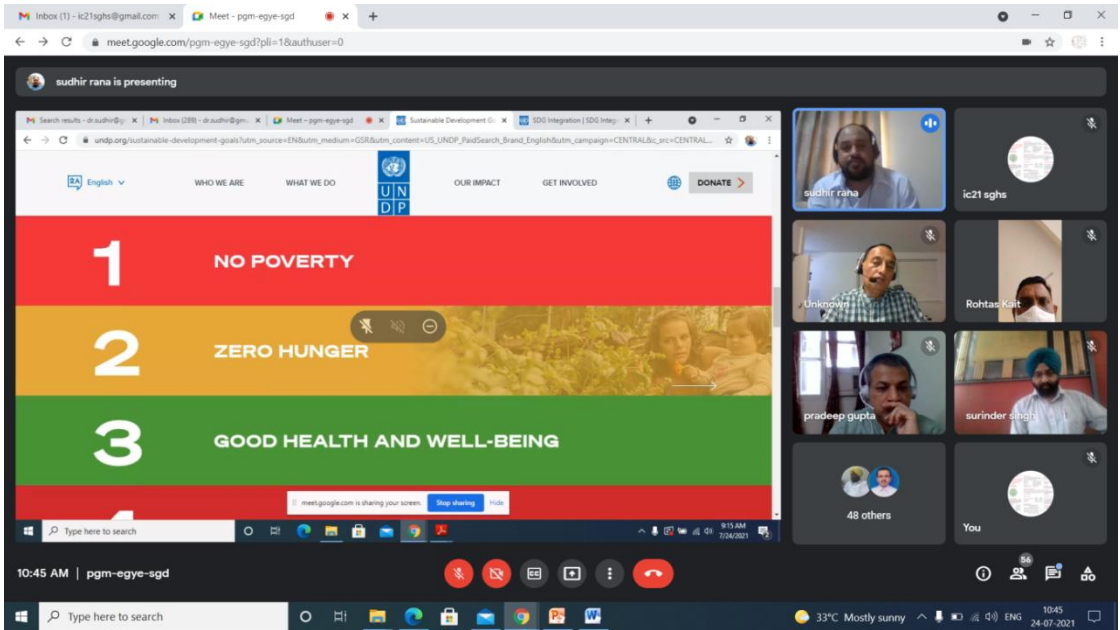
Dr. Sudhir Rana-presenting his Keynote Address
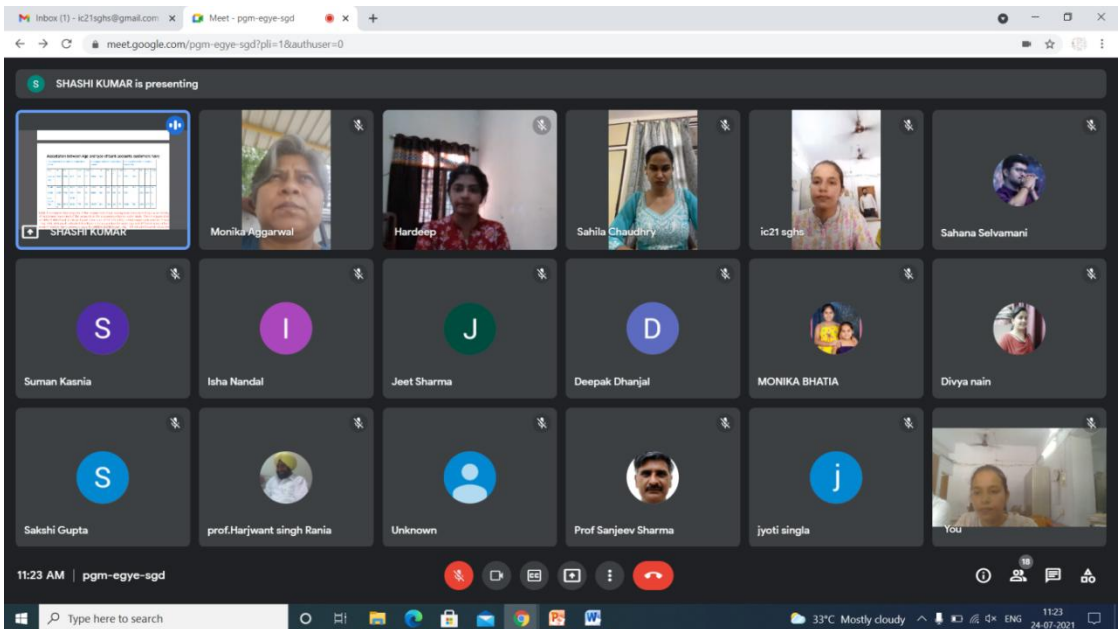
Technical Session (Track-1) in progress
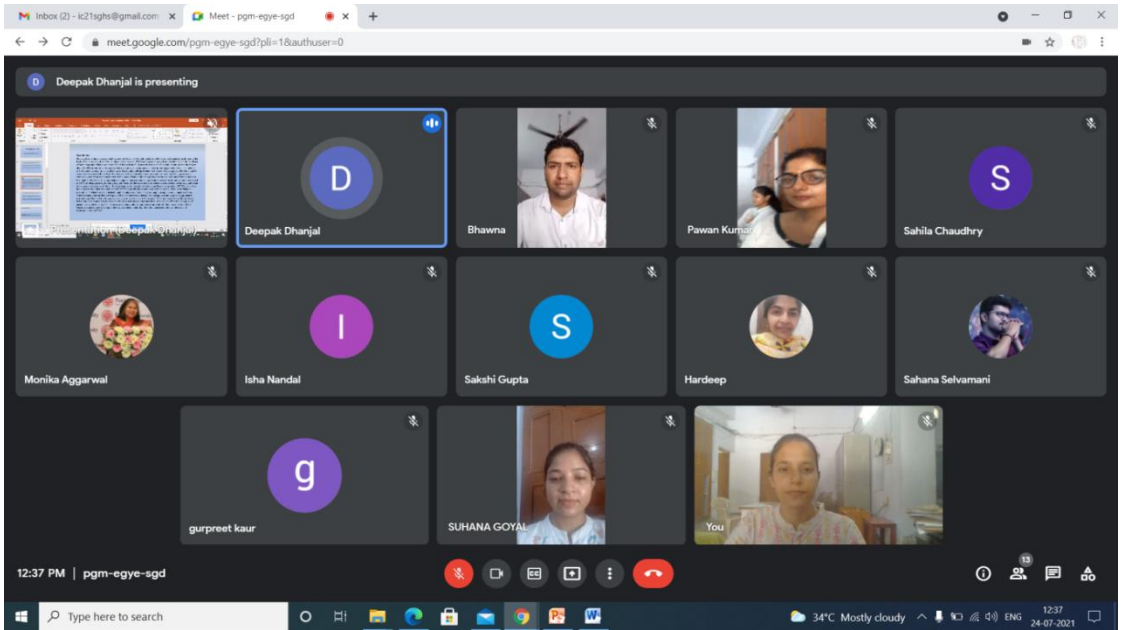
Technical Sessions in progress
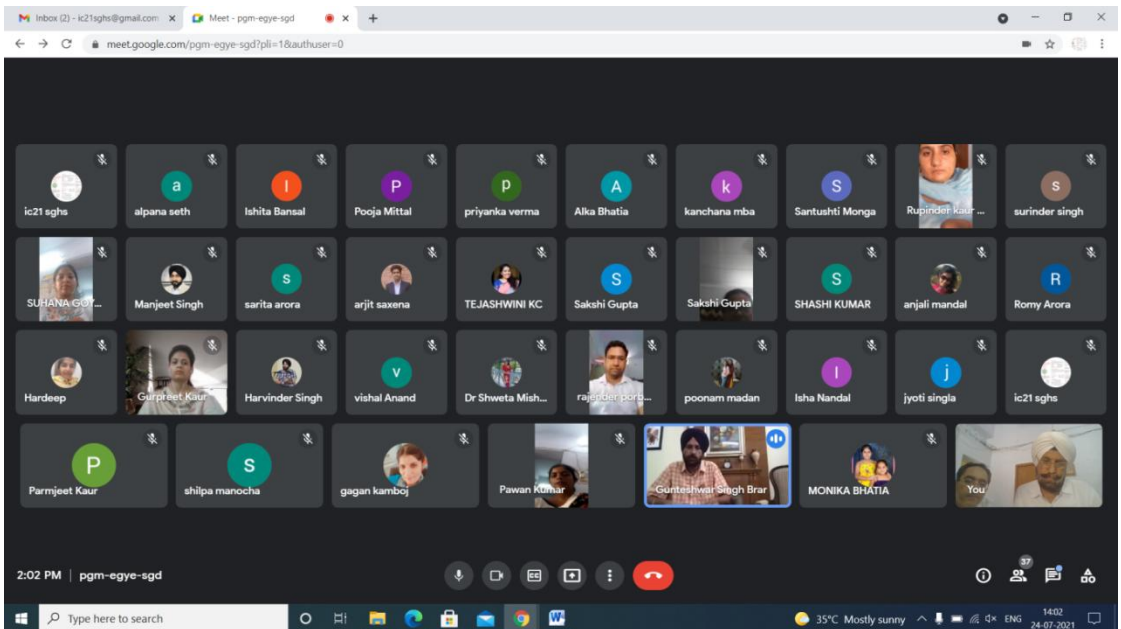
Valedictory Address by Prof. Gurinder Pal Singh, Registrar, MRSPTU, Bathinda

CONTENT

SUSTAINABLE MANAGEMENT PRACTICES AND TECHNOLOGICAL INNOVATIONS - A SCIENTOMETRIC ANALYSIS OF TEN YEARS

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ABSTRACT

The goal of this study is to perform a bibliometric analysis and visualise the relationship between innovation as well as sustainability. We determined that the number of publications on innovation and sustainability produced in the last ten years, from 2011 to 2021, has significantly grown when compared to the period prior to 2010. This study demonstrates that by combining the major features of innovation and sustainability into a single concept such as "sustainable innovation," a new research direction in the vast field of innovation and the new and current field of sustainability can emerge.

Key words: sustainability; innovation; sustainable innovation; sustainable development; sustainability-oriented innovation

INTRODUCTION

Businesses are facing major challenges in the present socio economic environment, and they are being compelled to discover better and new ways to stay competitive, grow profits, and improve overall performance. Long-term corporate success has always required innovation. Organizations who have successfully innovated in the past have often been rewarded with growth, revenues, and access to new markets (Bessant & Tidd 2007). Technological advancement has become an important part of gaining a competitive edge. Long-term sustainability challenges have long been recognised as a vital instrument for addressing innovation. (Boons & Luedeke-Freund, 2013; Silvestre, 2015).

Many companies have grown accustomed to plans and activities that prioritised their quest to be the most competitive while ignoring crucial environmental issues. Thus, there has been a lot of interest

among scientists, practitioners, and even the general public in recent decades in saving the environment while also efficiently exploiting resources (ecological concerns), and increasing human living standards (societal concerns).

With the publishing of the Brundtland Report, a productive dialogue on the relationship between sustainability, transformation, and innovation began (United Nations, 1987). This discussion ranges from environmental innovation to social transformations, and it involves several levels of action and research (Jacobsson, S.; Bergek, 2011) or Transitions from socio-technical to multi-system sustainability (Geels, 2011), as well as how businesses develop new capacities for long-term business model innovation (Van & Roome, 2007) as well as green product development (Baumann & Bragd, 2002).

The literature supports the notion that sustainability can drive innovation. Furthermore, academics and businesses have focused on the importance of innovation in the quest for sustainability. It has been stated that in order to remain competitive, businesses must make sustainability-oriented 'changes' to their value chain, product/service offerings, and business strategy. New approaches to the vital relationship between innovation and sustainability arise as policymakers, practitioners, and academics become more engaged in sustainability and sustainable development concerns.

Bibliometric methods are valuable, according to the literature, since they may investigate the evolution of scientific literature over time and find intellectual linkages in the subject. Given the goal of this work, we needed a research approach that could handle the full range of knowledge. The literature review was conducted in a descriptive manner, and as a result, it can provide new researchers with information on the most commonly referenced authors and works in the subject. Aside from this data, a term co-occurrence analysis could provide us with further information on the most studied themes and how they grow in popular culture. The researchers will have a robust reference basis and will be able to identify areas where more research is needed if they have this data.

The article is structured to give a quick overview of the two concepts of innovation and sustainability, as well as several integrated techniques like sustainable innovation.The data collecting, extraction, and analysis techniques used in this investigation are described in the next portion of the publication.The data collecting, extraction, and analysis techniques used in this investigation are described in the next portion of the publication.

The Review of Conceptual Background in a Nutshell

Given the goal of our research, we'd want to focus on the fundamental concepts of innovation and sustainability, as well as their linkages, in this part. Aside from meeting business needs, any industrial system bears social and environmental responsibility. In order to accomplish these goals, the importance of sustainable products and innovation must increase.The literature contains a variety of vocabulary and definitions for sustainability and innovation, as well as a hybrid of the two concepts known as sustainable innovation.The relationship between the two notions is alluded to as "sustainability-oriented innovation" or "sustainability-related innovation" in the literature.

Innovation is not at all critical for a corporation's economic prosperity, but mostly for its longevity in a fiercely competitive environment (Maier et.al., 2018). Along with its significant significance, scientists have endeavoured to define, classify, and investigate the impact of innovation on organisational performance throughout the previous two decades. The phrase "innovation" has been researched extensively.Innovation is a well-studied concept that has been defined in a variety of ways by different academics.

This study will employ the concept set forth by the Organization for Economic Cooperation and Development (OECD). In the most recent edition of the Oslo Manual, innovation can be described as "a unique and advanced product or process (or combination thereof) that vary considerably from the unit's preceding production technologies and has been made available to potential users (product) or unit (process)."We can see that the OECD's broad definition of innovation, which uses the generic term "unit" to allude to ones in power of innovation, is applicable to any company. This term can only be applied to the business sector, therefore we may talk about business innovation, in which the corporation is the primary source of innovation.

Since the Brundtland Commission established the following description of the study in 1987, the notion of sustainability has been contested in environmental concerns: "Development that meets current generations' demands without jeopardising future generations' ability to cope using its own resources and ambitions". Since then, scholars have endeavoured to grasp the concept as fully as possible, resulting in a plethora of definitions for sustainability in the literature.The concept of sustainability originated in response to global environmental crises, mostly as a result of extensive capitalist exploitation of natural resources and ongoing environmental degradation. As a result, the first ever priority was to maintain and preserve the quality of the environment. From that original spot, the concept's popularity broadened to encompass the entire quality of life from a socioeconomic standpoint. As a corollary, sustainability approaches can be categorized as a catalyst for changing and aligning cleaner manufacturing standards with business and societal expectations.

In the vision of sustainable development, short- and long-term goals, economic and environmental difficulties, and local and global action are all interconnected. The quest of a coherent theoretical framework that can aid in the management of any scenario involving human health and environment is what social sustainability includes.Any revisions to the present predicament demand questionnaire consists of a set of questions about how to create the new paradigm. Even if we agree that the world and global civilization need to be more aware of and responsible with their environmental, moral, and financial centre, we must acknowledge that this can only be accomplished through the process of innovation and technologies.

Blending the ideals of environment and invention to approach the new paradigm looks to be a good adsorbent. As a result of this mix, several notions develop, along with sustainable innovation, eco-innovation, and sustainability-driven innovation. According to the literature, James characterised greener as follows: "Innovative products and methods that provide value to customers and businesses while reducing environmental impact significantly" (James, 1997). "The development and well-being of human needs and institutions via the innovation of new goods, processes, services, and technology that respect the world's natural resources and regenerative capacity," according to the definition of sustainable innovation (Baumann et.al., 2002). "The creation of new

market space, goods and services, or processes motivated by social, environmental, or sustainability issues," says Arthur D. little about the notion of "sustainable-driven innovation" in his work. As can be seen, defining sustainable innovation is difficult, especially when the sustainability and innovation concepts themselves lack a clear definition. Several characteristics appear to be universally agreed upon, even though the phrase "sustainable innovation" is difficult to define. One of these characteristics is that sustainable innovation is more than a new theoretical concept; it is also a more practical approach, involving the commercialization of new technology, goods, or services, as well as entrepreneurship, as is the case with innovation.

RESEARCH PURPOSE

The study's main goal is to investigate common ground and possible future interdisciplinary topics in the domains of innovation and sustainability. For this purpose, we use bibliometric techniques to scientifically record the discipline's volume, intellectual structure, and knowledge-development tendencies. The following research issues are addressed using a combination of bibliometric, text-mining, and visualisation analyses:

1. How many articles have been published on the issue of innovation and sustainability?
2. Which journals, authors, and research articles are the most significant in the field?
3. What is the conceptual organisation of the field under consideration?
4. What are the domain's most popular research topics?

RESEARCH METHODOLOGY:

DATABASE, KEYWORDS AND INCLUSION CRITERIA

Data from scopus was retrieved in the month of July 2021 in order to get information relevant to this research. The publications in top-tier journals make this database the most suitable source for paper extraction in bibliometric analysis (Koro, 2019). A string of appropriate search terms ("Sustainable Management Practices" OR "Technological Innovations") was used to search the papers in title, abstract or keywords, yielding initial results. The single search for "Sustainable Management Practices" OR "Technological Innovations" resulted in 24,811 articles on the scopus database. On limiting this search criteria with "Final Articles", having "English" language, with Subject area of "Social Sciences", "Business Management and Accounting" and "Economics, Econometrics and Finance" these research papers got reduced to 7,411 only. The articles were then weighed up on the basis of their abstracts, accessibility for full length versions and reliability and resulted in 5,092 results. The final 3,278 articles were limited only upto the concept, determinants, outcomes, articles dealing with broader and closely linked concepts as well as interventions to improve financial knowledge attached to key subject areas of research. The selection of time period from 2011 to 2021 excluded 2565 articles with a resulting figure of 713 research papers. Out of these articles, a manual analysis was performed on overall open access articles which provided a final list of 565 articles which were then analyzed in R studio for further bibliometric analysis. The selected articles were finalised after extractions of dublicacies and irrelevance.

TREND OF PUBLICATION IN TIME:

Figure 1 depicts the evolution of sustainable management practices and technological innovations research available in the Scopus database from 2011 to 2021. The number of articles published has

shown a drastic increase from 24 in 2011 to 108 in 2020. Since 2012, there has been an upsurge in the research related to sustainable management practices and technological innovations with 56 articles.

Figure 1: Annual Scientific Production:
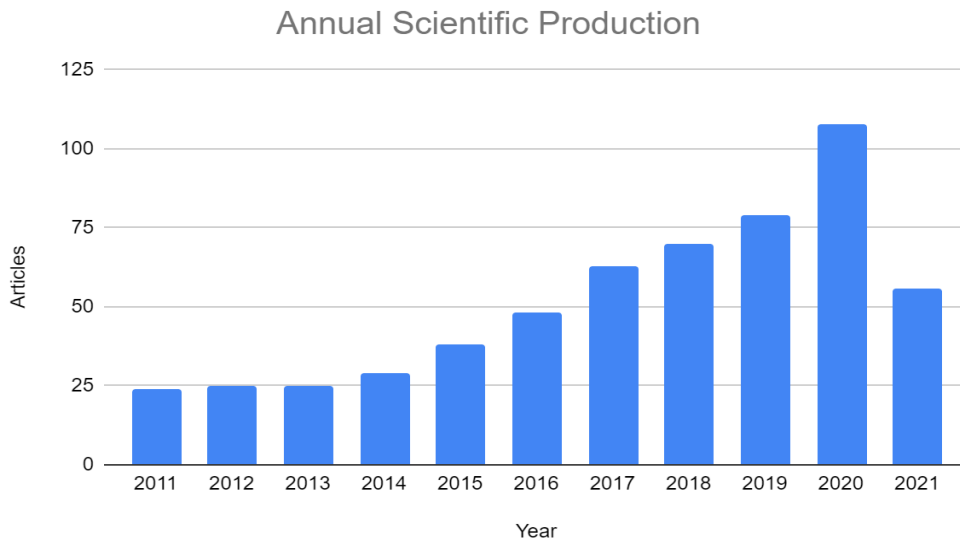
Annual publication trend of 565 papers between period2011–2021 retrieved from Scopus database

PUBLICATION OUTLETS

The publications analysed are dispersed among381 journals. Table 2 presents the list of journals which were more prominent publishing on Sustainability management practices and Technological innovations research on a large scale. Table 3 provides a list of journals whose sources are cited on a larger scale. The top 20 journals have published 134 of the total articles studied, representing 23.72 % of the total. Sustainability (Switzerland) is the most productive platform, publishing 22 articles, followed by the Journal of technology management and innovation. Table 5 reports the top 50 cited papers in this domain. Table 6 reports the top 20 authors with the maximum number of articles in this domain.

Table 2: Prominent Journals in Sustainable management practices and Technological innovations Domain

Sources	Articles
SUSTAINABILITY (SWITZERLAND)	22
JOURNAL OF TECHNOLOGY MANAGEMENT AND INNOVATION	19
ENERGY RESEARCH AND SOCIAL SCIENCE	8
INTERNATIONAL JOURNAL OF ENERGY ECONOMICS AND POLICY	8
JOURNAL OF OPEN INNOVATION: TECHNOLOGY MARKET AND COMPLEXITY	8
RESEARCH POLICY	7
ASIAN SOCIAL SCIENCE	6
JOURNAL OF CLEANER PRODUCTION	6
EUROPEAN JOURNAL OF INNOVATION MANAGEMENT	5
INTERNATIONAL FOOD AND AGRIBUSINESS MANAGEMENT REVIEW	5
INTERNATIONAL JOURNAL OF RECENT TECHNOLOGY AND ENGINEERING	5
MEDITERRANEAN JOURNAL OF SOCIAL SCIENCES	5
ENTREPRENEURSHIP AND SUSTAINABILITY ISSUES	4
FOODS	4
FORESIGHT AND STI GOVERNANCE	4
INNOVATION AND DEVELOPMENT	4
JOURNAL OF FINANCIAL ECONOMICS	4
SUSTAINABILITY: SCIENCE PRACTICE AND POLICY	4
ANTIQUITY	3
COGENT BUSINESS AND MANAGEMENT	3

Table 3: Most cited local sources

Sources	Articles
RESEARCH POLICY	483
STRATEGIC MANAGEMENT JOURNAL	319
RES POLICY	249
ENERGY POLICY	167
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	140
TECHNOVATION	137
ACADEMY OF MANAGEMENT JOURNAL	135
ACADEMY OF MANAGEMENT REVIEW	134
ORGANIZATION SCIENCE	134
ADMINISTRATIVE SCIENCE QUARTERLY	115
AMERICAN ECONOMIC REVIEW	112
JOURNAL OF BUSINESS RESEARCH	107
MANAGEMENT SCIENCE	100
SCIENCE	97
SMALL BUSINESS ECONOMICS	84
JOURNAL OF MANAGEMENT	82
SUSTAINABILITY	80
J CLEAN PROD	79
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	77
HARVARD BUSINESS REVIEW	75

Table 4: Detailed Yearly Analysis of Research Articles

Year	N	Mean T Cper Art	MeanTCperYear	CitableYears
2011	24	21.91666667	2.191666667	10
2012	25	12.04	1.337777778	9
2013	25	9.44	1.18	8
2014	29	26.5862069	3.798029557	7
2015	38	15.05263158	2.50877193	6
2016	48	19.125	3.825	5
2017	63	18.14285714	4.535714286	4
2018	70	12.14285714	4.047619048	3
2019	79	5.493670886	2.746835443	2
2020	108	2.166666667	2.166666667	1
2021	56	0.6607142857		0

Table 6: Top 20 authors with maximum number of articles in this domain

Authors	Articles	Articles Fractionalized
MOTHE C	5	1.75
ANTONELLI C	3	1.5
CHEN Z	3	0.7
KOLADE O	3	1.33
PARK C	3	1.17
PARK J	3	1.17
ANTOCI A	2	0.67
BADZISKA E	2	2
BELAAOUAD S	2	0.4
BENMOKHTAR S	2	0.4

BINZ C	2	0.83
BOCQUET R	2	0.58
BORGHESI S	2	0.67
BUGANZA T	2	0.75
DAAIF J	2	0.4
DE MASSIS A	2	0.4
FRATTINI F	2	0.4
FURTADO AT	2	0.75
GOMES CM	2	0.58
GUISADO-GONZLEZ M	2	0.83

KEYWORD ANALYSIS

Choosing the right keyword is the first and foremost requirement to search the related document in a particular domain. The following analysis will help researchers to put the correct keyword in search engines. This method is commonly used in bibliometric analysis to investigate the intellectual structure of the most prominent documents in a topic. The number of citations reflects a keyword's popularity, but its prestige is determined by page rank analysis, which shows how many times a keyword is cited by other highly cited items. When performing a Google search, Page Rank was used for the first time to prioritise web sites. Figure 2 shows the highest-ranking keywords with the help of word cloud and in table 5 differentiated based on PageRank. The keywords used in the papers and their percentage of use can be depicted through the tree diagram in figure 3 as shown below:

Figure 2: Keyword's Words cloud

Table 5

Node	Cluster	Betweennes	Closeness	Page Rank
SUSTAINABLE DEVELOPMENT	1	63	0.0005797101449	0.05281351555
TECHNOLOGICAL INNOVATION SYSTEMS	1	17.1	0.0005780346821	0.06318155213
ARTIFICIAL INTELLIGENCE	1	0	0.0005743825388	0.02919345953
SUSTAINABILITY TRANSITION	1	28.9	0.0005783689994	0.0692824251
SOCIOTECHNICAL SYSTEMS	1	0	0.000577034045	0.0260493055
ENERGY EFFICIENCY	1	0	0.0005750431282	0.01240802308
INTERMEDIATION	1	0	0.0005737234653	0.01185435088
MOTORS OF INNOVATIONS	1	0	0.0005740528129	0.0185673908
TRANSITION PATHWAY	1	0	0.0005743825388	0.02565723097
INNOVATION	2	69	0.0005790387956	0.1061544235
SUSTAINABILITY	2	0	0.0005743825388	0.02392216311
TECHNOLOGICAL DEVELOPMENT	2	0	0.0005743825388	0.02867117679
AUTOMATION	2	0	0.0005743825388	0.01442413574
PERFORMANCE ASSESSMENT	2	0	0.0005743825388	0.01442413574
PERU	2	0	0.0005743825388	0.01442413574
SEMICONDUCTOR INDUSTRY	2	0	0.0005743825388	0.01442413574
TANZANIA	3	0	0.0004081632653	0.004926108374
TECHNOLOGICAL INNOVATION	4	6	0.0004436557232	0.07810766431
BEHAVIORAL RESEARCH	4	0	0.0004430660168	0.02152398704

INNOVATION MANAGEMENT	4	0	0.0004430660168	0.02152398704
SMART CITY	4	0	0.0004430660168	0.02152398704
SOCIO-TECHNICAL TRANSITIONS	4	0	0.0004430660168	0.02152398704
CLUSTER ANALYSIS	5	0	0.0004081632653	0.004926108374
ECOSYSTEM MANAGEMENT	6	0	0.0004081632653	0.004926108374
ECOSYSTEM SERVICE	7	0	0.0004081632653	0.004926108374
EMPIRICAL CASE STUDIES	8	0	0.0004081632653	0.004926108374
FERTILIZER APPLICATION	9	0	0.0004081632653	0.004926108374
LAND TENURE	10	0	0.0004164931279	0.0328407225
LANDOWNERSHIP	10	0	0.0004164931279	0.0328407225
MEXICO [NORTH AMERICA]	11	0	0.0004081632653	0.004926108374
PALEONTOLOGY	12	0	0.0004081632653	0.004926108374
INDUSTRIAL ENGINEERING	13	0	0.0004164931279	0.0328407225
PRODUCTION ENGINEERING	13	0	0.0004164931279	0.0328407225
RESEARCH AND DEVELOPMENT	14	0	0.0004081632653	0.004926108374
RESEARCH METHOD	15	0	0.0004081632653	0.004926108374
AGRICULTURAL PRACTICE	16	0	0.0004164931279	0.0328407225
SMALLHOLDER	16	0	0.0004164931279	0.0328407225
STRATEGIC NICHE MANAGEMENT	17	0	0.0004081632653	0.004926108374
TEACHING	18	0	0.0004081632653	0.004926108374
TECHNOLOGICAL CHANGE	19	0	0.0004081632653	0.004926108374
TECHNOLOGY	20	0	0.0004081632653	0.004926108374

5G MOBILE COMMUNICATION SYSTEMS	21	0	0.0004081632653	0.004926108374
ABSTRACTING	22	0	0.0004081632653	0.004926108374
ACHEULEAN	23	0	0.0004081632653	0.004926108374
ACIDIFICATION	24	0	0.0004081632653	0.004926108374
ACTOR NETWORK THEORY	25	0	0.0004081632653	0.004926108374
ADAPTIVE SYSTEMS	26	0	0.0004081632653	0.004926108374
AGGLOMERATION	27	0	0.0004081632653	0.004926108374
AGRICULTURAL ECOSYSTEM	28	0	0.0004081632653	0.004926108374
AGRICULTURAL LAND	29	0	0.0004081632653	0.004926108374

Figure 3

CONTRIBUTOR COUNTRIES

Table 4 shows the top 50 contributor countries by the number of average citations they have. Table 4 also shows the top countries having authors in this research domain, with the top three being the United States of America (1112 total citations), United Kingdom (1009 total citations) and Spain (330 total citations).

Table 6

Country	Total Citations	Average Article Citations
USA	1112	24.174
UNITED KINGDOM	1009	16.817
SPAIN	330	19.412
NETHERLANDS	328	16.4
CANADA	211	21.1
ITALY	180	7.826
GERMANY	178	10.471
CHINA	176	6.069
SWITZERLAND	144	72
HUNGARY	138	34.5
BRAZIL	119	5.409
HONG KONG	106	35.333
LUXEMBOURG	73	36.5
SWEDEN	68	8.5
MALAYSIA	62	15.5
COLOMBIA	48	24
MALAWI	45	22.5
NORWAY	43	10.75
DENMARK	40	20
FINLAND	33	6.6

Figure4

Country Scientific Production
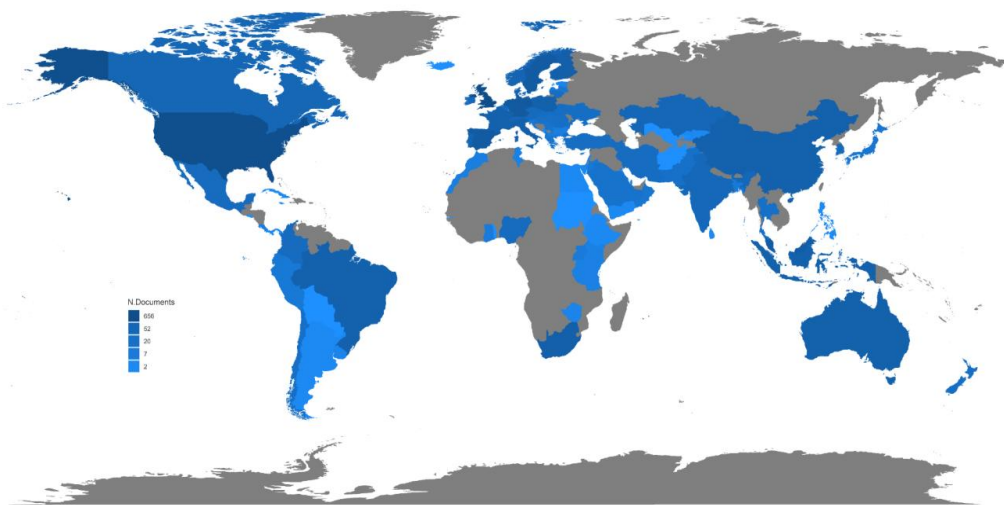
Figure 5

Country Collaboration Map
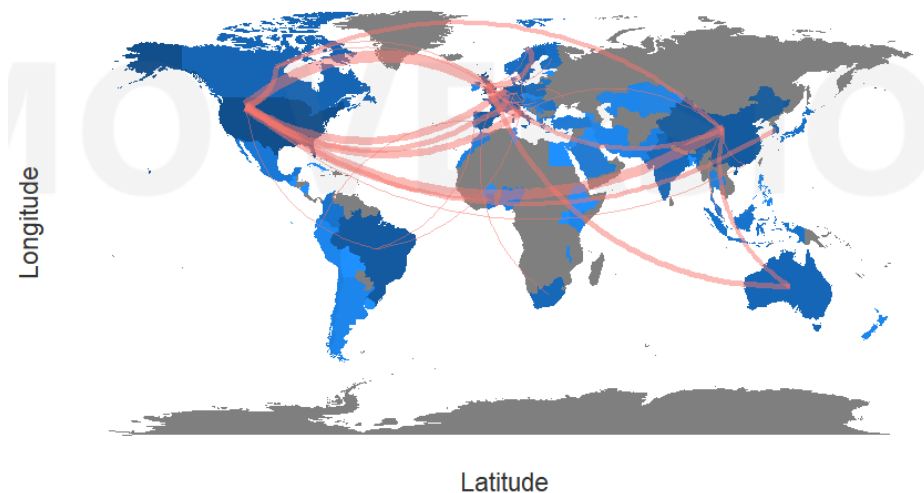
FACTORIAL ANALYSIS:

In figure 2 the conceptual structure map under factorial analysis was performed to investigate the clusters of joint keywords. This analysis has been performed using fifty items. The clusters show us the keywords which are highly correlated with less variability. This statistical analysis depicts overall two clusters formed using jointly occurring keywords. These two clusters are differentiated using blue and red colors.

Figure 6

Conceptual Structure Map - method: MCA

Figure 7

Factorial map of the documents with the highest contrib

Figure 8

Factorial map of the most cited documents
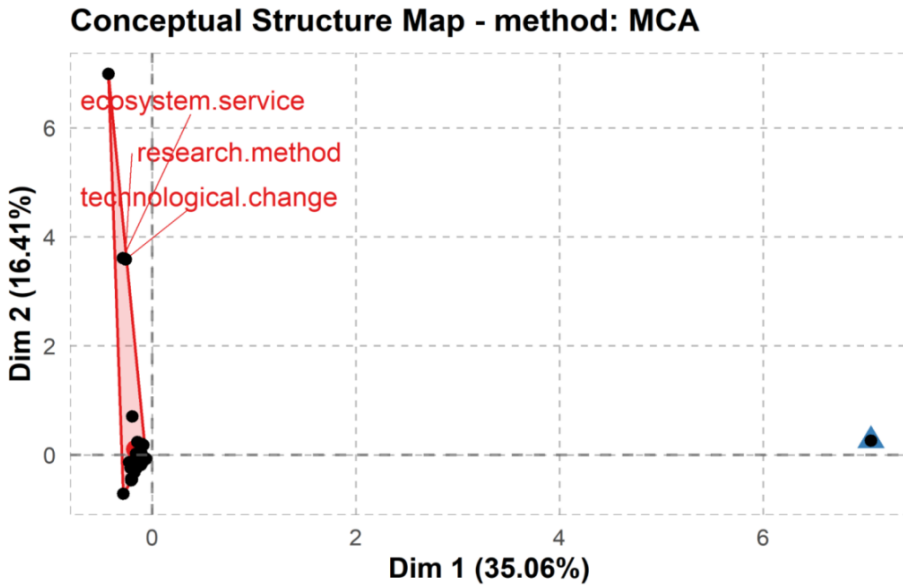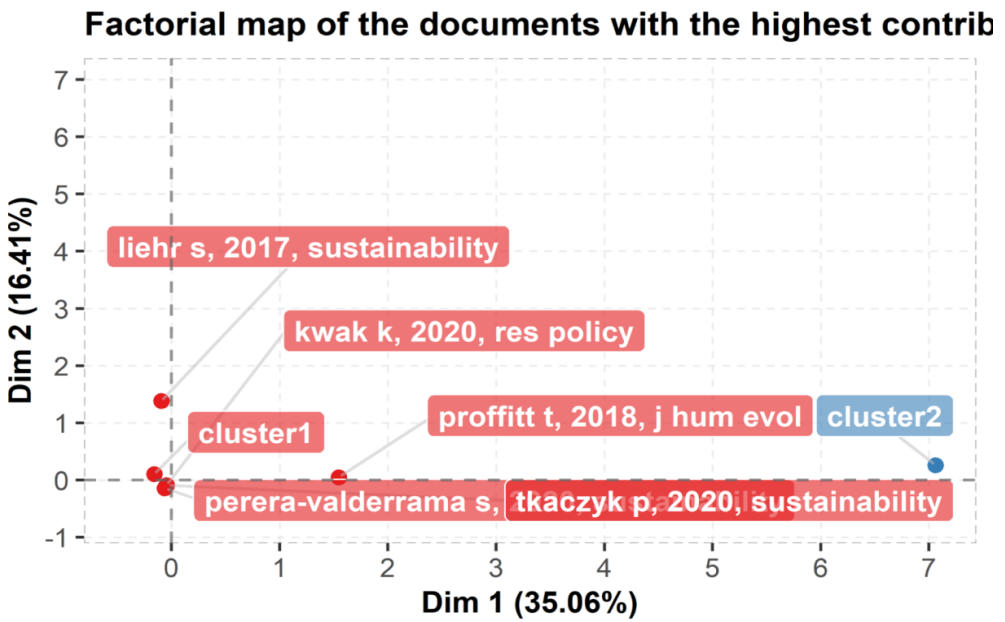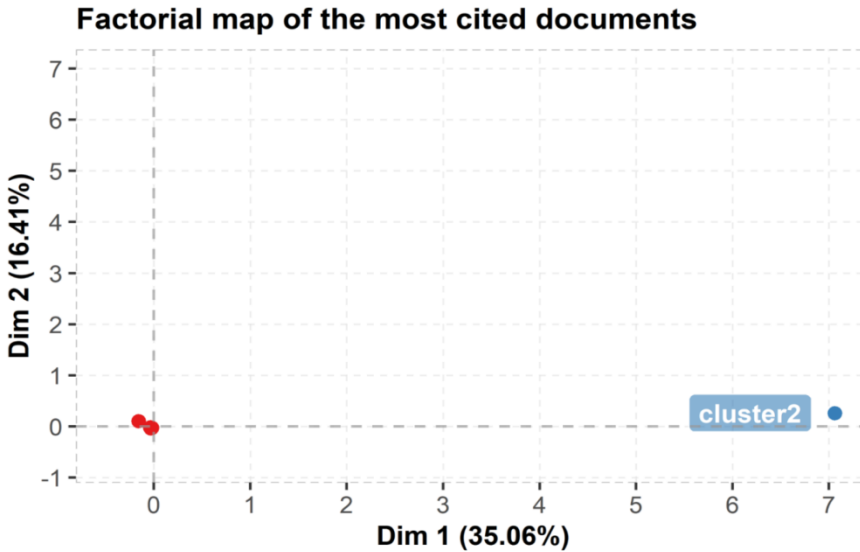
The association rule was applied to analyse the overall linkage between three different aspects of overall data which is described in figure9. The three field plot was designed to form the association between keywords, authors as well as countries shown from the left side to the right side in the following diagram. It depicted twenty countries with sources and keywords of the same ratio. This clustering association shows us a major share of Italy in the research domain of this study with the majority of publications by Gomes cm researcher.

Figure 9 : Three-fields plot of classification by research keywords, authors of publication and country
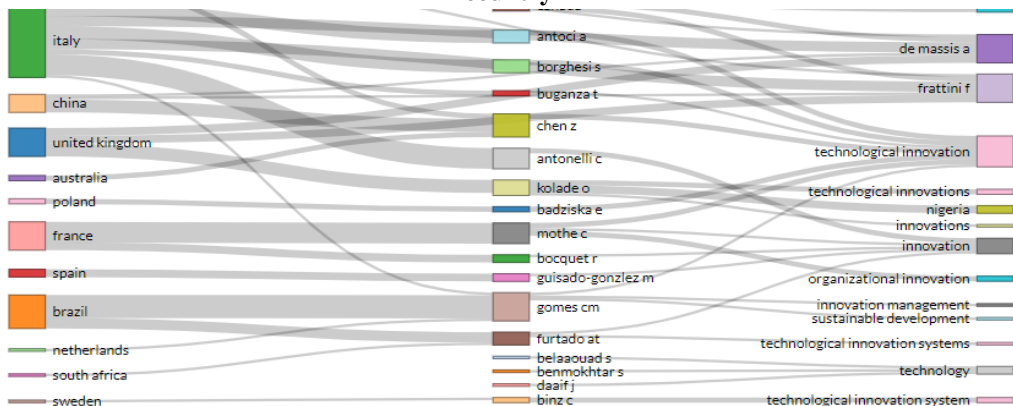
CONCLUSION:

This research was performed on the top565 research articles published in top cited journals with the highest H index. The various aspects of these research articles were analysed to describe visually as well as analytically so that authors, researchers as well as industrialists can have overall information about the prevalent research issues to be tackle able at one place or applied in their fields

respectively. This was a statistical snapshot based on time to answer different queries of managers and researchers. Hence, the potential of overall research which can benefit the managers in forming their business as well as diagrammatic analysis for researchers to clear themselves in their future research as it depicts the overall research issues related to different domains in sustainability and technological advancement. It is a national as well as international research analysis on sustainability practices performed by managers with advanced technological innovations related research published in top ranked journals in India as well as abroad particularly in English language.

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BUILDING THE DIGITAL ENTERPRISES IN THE ERA OF INDUSTRY 4.0: A STUDY FROM INDIA'S PERSPECTIVE

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ABSTRACT

The term Industry 4.0 stands for the "fourth industrial revolution" which is reshaping the environment in which people, businesses and governments work. Through its various digital innovations such as Big Data, Robotics, 3D Printing, Internet of Things, Artificial Intelligence and Smart Drones, fourth industrial revolution has permeated all sectors of the economy. Talking particularly about Big Data, it has become the new engine of growth for the country. By helping develop new business models, improving operational efficiencies, better customer acquisition and experience, effective price optimization, improved risk mitigation strategies, personalized recommendations, Big Data Analytics is providing immense benefits to various stakeholders.

Every revolutionizing of management processes has not been without peril. New concerns related to organizational, institutional, and public policy have emerged that require immediate attention. Business organizations need to cautiously and continuously adapt in the dynamic business environment to efficiently harness the power of Industry 4.0 and Big Data Analytics.

The present paper has been organized into five sections. Having provided introduction and evolution in the first section, the second section discusses the digital innovations under IIoT and Industry 4.0 Thereafter, the third section discusses the managerial implications of Industry 4.0 and Big Data with respect to its opportunities and challenges. The fourth section examines the Industry 4.0 in Indian context and the progress made so far. Finally, the fifth section concludes from a broad managerial perspective.

Keywords: *AI; Big Data; Cyber Physical System Fourth; Industrial Revolution; IoT*

INTRODUCTION

"The scale, scope and complexity of how technological revolutions influence our behavior and way of living will be unlike anything humankind has experienced".

Klaus Schwab (2015)

Industry 4.0 refers to a new phase in the Industrial Revolution that focuses heavily on interconnectivity, automation, machine learning, and real-time data. Industry 4.0, also sometimes referred to as IIoT or smart manufacturing, marries physical production and operations with smart digital technology, machine learning, and big data to create a more holistic and better connected ecosystem for companies that focus on manufacturing and supply chain management. While every

company and organization operating today is different, they all face a common challenge — the need for connectedness and access to real-time insights across processes, partners, products, and people.

That's where fourth Industrial revolution i.e. Industry 4.0 comes into picture.
The unprecedented level of technological development has ushered in the Industry 4.0 or Fourth Industrial Revolution. It is characterized by a very close interaction between physical, digital, and biological worlds. Now, the decision making has been decentralized from humans to computer systems. Several Digitally Disruptive Technologies have dramatically transformed the existing systems and resulted in creation of new business models. They have substantially altered the way consumers, industries, or businesses operate and have defeated the traditional business and regulatory mechanisms.

Industry 4.0 isn't just about investing in tools and new technology to improve manufacturing efficiency — it's about revolutionizing the way your entire business operates and grows.

General Electric Aviation, for instance, recently piloted Augmented Reality to facilitate engineers manufacture jet engines through prompt feedback about defects or malfunctioning. Existence of several Artificial Intelligent assistants such as Amazon's Alexa, Google's Now, Microsoft's Cortana and Apple's Siri exemplifies increasing interaction of machines with humans to facilitate convenience. Recently, cab aggregators such as Uber, Lyft, and Ola have harnessed the power of disruptive technologies and taken over erstwhile business model of General Motors. Shoes and clothes manufacturing giant, Adidas through use of Speed factory is designing shoes digitally and testing them virtually for fit and performance. Engineering and Technology Company, Bosch is utilizing Industrial Internet of Things and Big Data Analytics for predictive maintenance, vehicle diagnostics, and large-scale simulations at its Automotive Diesel System Factory in China. Undoubtedly, Industry 4.0 has revolutionized business processes. From a managerial perspective, along with the opportunities, challenges too have emerged.

The term "Industry 4.0" was first coined in Germany in 2011 at the Hannover Fair as a high-tech economic policy of German government to combat competition and foster decision making in the manufacturing sector. This was aimed to be achieved through digitization, automation and intelligent monitoring of production processes (Morrar, Arman, and Mousa, 2017).

OBJECTIVES AND RESEARCH METHODOLOGY
OBJECTIVES:
The study has been geared to achieve the following objectives;

1. To provide an overview of Industry 4.0 and its evolution from 1.0

2. To analyse the managerial implications of Industry 4.0 and Big Data with respect to its opportunities and challenges

3. To study the Industry 4.0 in the Indian context and the progress made so far

RESEARCH METHODOLOGY

Data Collection Method: This study has been carried out with the help of secondary data only, all the data has been collected from the various sources such as websites & reports and compiled as said by the need of the study.

Sources of Data Collection: The study is based on the published data. For the purpose of present study, the data was extracted from the various newspapers, journals, articles and websites.

INDUSTRIAL EVOLUTION PROGRESS FROM 1.0 TO 4.0

Before digging too much deeper into the what, why, and how of Industry 4.0, it's beneficial to first understand how exactly manufacturing has evolved since the 1800s. There are four distinct industrial revolutions that the world either has experienced or continues to experience today.
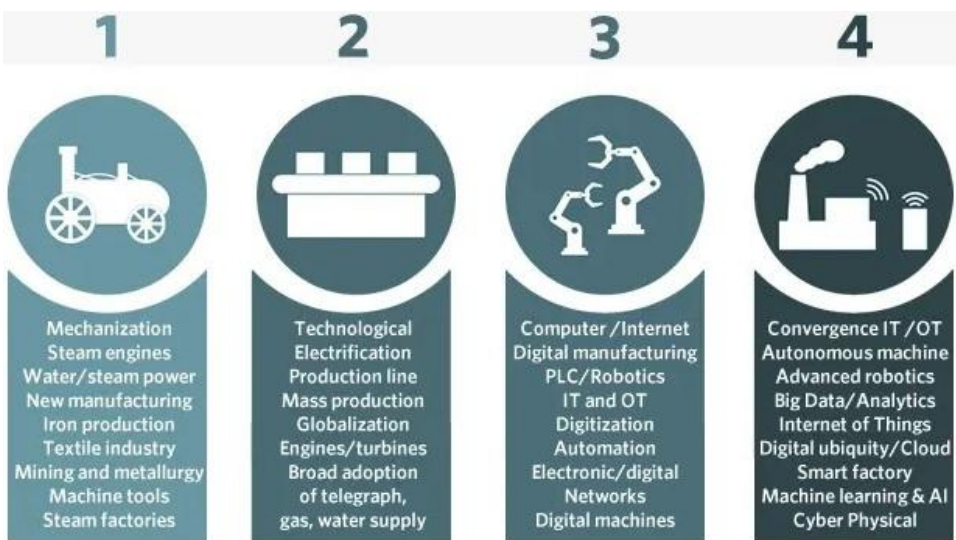
Figure 1: Evolution of Industry from 1.0 to 4.0

- Industry 4.0 is distinct from earlier revolutions and not just a continuation of the third because of the characteristics of **speed, scope and systems impact.**

- For, evolution is happening at an **exponential pace**, and is **radically transforming nearly every industry** in every country **to the extent that entire systems of production, management, and governance will be transformed**.

DIGITAL INNOVATIONS UNDER IIOT AND INDUSTRY 4.0

There are hundreds of concepts and terms that relates to IIoT and Industry 4.0, but Big Data, Artificial intelligence (AI), Internet of Things (IoT), Robotic Process Automation (RPA), 3D Printing, Simulation, Autonomous Robots, Augmented Reality (AR), Cyber Security, Additive manufacturing, Vertical and Horizontal System Integration and Cloud Computing are foundational words and phrases to know prior to you decide whether you want to invest in Industry 4.0 solutions for your business.

Pillars of Big Data

In general, the pillars of Big Data are volume, variety, velocity, veracity, and value. Each of these has been briefly given below:
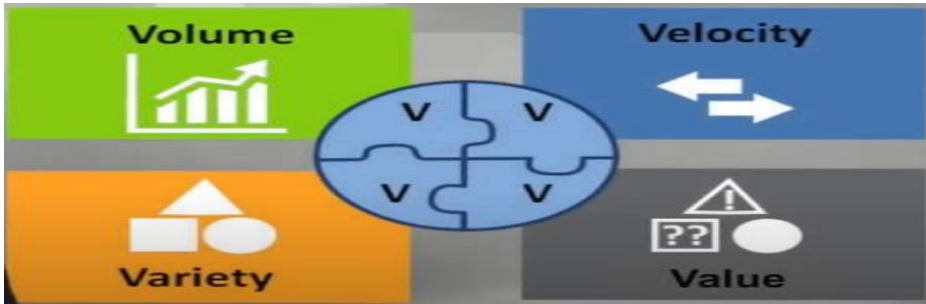
Figure 2: Pillars of Big Data

Big Data Analytics has emerged as a concomitant to Big Data. Instead of following a deductive approach which starts with a theory and follows through experimentation and modeling, Big Data follows an inductive approach to reasoning and uncovers 'reality' by working on real-time data trails by identifying underlying relationships to derive value.
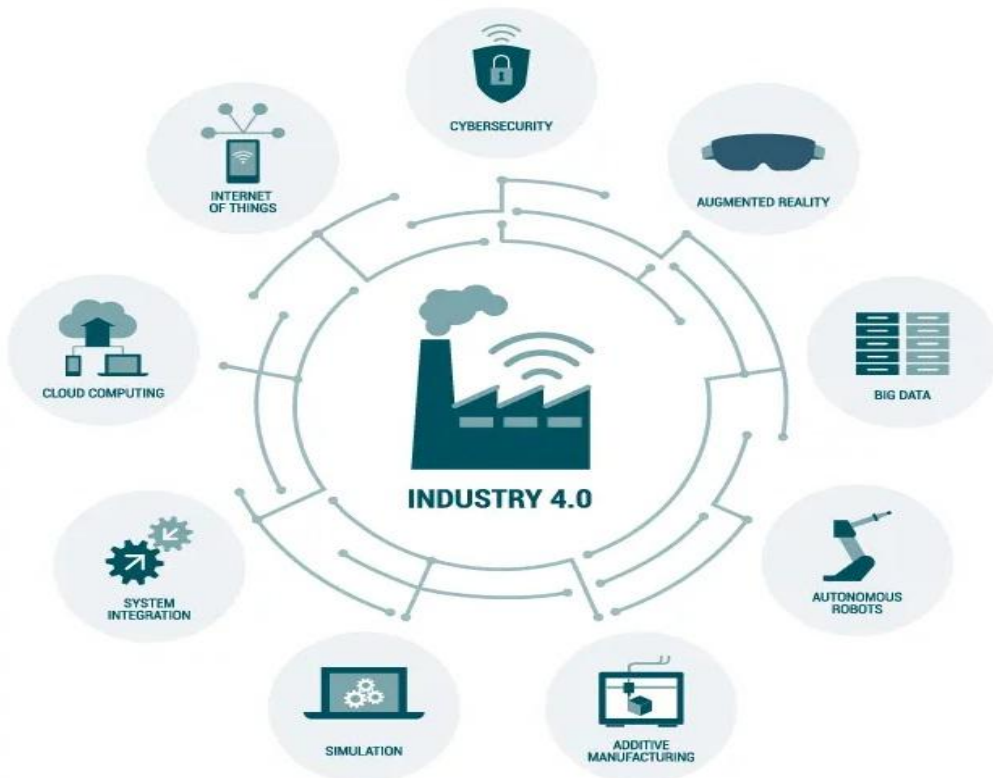
Figure 3: Top Trends for Industry 4.0: The Factory of the Future (2021 and Beyond)

INDUSTRY 4.0 AND BIG DATA: MANAGERIAL IMPLICATIONS

In the era of fourth industrial revolution, practically no sector has been left untouched by the transformational power of Big Data Analytics. It gives the potential to 'measure' which helps in making decisions that are data driven rather than based on intuition (Mcafee and Brynjolfsson, 2012). By helping develop new business models, improving operational efficiencies, customer acquisition and experience, effective price optimization, improved risk mitigation strategies, and personalized recommendations, Big Data Analytics is providing immense benefits to various stakeholders. However, if opportunities have been numerous, so have been the associated challenges. These opportunities and challenges are hereby discussed.

A. Opportunities

Telecommunication, financial services and retail have been the early adopters of Big Data, followed by healthcare, utilities, and content service providers (Villars et al., 2011). Big Data Analytics is revolutionizing management and empowering people across the globe (Mcafee and Brynjolfsson, 2012). Briefly, discuss how organizations have adopted Big Data Analytics in manufacturing sector.

Manufacturing sector: Through Big Data Analytics, manufacturers have benefitted immensely as it has helped them in revealing concealed patterns, mysterious correlations, customer preferences, market trends and various such valuable insights (Zhong et al., 2017). This has led to greater visibility, transparency and traceability of the items of interest (Lee et al., 2013). Conventional factories are now being transformed into smart and intelligent factories due to various advanced technologies including Big Data Analytics. Predictive manufacturing is being used for simulating the health condition of machines that can detect flaws in the manufacturing processes and products prior to quality testing. This has the potential to save millions of dollars for manufacturing enterprises (Lee et al., 2013).

Concrete inputs from Big Data Analytics can also reduce the production and development costs and can lead to large productivity gains by reducing the unwanted iterations in the process (Nedelcu, 2013). According to Mckinsey Global institute analysis (2011), because of Big Data Analytics, there can be decline in the assembly costs and product development by fifty percent and reduction in the working capital by seven percent leading to productivity growth and consumer surplus. Even when the products are in use, data can be helpful in improving the productivity (Manyika et al., 2011). According to a survey by the LNS research (2015), some of the major benefits that accrue to the manufacturing sector through the use of Big Data include better production and forecasts, greater understanding of plant performance across multiple metrics, operations and inventory optimization, higher quality products and better servicing to the customers, real time alerts in diagnosing the defects, better equipment maintenance and risk management.

A survey conducted by IBM institute of 124 industrial manufactures across 95 countries in the world in 2017 revealed that 53% of the respondents agreed that use of Big Data is creating competitive advantage to their firms. For instance, General Electric (GE) was one of the early adopters of Big Data Analytics in manufacturing sector. In 2016, it commissioned a plant in Clearwater, Florida wherein factories were connected with Predix, a cloud-based internet system.

The plant manufactures heavy-duty capacitors for the electrical grid. The production processes here are connected to internet and are embedded with high-tech sensors which provide information about the humidity, temperature and dust levels which enables the workers to streamline operations accordingly. This system is also capable of detecting early defects and fixing them accordingly.

Challenges

With advent of Industry 4.0 and Big Data, opportunities abound. However the associated challenges too need to be addressed given the dynamism of business environment, such as organizational barriers pertaining to adoption and adaptability; privacy and national security; and managerial challenges associated with voluminous data.

Data Privacy and Security:	*Adapt or Perish*:	*Managerial challenges associated with Voluminous Data*:
With emergence of Digitally Disruptive Technologies and their wide spread usage, concerns of privacy and security have emerged. Increasing digitalization has brought personal sensitive information in to public domain.	Organizations need to continuously adapt and evolve for sustained growth.	With enormous data being generated as a result of revolution in digital technologies, IT support system is essential (hardware as well as software). However, while availability of effective high performing hardware technology for computation, networking and storage exists, it has not necessarily evolved to meet the growing requirements of Big Data.

INDUSTRY 4.0: THE INDIAN CONTEXT

Industry 4.0 will usher in a new age of connected technologies and data-driven insights, and change the way we work and interact with each other. Innovative technologies, such as mass automation, industrial communications, Big Data, robotics, artificial intelligence (AI) and 3D printing are transforming the global manufacturing landscape. Fourth Industrial revolution concentrates on the end-to-end digitization of all physical assets and their integration into digital ecosystems. Advanced economies like Germany, Japan, the USA, and Singapore have embraced Industry 4.0 to enhance their competitiveness manufacturing activities. Let's take a look at how the Indian Manufacturing Industry has adapted so far and what steps can be taken to pick up the pace for adoption of Industry 4.0 in India.

The Indian scenario

At present, despite being the sixth largest manufacturing hub, India lags behind its global peers in Industry 4.0 adoptions. A significant portion of the Indian manufacturing sector is still in the nascent stages of adopting mechanization on its shop floors. The integration of physical systems on

cyber platforms, the basic premise of Industry 4.0, is still at its infancy. Furthermore, the MSME segment has very little access to automation technology due to the high cost barricade. The Indian Government has set a target of increasing the contribution of manufacturing output to 25 percent of GDP by 2025, from about 17 percent currently. Adopting Industry 4.0 will be crucial to be able to achieve this.

Some of the reasons for the slow implementation of Industry 4.0 in India are as follows:

1. **Knowledge gap**: Lack of awareness of the latest technologies among the workforce and the willingness to adopt them.

2. **Availability of Cheap labor:** Companies are reluctant to adopt automation because of the low labor costs in India.

3. **Low Volumes of production**: Automation is unlikely to generate ROI because the volumes required to break even on investment is not met.

4. **Skill gap:** India's current workforce lacks skill and expertise in new-age technologies such as data analytics, additive manufacturing, and IoT.

5. **Lack of Adequate Infrastructure:** Physical infrastructures such as stable electricity supply; Digital infrastructures such as our telecommunication network which still suffer from low data speeds and unstable connection.

6. **Cyber Security:** Cyber security and the regulatory environment pertaining to data privacy need to be strengthened.

7. **High Cost of Digital Technologies:** Building the factory of the future having an entirely connected system could require significant capital outlay.

Government Initiatives

The Indian Government launched the **SAMARTH** (Smart Advanced Manufacturing and Rapid Transformation Hub) – Udyog Bharat 4.0, an Industry 4.0 initiative, under the ambit of the Department of Heavy Industry & Public Enterprise. SAMARTH aims to raise awareness about Industry 4.0 among the Indian manufacturing industry through demonstration centers. SAMARTH aims to bridge the quality gap between Indian products and their foreign counterparts and help MSME's to adopt new technologies to enable quality exports. SAMARTH Udyog encompasses a consortium of manufacturers, vendors, and customers as the main stakeholders. Some of the other initiatives taken by the Government of India include the National Program on Artificial Intelligence with NITI Aayog and the Mission on Cyber-Physical Systems.

THE PROGRESS IN INDIA SO FAR:

- **IISc's Centre for Product Design and Manufacturing (CPDM)** is in the process of building India's first smart factory in Bengaluru with seed funding from **The Boeing Company.** A smart factory, armed with machines that can communicate with each other, it will be an autonomous system that can think on its own. Data is collected through a variety of sensors and predictive maintenance has been employed for the machines. The system can collect data, analyze and employs Natural Language Processing to resolve issues and course correct.

- **Bosch** has begun the implementation of smart manufacturing at its 15 manufacturing centers in India. In Bengaluru, Bosch uses real-time data to shorten throughput times for the calibration of pumps for tractors. The location also provides associates with smartwatches that promptly notify them of a machine malfunction.

- **Automobile sector:** Bajaj Auto, Maruti Suzuki, Ford Motors, Mahindra, and Hyundai have taken steps to improve the automation process of their plants by deploying robots on the assembly lines. Renault has also been pursuing work in the field of automation of the manufacturing process to prevent accidents. Companies are now warming up to the idea of connected machines.

- **FMCG:** The Indian FMCG sector has started deploying Collaborative Robots in their manufacturing process. Cobots are industrial robots that work alongside workers in a factory and require minimal supervision. Factories with weaker infrastructure and limited workforce can leverage Cobots to reduce lead time and optimally utilize capacity. L'Oréal India has benefitted from deploying collaborative robots in its Chakan manufacturing plant."

- The government of Andhra Pradesh wants the state to be the hub of IoT in India and with the participation of the private sector is planning to set up 10 IoT hubs.

- Indian companies are increasing their center of attention and partnering with software companies for developing new IoT and Machine to Machine solutions.

What needs to be done in India?

1. **Investment in decision support systems:** Huge amounts of data will be generated from sensors and equipment; companies will have to organize this data and extract meaningful information. The integration of IT with the existing OT infrastructure in the plant and making data easily accessible to all the stakeholders will be equally important. They should be able to run AI-models that can predict trends or carry out causal analysis, augmenting human decision-making.

2. **Investment in capability building**: There is an urgent need to upskill talent within factories. Companies need to invest in capability building in areas of digital and analytics technologies. The government and industry require collaborating to create an Industry 4.0-ready workforce.

3. **Develop companywide metrics to monitor progress**: Emerging technologies need to be leveraged in the entire value chain and the system needs to be comprehensive spanning across the network. One of the major problems across manufacturing industries has been that they are used to working in silos and although many efforts are taken at the departmental level, these measures fail to translate into anything meaningful at the company level.

What can help us get there faster?

1. **Creation of dedicated financing options for Industry 4.0:** While the GOI has launched several initiatives, they should also look at other steps like incentivizing industrial clusters and creating dedicated financing options that will help manufacturers, especially MSMEs.

2. **Ensuring data integrity, cyber security and development of IoT security guidelines** will be another significant area of focal point.

3. **Encourage vocational education & training programs** to ensure a uninterrupted supply of extremely competent talent.

4. **A collaborative effort between academia, public & private industry**: to drive the faster deployment of these new technologies. With a calibrated approach, India will be able to leapfrog traditional phases of development, usher in a new era of growth and sustain its economic wellbeing.

CONCLUSION AND MANAGERIAL PERSPECTIVE

The Fourth Industrial Revolution is reshaping the environment in which people, businesses and governments work. Through its various digital innovations such as Big Data, Robotics, Internet of Things, 3D Printing, Artificial Intelligence, and Smart Drones, Fourth Industrial Revolution has permeated across all economic sectors of the economy. It has in fact become the new engine of economic growth. Big Data Analytics is revolutionizing management and empowering people across the globe. It is providing immense benefits to various stakeholders by helping develop new business models, improve operational efficiencies, better customer acquisition and experience, effective price optimization, improved risk mitigation strategies, and personalized recommendations. However, if opportunities have been immense, so have been the associated challenges.

Several disruptive technologies facilitated through Fourth Industrial Revolution can become destructive if managers do not take adequate steps and prepare themselves in advance for the possible repercussions. It is important to address the challenges to harness the power of Big Data Analytics to the fullest. It is better is to adapt to the challenges of today, instead of grasping to the barriers of the past. What may have seemed impossible yesterday, has become a reality today. Conquering the fatal 'Pike Syndrome' is the real challenge for today's business organizations.

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SMART FARMING: DIGITAL INNOVATION IN HARYANA (INDIA)

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ABSTRACT

Digital Transformation in the agriculture sector has been implied the involvement of ICT, Including the internet Mobile devices and data analytics used to improve the generation collection exchange, Aggregation, Analysis, Access, Search ability and presentation of digital content to adapt the change imposed by new technology. Digital India was launched in 2015 to create digital infrastructure for empowering rural communities and promoting digital literacy given that 70% (2011 census) of India's population is rural and agriculture is the main source of live hood for 50% of the population digital India can play on important role in agriculture sector in India.[1]The Government of India has recently prioritized "Doubling Farmers" Income as a National agenda putting considerable focus an supply chain in agriculture and market development in addition to productivity augmentation. The vision of digital India programs is to transform India into digitally empowerment society and knowledge economy. The present study has been undertaken for ministry of agriculture and farmers welfare. The status attempts to evaluate the status performance and prospects of E-Kharid portal in Haryana. The study used secondary data, supplemented by in depth primary survey in Haryana (village) to understand and constraints at the ground level related to E-Kharid.

Keywords: -digitalization, agriculture knowledge, MSP, MFMB, Haryana.

INTRODUCTION

To make the digital India program successful, Haryana the government also focused on the promotion of technology (IT) and E–governance projects. Haryana government introduced numerous schemes digitally through the government services are rendered to the citizen of Haryana digitalization that save the time as well as the cost agriculture is still primary source of the employment and significantly contribution in the gross national produced in India as well as in Haryana state also. Haryana is also an agrarian state and 65% of the population of Haryana lives in rural area that is fully completely depending upon the agriculture for their live hood.[2]To look the importance of agriculture in Haryana, the Haryana government started an initiative named as E-kharid. Haryana government is trying to up lift the status of the farmer in and providing a fair price of their crops. The E-kharid portal has been launched by the Haryana government in 2016. This

revolutionary E-governance initiative has been taken by the Haryana government through the "E-kharid" portal to bring the transparency at all levels in the procurement process of the food grains. It will empower enable ease of doing business to the traders and will empower. The farmers by providing real time information and timely payment of their crops. The "E-kharid" portal is a joint initiative of the Haryana state agriculture marketing board (HSAMB) and the department of food supplies government of Haryana (ekharid.nic.in). The Government of the food and supplies department of the nodal agency of this yojana. It the farmers of Haryana want to sell their crops an MSP. Then they have to register then sales on the portal. The Haryana government has gives responsibility to the state agriculture marketing board to give the minimum support price (MSP) of their crops to the farmers.

OBJECTIVE OF e-KHARID PORTAL
The E-kharid online platform was launched to provide e-governance services to the farmer of the state. The main objective is to bring transparency process to enhance of doing business to the traders and empower the farmer by providing real-time information and timely payment.

STAKE HOLDERS ON e-KHARID
The following are the stakeholders in 'E-kharid' portal listed as follows:-
1. Farmers
2. Traders
3. Market committees
4. Government agencies
5. Commission agents
6. Buyers, processor and exporters
7. Procuring agency/purchaser

ELIGIBILITY CRITERIA
1. All farmers–beneficiaries to be the resident of Haryana State.
2. The applicant to be above 18 years of age of register under the portal.
3. Farmers including landlord lessee or tenant on rent.

OBJECTIVES OF THE STUDY
The present study is an attempt to examine the status of "E-kharid" portal and discuss the linkage of MeriFasalMeraByora (MFMB) Portal with E-kharid portal.

BRIEF REVIEW OF LITERATURE
Primary agriculture market in the country governed by APMC Acts. The present functioning of the markets under APMC Act is generally responsible for the segmentation of agriculture markets in the country leading to inefficiencies in prices discovery. The farmers sell their product at up to 5% lower prices in geographically isolated segments which enjoy market power they face little competition. APMC Acts improved agriculture markets in several respects but over time balance of power in transactions has moved back in favorof middlemen and traders. The special interest groups of commission agents, traders and other middlemen are a serious problem concerned with. Then in 2015 the year's union budget proposed to create a united National Agriculture Market with the help of state govt. and NITI Ayog. Now agriculture ismoving towards digitalization.

METHODOLOGY

The study is descriptive in nature and based on secondary as well as primary data. The secondary data has been taken from various government reports, Government official websites, etc. descriptive statistics like tables are used in the study.

RESULT AND DISCUSSION

State of Haryana is regarded as the wheat basket and rice bowl of India, contributing 45% of rice and 65% of wheat to the central pool and more than 5% total food production of country [3] we will discuss the current status of E-kharid portal of Haryana as well as the linkage of my crops my details with E-kharid portal and MSP of major crops. The E-kharid portal started for farmers of Haryana to sale their crops on minimum support price in mandis. In every mandis of Haryana the gate pass are issues to the farmers for entering in the mandi it helps the government in gathering the overall information about number of farmers selling the crops on MSP type of crops, etc. Here the researcher takes the major crops of kharif season like Bajra, Paddy, Maize, Jowar and Ragi&For Rabi season crops are Wheat, Mustard, Masur and Gram.

Allotment of Mandi's

Purchase Centers for Purchase Kharif– 2020-21

	DISTRICT	**MANDI**
BAJRA	22	108
MOONG	06	20
MAIZE	11	11
PADDY	20	198

Sources: -https://farmer.gov.in/[4]

MINIMUM SUPPORT PRICE

First time in 1966-67; The MSP was announced by the Government of India for Wheat crop [5] MSP is an instrument which guarantees to the farmer prior to showing season that a fair price is fixed to their upcoming crops to encourage higher investment & production of agricultural commodities. At present MSP covers 22 crops and fair remunerative price (FRP) for sugarcane (https://agricoop.nic.in/).Farmers who want to sale their crops in mandis on MSP they have to register themselves on (MFMB) Portal. The portal was also linked with the E-kharid portal and farmers registered themselves.

TABLE – 1
MSP FOR KHARIF CROPS MARKETING

YEAR	BAJRA	PADDY	MAIZE	JAWAR	RAGI
2011-12	980	1080	980	900	1050
2012-13	1175	1250	1175	1500	1500
2013-14	1250	1310	1310	1500	1500

2014-15	1250	1360	1310	1530	1550
2015-16	1275	1410	1325	1570	1650
2016-17	1330	1470	1365	1625	1725
2017-18	1425	1550	1425	1700	1900
2018-19	1950	1750	1700	2430	2987
2019-20	2000	1815	1760	2550	3150
2020-21	2150	1868	1850	2620	3295
2021-22	2250	1940	1870	2738	3377

Sources: -https://farmer.gov.in/

Table – 1 Indicate the MSP for kharif crops during the year 2011-12 to 2021-22; MSP is continuously increase this period but in very slow rate.

TABLE - 2
MSP FOR RABI CROPS

YEAR	WHEAT	BARLEY	GRAM	MUSTARD	MASUR
2011-12	1285	980	2800	2500	2800
2012-13	1350	980	3000	3000	2900
2013-14	1400	1100	3100	3050	2950
2014-15	1450	1150	3175	3100	3075
2015-16	1525	1225	3500**	3350	3400**
2016-17	1625	1325	4000^	3700*	3950!
2017-18	1735	1410	4400!	4000*	4200*
2018-19	1840	1440	4620	4200	4475
2019-20	1925	1525	4875	4425	4800
2020-21	1975	1600	5100	4650	5100
2021-22	-	-	-	-	-

Sources: - https://farmer.gov.in/ [6]

NOTE: - Including bounce of   *100/- P.Q. **75/P.Q   ^ 200/P.Q. AND! 150/- P.Q

Table – 2 indicate the MSP for Rabi crops during the year 2011-12 to 2021-22; MSP is continuously increase this pried but in very slow rate. So it may not be sufficient to doubling the farmer's income. It is an urgent requirement takes appropriate measures like fair MSP that help in increasing the Indian farmer's income in faster way.

<div align="center">

TABLE – 3

STATUS OF GATE PASS

</div>

Issued and total Quantity purchased on MSP in Mandi's For the Rabi Season 2020-21 in Haryana

CROPS	GATE PASS	WEIGHT(IN TONE)
WHEAT	980220	8503107.39
MUSTARD	3	6.85
SUNFLOWER	2557	4397.48

<div align="center">

Sources: -https://ekharid.haryana.gov.in/

</div>

Table – 3 Indicates the status of gate passes issued to the farmers for entering in the mandis of Haryana for selling their crops on MSP and Quantity of different crops purchased on MSP.

Linkage of Meri Fasal Mera Byora with E-Kharid Portal

Government of Haryana launched the portal (MFMB) on Dec.25; 2018 for the farmers to gathering the all information about the crops area season and non-cultivated land etc. Haryana chief Minister, Mr. Manoharlalkhatter, started the 'my crop my details scheme' to enter their crop details online. Farmers will get insurance cover and crop compensation due to natural calamities. Farmers now no need to visit any government office to apply for MFMB. Just visit the official online portal, register, and use it to avail the benefits. The government also created a call center to assist the farmer through this call centre, farmers can register their complaints and problem to resolve issues in no time. There will be the e-procurement software and payment also will be part of it and the government already approached many banks for this. A setup made that the farmer did with payment;the bank will send SMS notice to the farmer's mobile number, linked with a bank account. All information related to the crop send to the registered mobile number. If any farmer wants to sell their agriculture production at MSP, then he must make online registration of crop at MFMB. During the Rabi procurement, the state government also decided to send money directly to the accounts of the farmers within 72 hours (48 for government to release the amount and another 24 for banks to process it) of submission of the I-form in the mandis. If for some reason the payment of farmers is not deposited in their verified accounts o time, than they will be paid at the interest rate of 9%.MFMB is a good initiative towards smart farming taken by Haryana government.

<div align="center">

TABLE – 4

FARMER REGISTERED ON MFMB PORTAL FOR THE RABI SEASON 2020-21

</div>

CROPS	FARMER REGISTERED
WHEAT	732858
MUSTARD	321145
GRAM	25396
SUNFLOWER	7831

<div align="center">

Source: -https://e-kharid.haryana.gov.in [8]

</div>

Table – 4 Indicate the farmer registered on MFMB portal for the Rabi season 2020-21.

General overview of the study region
In the primary survey a sample of 50 farmers and 10 traders are interview in each of the six market of Sirsa district. The farmer of Sirsa district was asked what he thinks about advantages of E-kharid portal.

TABLE – 5
ADVANTNTAGES OF THE E-KHARID – FARMERS

DISTRICT				SIRSA								
MARKET	ELLENABAD &SIRSA			GHORANWALI & CHAKKAN			KHARIAN &RANIA			ALL MARKET		
ADVANTAGES	YES	NO	TOTAL	YES	NO	TOTAL	YES	NO	TOTAL	YES	NO	TOTAL
1 Higher price realization	22	28	**50**	20	30	**50**	18	32	**50**	60	90	**150**
2 Lower cost of marketing	12	38	**50**	13	37	**50**	15	35	**50**	40	110	**150**
3 Higher traded volume	10	40	**50**	15	35	**50**	12	38	**50**	37	113	**150**
4 Transparent procedures	32	18	**50**	35	15	**50**	38	12	**50**	105	45	**150**
5 Sales process is less complicated	24	26	**50**	26	24	**50**	23	27	**50**	73	77	**150**
6 Online payment is more convenient	35	15	**50**	38	12	**50**	38	12	**50**	111	39	**150**
7 Better facilities for knowing quality of product	27	23	**50**	30	20	**50**	32	18	**50**	89	61	**150**
8 Satisfaction level	15	35	**50**	16	34	**50**	15	35	**50**	46	104	**150**

Sources: - Primary survey by interview

Table – 5 Advantages of E-kharid
The farmers and traders were asked to list advantages of E-kharid over the existing traditional marketing system. The responses are discussed below.

Farmers found E-kharid to be a better choice and listed the advantages of E-kharid as transparent procedure, more convenient online payment, better facilities for knowing quality of produced, less complicated sale process.However farmers did not find any advantage of E-kharid as regard lower cost of marketing and higher traded volume over the traditional marketing system.

TABLE–6
ADVANTNTAGES OF THE E-KHARID - TRADERS

DISTRICT								SIRSA					
MARKET			ELLENABAD & SIRSA			GHORANWALI & CHAKKAN			KHARIAN & RANIA			ALL MARKET		
ADVANTAGES			YES	NO	TOTAL	YES	NO	TOTAL	YES	NO	TOTAL	YES	NO	TOTAL
1	Higher price realization		4	6	**10**	3	7	**10**	2	8	**10**	9	21	**30**
2	Lower cost of marketing		5	5	**10**	4	6	**10**	4	6	**10**	13	17	**30**
3	Higher traded volume		2	8	**10**	2	8	**10**	1	9	**10**	5	25	**30**
4	Transparent procedures		5	5	**10**	4	6	**10**	5	5	**10**	14	16	**30**
5	Sales process is less complicated		4	6	**10**	3	7	**10**	5	5	**10**	12	18	**30**
6	Online payment is more convenient		6	4	**10**	5	5	**10**	4	6	**10**	15	15	**30**
7	Better facilities for knowing quality of product		5	5	**10**	5	5	**10**	5	5	**10**	15	15	**30**
8	Satisfaction level		1	9	**10**	1	9	**10**	1	9	**10**	3	27	**30**

Sources: - Survey

Table -6 there searcher found that, the traders/arhtiya did not well satisfy any advantages of E–kharid. Because traders business are inversely affected by digitalization, that's why traders are going on strike against the government.

Conclusion and suggestion

E-kharid portal is one of the steps of Haryana Government towards the digitalization this portal provide the information regarding the gate pass arrival, auction detail, J-form, I-form (purchasing agencies) so on E-kharid linked with the MFMB portal. The study result indicated that a large

number of farmer ( ) and ( ) traders registered on the MFMB portal for selling their crops on MSP. E-kharid portal showed that only wheat is the one major crop that is sold by farmers on MSP. Small number of farmers sells the mustard crops on MSP comparison to previous year season (2019-20) because MSP given by the government are very low. There for the farmers sell their crops to the private purchasers on higher price.

The researcher suggested that the policy maker should give a fair MSP for the crops and covered more crops under MSP. It encourages the farmers for enrolling the production that will increase their income and it may be steps towards doubling of farmer's income.

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DEFLATED ISSUES IN DOMOTICS – PRIVACY & SECURITY

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ABSTRACT

As in ongoing era of technology and automation, we have major roles lined up with Home Automation Appliances. These smart devices have to be connected with home area network for connectivity and data exchange in order to perform tasks they are meant for. Due to these interdependencies, our network as well as connected devices becomes prone to various cyber-attacks. Domotics has made our lives much simpler and easier but along with its countless benefits, need of security in domotics is still underestimated. Smart homes are not smart enough to protect us from the threats we face in our private lives due to security loopholes in various automated devices. This paper will cover major threats to our privacy and new security challenges, along with existing security supports and mapping these threats with some good practices.

Keywords- *Domotics, Smart Home Automation, Security, Privacy, IOT.*

INTRODUCTION

There is an increasing demand for smart homes, where appliances react automatically to changing environment conditions and can be easily controlled through one common device. Home appliances can be accessed via a remote device such as mobile phone or palm-top(pc) to allow a home owner to control, monitor and co-ordinate home appliances. Generally, a common home automation system contains a remote host controller and several client module (home appliances). Smart home automation is a prime example of a smart environment built on various types of cyber–physical systems generating volumes of diverse, heterogeneous, complex, and distributed data from a multitude of applications and sensors.Domotics is known to improve our everyday life, and help the elderly to remain safe and independent. All due to domotics(e.g., smart homes, lighting, communication, and sensors), household devices (e. e. g., washing machines, refrigerators) and the items they use (e. light bulbs, computers) and the things they consume are all inter-connected. It is possible to view, use, and control these integrated technologies to meet the needs of the SH user despite increased availability of SH technologies among end users, today's level of usage lags [17],

[18]. Though, very less research is done on security and privacy of users in home automation environment.

Need For Security

Security in design is crucial for preventing, as well as, moderating the threats posed at IoT-connected homes, especially in terms of malware mitigation, access control, and disclosure of personal information. It must also be taken into account that the smart home system typically belongs to an ecosystem of vendors, users, systems, etc., and that the potential cyber-attacks surfaces thus increase in number while they at the same time become increasingly physical. In smart home systems, a lot of data is in flux. As this data typically is generated by the user, or on behalf of the user, a large extent of it must be assumed to be personal, thus sensitive. With the dynamicity of smart homes, i.e., the configuration of system-connected devices changes over time in ways that may be difficult to predict, it is crucial that this aspect is taken into account at an early stage of the system development.

Need For User- Privacy

A highly relevant area to explore in smart homes is the risks to user privacy. While more and more parts (and devices) of the home are connected to the Internet, users, as well as, various stakeholders can get access points to the whole system (i.e., the home), and not just to separate devices. This means that not only physical devices may be connected, but also that these devices, and the various stakeholders behind them, may get access to the smart home information in flux. A major challenge then is to find effective ways to provide users with a comprehensive picture of the entire system, and an indication of the sensitivity of data in transit, while also supporting the management of the home.

THREATS TO DOMOTICS

Domotics and its automated devices and services are actually prone to various threats. Whilst the presentation and classes of threats range from analysis to evaluation, the final results of this assessment confirmed that the content stays identical, that almost all threats observed in those assets are reserved. Accordingly, the subsequent threats businesses are nevertheless applicable:

Device Hijacking	• Difficult to detect as it doesn't alter basic functionality of device • it takes one device to re-infect all smart devices in the network. • Countermeasures- Device identification and access control, Security lifecycle management.
Distributed Denial of Service (DDoS)	• DoS attack makes network resource unavailable by disrupting services of a host. • DDoS attack floods the network traffic, making it difficult to stop cyber offensive. • Countermeasures- Security monitoring and analysis
Permanent Denial of Service (PDoS)	• Also known as Phlashing. • PDoS attack damages so badly that it requires replacement or re-installation of device. • Countermeasures- Authentication, encryption, application level
Data and identity theft	• Data generated by unprotected appliances provide cyber attackers with personal information. • This leads to fraudulent transactions and identify theft. • Countermeasures- Authentication, encryption and access control.
Man-in-the-middle	• An attacker breaches and interrupts communications between two systems. • attacker can disable HVAC systems during a heat wave, creating a disastrous scenario for service providers. • Countermeasures- Authentication, encryption and Security lifecycle management.

Figure 1:Threats in Domotics and their countermeasures.

SECURITY IN DOMOTICS

Security is quite possibly the main parts of any framework since it shields the framework from any dangers, regardless of whether inside or outer. Most consequential aspect to be look after in domotics is said to be security, so as to protect the privacy of the automation devices users [1].

Architectural layers of IOT based Domotics

Let us know about the architecture of IOT's Domotics framework and present an overall depiction of its layers [9]. Here, architectural framework of IOT-based domotics is discussed. The three layers are as follows- 1.Perception layer, 2. Network layer, and 3. Application layer. [9] [2] [3].

Figure-2 Architecture Layers Of IOT Based Domotics

PERCEPTION LAYER
- Also known as sensing layer.
- Responsible for data collection.
- Sensors collecting data must ensure accuracy & privacy of data.

NETWORK LAYER
- Responsible for moving collected data to application.
- Moving process takes place through bluetooth,wi-fi, zigbee, etc.
- Sensors opts for wireless technology for transfering data.

APPLICATION LAYER
- Collected Data finally reahes application.
- Devices in this layer directly communicate with end-users.
- Devices which acts as an interface between end-user & this layer are laptop and smartphones.

Security issues and solutions in Perception layer

Issues and kind of attacks faced by this layer are as follows: firstly, the changing dynamics in IOT topology[3] [5], secondly, sensors used must be detected as they are prone to various attacks such as physical access or code-injections[6] [4].

Security measures for this layer could be complex because of factors like low energy and less storage capacity, but not difficult considering few requirements ensured to be fulfilled in order to implement these measures. Measures that could be taken at this layer follows- 1.Authentication for all devices and sensors lying under this layer. 2. For data confidentiality, encryption technique is must. 3. Insubstantial techniques must be used in used in order to cope up with less storage and low energy devices [2] [3].

Security Issues and Solutions in Network layer

The main security concern for this layer are said to be, first, congestion control on this layer i,e; coping-up with reasonable amount of data to be fetched[2] [4],second, consolidation of data, authentication and authorization for various sensors on this layer along with RFID related issues[7].

To overcome above said issues that might occur in this layer, various interactable security methods and techniques such as. Anti-DDOS and IP-Sec can be considered. Various authentication, authorization and encryption techniques can be opted for achieving a level of security on this level [2].

Security Issues and solutions in Application layer

This architectural layer of IOT based domotics comprises of various threats to security as it is directly associated with end-users. The threats that this layer might face are- first, unauthorized users may stole various personal data by various hacking methods[4], second, few of many pending errors might create Cascading effect, which may result in affecting other component and layers of domotics framework [7].

Data theft and inconsistency issues in this layer might be solved by opting various data privacy techniques and by applying different authentication and authorization methods[2] [4].

New security challenges in Domotics
With the coming era of technology domotics industry might face few brand new challenges as follows:

I.   Domotics industry might face great pressure of meeting high end privacy for their users than in usual IOT devices. Privacy risks might also increase with time, also keeping privacy of data for users might cost too high for the industry.

II.   Domotics industry might need to pay more emphasis on integrating safety concern of their client specified to their house. For example the loss of control of a thermostat, a smoke detector or a CO2 detector might have consequences on the user safety.

III.   Domotics industry must keep in view the point that security attacks on connected devices are not just a hypothesis but matter of concern to be taken seriously and dealt with. For example, a smart lock or safe is a security product and must be designed to sustain a cybersecurity attack. Companies selling security devices are often unaware that the "smart" part of the device can be easily prone to cyber-attacks and rely too much on the physical part of the device.

IV.   Also point to be considered for future is enhancing storage space and access speed for various devices that stores heavy data such as images or videos.

Blockchain for Security in Domotics.
The main motto of domotics industry is to provide its clients with home automation system that offers security and privacy and is trusted with secure identification and authentication of connected devices in a network. And to gain trust of their user, domotics industry can optBlockchain technology hand in hand for more secure home automation environment. Here we will discuss blockchain technology for domotics briefly.

Blockchain technology was introduced by Nakamoto in 2008[14]. Blockchain technology is known for its confidentiality, secrecy, suburbanized nature[15].

Blockchain uses Hash technique to secure nodes with its network. While connecting devie to the network, a connectivity request is generated. To check whether request is authenticated sequence in figure 3 is opted for. After creating a block, a hash will be generated. When a hash is created, the next step is to store the generated blocks. At the final step, validation of the blockchain will be performed to check whether the hash is equal to the calculated hash. If it is true, then the block is valid and access is granted; otherwise, the whole process is repeated.
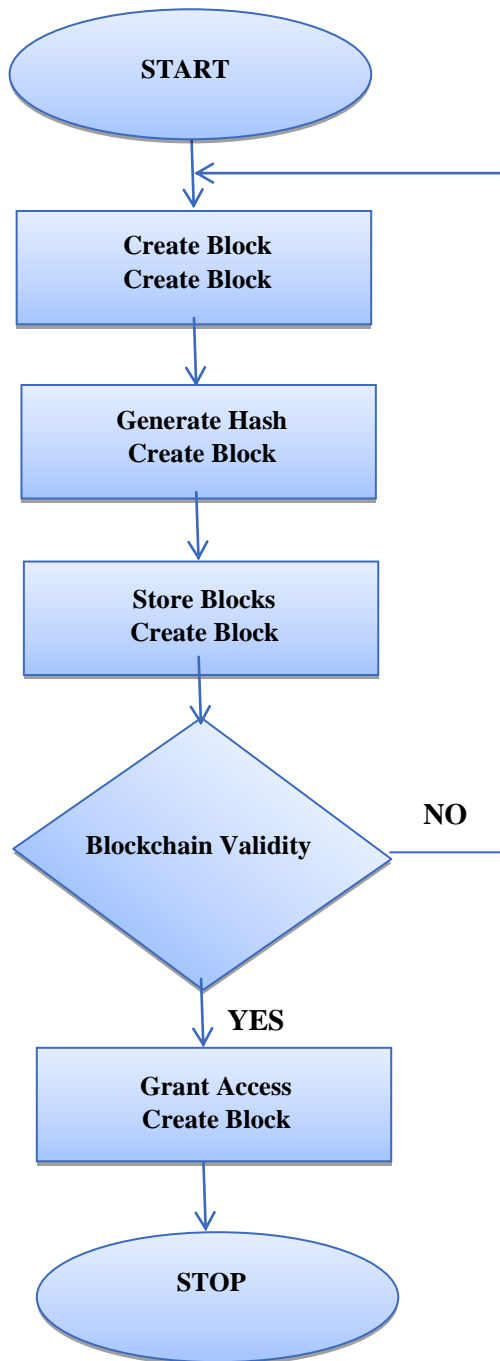
Figure 3: Flowchart of Blockchain implementation in the proposed approach.

CONCLUSION

In this research paper we have tried to bring light on various upcoming issues related to security and privacy of Home Automation device users. Various threats to home automation system and its network along with solutions to thretas discussed. Architectural layers in domotics requires much more security measures as it sends and receives data in one format or other. Security and Privacy is most important and every citizen has right to it. Also, tried to bring few countermeasures and a technology called Blockchain in vital knowledge of all.Blockchain is very progressive and of great importance technology, it has a great future ahead and is of great use for domotics industry.

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MANAGERS' PERSPECTIVES ON THE ETHICAL INCLINATION TOWARDS NEW PRODUCT DEVELOPMENT: AN EMPIRICAL ANALYSIS

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ABSTRACT

Purpose: The study looked at the impacts on new product development from an organisational standpoint. The study concentrated on the ethical effects and pressures exerted by external sources in the organisational domain for new product development. The study focused on management perceptions as the driving force behind the phenomena and its contextual inclusion.

Design/methodology/approach: The study drew on a sample of 100 managers from companies in the manufacturing and service sectors in the North Indian industrial centre of Chandigarh. The study used judgemental sampling and SPSS-based methods to analyse data gathered from a Likert-based measuring instrument.

Findings: The research observed that humane inclination, responsibility inclination, moderation inclination and justice inclination as well as stakeholder-based pressures and mimetic pressures as driving the impact on the intra organizational development of ethical climate for new product development which in turn was observed to strongly influence the marketing performance-based perceptions.

Value/originality: This study provides unique insights into team members' managerial preceptions on new product development in the Indian context.

Key words: Ethical climate, Mimetic Pressures, Managerial perceptions,New Product Development, Marketing performance

Paper type: Research paper

Introduction

"Ethics" in "product development" and ethical approach to product marketing figure prominently across the renowned literature on the subject matter. The approach essentially involves the consistent and renewed focus on incorporation of stringent ethical approaches in conceptualization, development, design and marketing of products. The on-going debate seems to contrast ethical practices with unethical practices leading to influences on sustainability and eco-friendliness of

product development. A review of literature eon sustainable product development reveals that strategic product development cannot remain non-aligned with the evolving interests of stakeholders, changing aspirations of consumers and respective changes in government regulations. The subsequent rise of ethics and ethical viewpoints has a lot in common with transitions in managerial mindsets (HUHTALA, Kangas,Lamsa,Feldt, 2013) with regard to ethics and sense making. Managerial notions of being humane in approach, of being responsible towards society and environment in decision making; managerial mindsets of being justified bears a lot in common with managerial notions to incorporate ethics in product development. A study (CACIOPPE, Forster, Fox, 2008) across European middle sized organizations revealed the incidence of managerial mindsets as driving the thrust for incorporation of ethics in decision making (SIU, 2008) that impact product and process innovation (KARANDE, Rashid, 2000) and improvements (VALTONEN, 2006). The expected influence (LARSSON, 2006) of ethics adoption has been observed across product development efficiency (SAMSON, 2001) as well as effectiveness in delivering the innovations (CARUCCI, 2016) to the market. Such a research on Indian managerial mindsets, perceptions and opinions could offer insights into the consideration of ethics in day to day decision making. Hence this research could be distinct in the aspect that ethical perceptions of Indian middle ranking managers would be explored for the impact that they could exert on the prevalence and development of climate for product development in the organizations in Indian perspective. The research offers the unique insights into the managerial perceptions of team members with regard to new product development in Indian scenario.

Research Objectives

- To categories the elements influencing managerial perspectives of corporate ethical inclination and the prospective atmosphere for new product development.

- To comprehend the interrelationships between the elements that may influence the atmosphere for new product development.

Literature Review

The current research hence extends the resource based view of the phenomenon that is contextually determined and postulates that firm based capability to incorporate ethics and create ethical climate for product development, borrows extensively from the managerial thinking (SAMSON, 2001) and perceptions on the subject matter. The organizational dynamic capabilities (TEECE, 2007) to engage in faster incorporation of these ethical issues and perspectives seem in line with recent literature (AUGIER, 2009) on the subject matter. The research within the broader framework of contingency frameworks and resource based perspectives; explores likelihood of impact of managerial cognitions (AMBROSINI, Bowman,Collier, 2009) and mindsets (HELFAT, 2014) with regard to ethics as part and parcel of organizational inclination and as influencing the overall spectrum of product (MATYSIAK, Rugman,Bausch, 2018) and process design, development and respective commercialization (CARUCCI, 2016). The research hence positions across the contemporary focus on the ethics as becoming part of decision making and concentrates on the literature on probable competitive advantage (BARNEY, 1995) that could possibly emerge from such an ideology.

The research also borrows extensively from the ideology that managerial thinking is an asset (BARNEY, 1995) which ultimately possess the ability to influence outcomes, performance as well

as the positioning of firm across competitive matrix. The hypothesis hence mentioned here distinguishes four distinct type of organizational influences that could possibly shape the ethical decision making prospects with regard to product development, product innovation and overall compatibility decisions. The aspects namely the intra organizational "humane inclination", "responsibility inclination", "moderation inclination" and "justice inclination" as perceived by managers could possibly shape the contextual conditions under which decision is undertaken. These aspects of "ethical thinking" have been observed to possess the ability to shape the prospects for product transformation. The research hence contends that the "humane inclination", "responsibility inclination", "moderation inclination" and "justice inclination" as perceived by managers; could prove to be great asset in ethical considerations. Along with factors "mimetic pressures" and "stakeholder pressures"; the four distinct aspect of organizational ethical inclinationcould be considerable in influencing the "ethical climate" for product marketing, design and development and research.

a) Humane inclination

"Humane Inclination" as a factor seems to contribute substantially towards the development of ethical understanding and ethical consideration of the issues that product users and product supplier face. As per GLOBE[1] program, the factor as operationalized in organizational context (MACZYNSKI, 2010) means that organizational decision making caters to encouraging and rewarding the ideas that lead to fair, altruistic, caring, generous (HOUSE, 2004) and being kind to ecology. In a study across middle ranking Polish managers (MACZYNSKI, 2010) it was deduced that the extent to which organizational work force was encouraged to be fair, to be altruistic and to care for the environment and ecology; more was the constructive impact on the ecological acceptance and ethical marketing of the products. The organizational promotion of virtues and concern for human values (CACIOPPE, Forster, Fox, 2008) seem to exert positive impact on the development of ethical climate (LARSSON, 2006) for the product development. Hence the research considers the hypothesis as:

H1: There is significant relationship between managerial perceptions of "Humane Inclination" and "ethical climate for product development"

b) Responsibility Inclination

"Responsibility Inclination" as a factor seems to contribute substantially towards the development of ethical climate in other ways and means. A study (WANG, Satow, 1994) across Chinese organizations lead to reflections on employee perceptions of the responsibility being operationalize in decision making processes. The study (WANG, Satow, 1994) further emphasized the crucial role of managerial perceptions of "responsibility" and shouldering "responsibility" in product related decisions and design aspects. The study observed that ethical consideration and being responsible to users and side effects seem to create positive and healthy decisional outcomes. Another study (CARD, 2005) on the subject matter underlined the individual aspects and thinking about responsibility as exerting impact on product design, ethical incorporation as well as consideration of ecological perspectives in product designs.Hence the research considers the hypothesis as:

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[1]Globe stands for Global Leadership and Organizational Behavior Effectiveness Research Program

H2: There is significant relationship between managerial perceptions of "Responsibility Inclination" and "ethical climate for product development"

    c) Moderation Inclination

"Moderation Inclination" as a factor seems to contribute substantially towards the creation of ethical considerations across product development and design. A study (MACZYNSKI, 2010) across Polish middle level managers indicated the presence of organizational directives on respecting diversity, adoption of moderating and balancing behavior, following humility as affecting product related and supply related decisions. In context of evolving organizational theories (DELMAS, Toffel, 2004) this is equivalent to saying that organizational openness to diversity, gender equality and cross cultural workforce; often leads to incorporation of strange and out of box ideas (VALTONEN, 2006) and opinions in strategy development. Such a tendency (MACZYNSKI, 2010) has been observed to foster an environment for creativity, respect for innovation and product based customization in long run. Hence the research considers the hypothesis as:

H3: There is significant relationship between managerial perceptions of "Moderation Inclination" and "ethical climate for product development"

    d) Justice Inclination

"Justice Inclination" as a factor seems to contribute substantially towards the development of ethical product development initiatives. The study (CACIOPPE, Forster, Fox, 2008)on the ethical and environmental justice being adopted across organizations and seems to possess drastic implications (DAYAN, 2010) for product development. Another study (CHARASH, Spector, 2001) explored the managerial perceptions of justice in line with product development and observed that the distributive, procedural and interactional justice (CHARASH, Spector, 2001) owes consequences for the marketing actions. A study (AKGUN, Keskin,Byrne, 2010) that procedural justice climate (DELMAS, Toffel, 2004) and managerial perceptions in new product development teams does impact the outcomes and marketing performances. Another study (HOOGH, Hartog, 2008) highlighted that the relationships of leader's social responsibility (SARIN, 2003) with different aspects of ethical leadership(morality, fairness, role clarification and power sharing) and despotic leadership (SIU, 2008). Hence the research considers the hypothesis as:

H4: There is significant relationship between managerial perceptions of "Justice Inclination" and "ethical climate for product development"

    e) Stakeholder pressures

"Stakeholder pressures" as a factor seems to contribute substantially towards the development of ethical values in product base. The studies (DELMAS, Toffel, 2004) elaborate extensively on the stakeholder pressure as dominating the adoption of ethics (CARD, 2005) in strategy building (DELMAS, Toffel, 2004) and strategic decision making with regard to product, supply chain management and overall management of affairs. Another study (SHARMA, 2000) highlighted the linkage between managerial interpretations (CARD, 2005) of environmental issues and corporate choice of the pro-environment strategies.Hence the research considers the hypothesis as:

H5: There is significant relationship between managerial perceptions of "Stakeholder pressures" and "ethical climate for product development"

f) Mimetic Pressures

"Mimetic Pressures" as a factor seems to contribute substantially towards the copying of the changes that are being brought across product development stages by the respective competitor (KLECUN, Zhou, 2019) or other players in the industry. Such pressures (DAYAN, 2010) normally arise from the adoption of similar practices and protocols (SARIN, 2003) for product development (HOOGH, Hartog, 2008) across surrounding product manufacturers (AUGIER, 2009) or across supply chain partners. The information systems (NAMBISAN, 2003) and mimetic isomorphism (TINGLING, 2002) also seem to act across team environment. Hence the research considers the hypothesis as:

H6: There is significant relationship between managerial perceptions of "Mimetic Pressures" and "ethical climate for product development"

g) **Proposed conceptual model:** A conceptual model for this study has been constructed considering the aforementioned literature review and the hypothesised relationships, as shown in Figure 1.
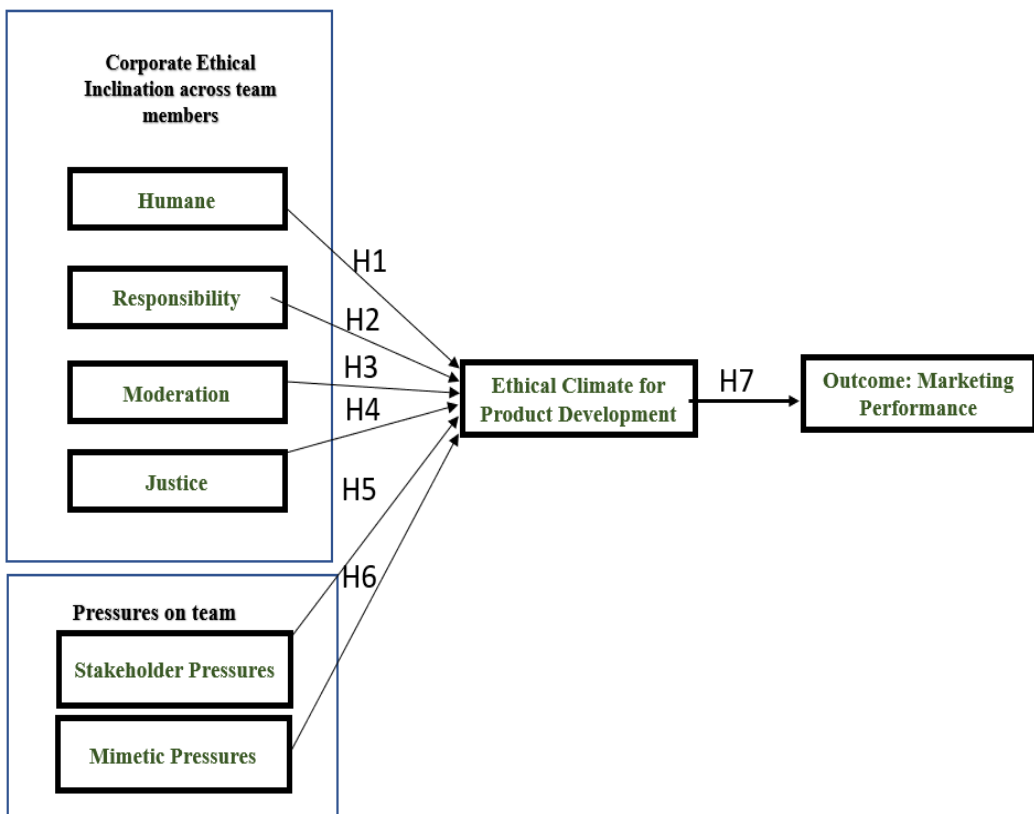

Figure 1. the conceptual model

4. Methodology

The survey data was collected with aid of pre-validated likert based scales in order to examine the hypothesis statements as assumed. The middle ranking managers were considered as the ideal segment to address the impact of perceptions on development of ethical climate for product development in Indian enterprises. Before the process of initiating this survey exercise, the possible factors were shortlisted and discussed across academicians to choose the ones that most likely represent the ground aspects. The factor "humane inclination" was operationalized with aid of sub scale items "Organization treats employees with dignity and respect", "Organization is caring and pays attention to our personal needs ", " Organization takes times to discuss and talk about work related emotions with employees", " Organization is genuinely concerned about employee's personal development", " Organization do sympathizes with employees when they have problem". The factor "responsibility inclination" was operationalized with aid of sub scale items "Organization cares about the surrounding environment and encourages recycling", "Organization shares long term focus on success, concerns about the welfare of future generation", "Organization puts the interests of society above those of the organization", "Organization shows concern for sustainability issues", "Organization would like to work in an environment friendly manner". The factor "moderation inclination" was worked with aid of sub scale items " The organization has modest attitude", "Organization always ensures that each employee is being offered the responsibility to shine", " Organization does not encourage extreme objectives, behaviors, ideas", "Organization accept diversity and differences". The factor "justice inclination" was worked with aid of sub scale items "Organization treats all in a way that is equal and right", "Distributes the work to all employees fairly", "Organization never held employees as responsible for the things that are not their fault", "Organization never pursues success at the expense of others or at expense of environment", "Organization makes just decisions". The factor "stakeholder pressure" was worked with aid of sub scale items "Organization faced environmental pressure from suppliers", "Organization faces environmental pressure from shareholders", "Organization faces pro-environment pressure from customers", "Organization faces pro-environment pressure from social groups and communities", "Organization faces environmental compliance based pressures from financial institutions". The factor "mimetic pressure" was worked with aid of sub scale items "Organization follows the benchmarks and standards set for market and ethics ", "Leading companies in the industry are known for practices on ethics that promote ethics and corporate social inclination", " Leading firms in the industry have worked on ways and means to reduce their loopholes", "The industry has trade associations that encourage the firms to opt for ethics and eco friendliness sin product development and marketing" , "Being an integrated player with ethics management is a concern for the enterprise". The factor "ethical climate for new product development" was operationalized with aid of sub scale items "We focus on incorporation of natural, eco-friendly ingredients, inputs and supplies in order to project pro- environment image", "We have increased the scope for safe recycling of the products by consumers", "We have moved towards conceptualization and design of products that are comparatively more environment friendly", "We have modified and extended the eco-usage instructions in the packaging and disposal of packaging", "We have extensively reduced the proportions of processes that are non-environment friendly". The factor "marketing performance" was operationalized with "The business unit's overall performance has increased", "The business unit's market share has increased in primary markets", "The percentage of sales generated by this new product has increased vis a vis competitor products", "The business unit's

sales growth is more relative to major competitors", "The business unit's product adoption has increased".

The data for aforesaid study was collected from 100 small to medium sized firm based managers across Chandigarh Capital Region. The study relied on judgmental sampling methodology to collect the data. The study leveraged the SPSS based dimensional validity analysis and reliability analysis to yield the usability of data. The study incorporated the model-fit across structural equation modeling and vindicated the aforesaid hypothesis. The managerial perceptions of "humane inclination", "responsibility inclination", "moderation inclination" and "justice inclination", "stakeholder pressures" and "mimetic pressures"; were further evaluated for cross relationships. The hypothesis statements were tested with AMOS for linkages.

5. Data Analysis

Sub scale Statements	Item	EFA	Alpha
HO: Humane Inclination(Adapted from (EISENBEISS, 2012)			0.885
Organization treats employees with dignity and respect	**HO1**	.792	
Organization is caring and pays attention to our personal needs	**HO2**	.762	
Organization takes times to discuss and talk about work related emotions with employees	**HO3**	.825	
Organization is genuinely concerned about employee's personal development	**HO4**	.785	
Organization do sympathizes with employees when they have problem	**HO5**	.789	
RO: Responsibility Inclination(Adapted from (EISENBEISS, 2012)			0.918
Organization cares about the surrounding environment and encourages recycling	**RO1**	.863	
Organization shares long term focus on success, concerns about the welfare of future generation	**RO2**	.855	
Organization puts the interests of society above those of the organization	**RO3**	.858	
Organization shows concern for sustainability issues	**RO4**	.786	
Organization would like to work in an environment friendly manner	**RO5**	.816	
Organization would like to manufacture in ecology friendly manner	**RO6**	.823	

MO: Moderation Inclination (Adapted from (EISENBEISS, 2012)			0.889
The organization has modest attitude	**MO1**	.728	
Organization always ensures that each employee is being offered the responsibility to shine	**MO2**	.872	
Organization does not encourage extreme objectives, behaviors, ideas	**MO3**	.795	
Organization accept diversity and differences	**MO4**	.720	
JO: Justiceinclination (Adapted from (KALSHOVEN, 2011)			0.893
Organization treats all in a way that is equal and right	**JO1**	.848	
Distributes the work to all employees fairly	**JO2**	.810	
Organization never held employees as responsible for the things that are not their fault	**JO3**	.813	
Organization never pursues success at the expense of others or at expense of environment	**JO4**	.777	
Organization makes just decisions	**JO5**	.779	
SP: StakeholderPressure (Adapted from(BENITO, 2015)			0.905
Organization faced environmental pressure from suppliers	**SP1**	.903	
Organization faces environmental pressure from shareholders	**SP2**	.830	
Organization faces pro-environment pressure from customers	**SP3**	.847	
Organization faces pro-environment pressure from social groups and communities	**SP4**	.783	
Organization faces environmental compliance based pressures from financial institutions	**SP5**	.828	
MP: MimeticPressure(Adapted from (KLECUN, Zhou, 2019)			0.954
Organization follows the benchmarks and standards set for market and ethics	**MP1**	.821	
Leading companies in the industry are known for practices on ethics that promote ethics and corporate social inclination	**MP2**	.774	
Leading firms in the industry have worked on ways and means to reduce their loopholes	**MP3**	.711	

The industry has trade associations that encourage the firms to opt for ethics and eco friendliness sin product development and marketing	**MP4**	.890
Being an integrated player with ethics management is a concern for the enterprise	**MP5**	.922
EC: Ethical Climate for New Product Development (Adapted from (PUJARI, 2006)		0.898
We focus on incorporation of natural, eco-friendly ingredients, inputs and supplies in order to project pro- environment image	**EC1**	.856
We have increased the scope for safe recycling of the products by consumers	**EC2**	.809
We have moved towards conceptualization and design of products that are comparatively more environment friendly	**EC3**	.774
We have modified and extended the eco-usage instructions in the packaging and disposal of packaging	**EC4**	.750
We have extensively reduced the proportions of processes that are non-environment friendly	**EC5**	.785
MAP: Marketing Performance (Adapted from(MATSUNO, Rentz, 2000)		0.924
The business unit's overall performance has increased	**MAP1**	.664
The business unit's market share has increased in primary markets	**MAP2**	.772
The percentage of sales generated by this new product has increased vis a vis competitor products	**MAP3**	.699
The business unit's sales growth is more relative to major competitors	**MAP4**	.636
The business unit's product adoption has increased	**MAP5**	.678

6. Findings

The research hence positions across the contemporary focus on the ethics as becoming part of decision making and concentrates on the literature on probable competitive advantage (BARNEY, 1995) that could possibly emerge from such an ideology. The resultant marketing performance matters and is being viewed as an outcome of the prevailing ethical climate in the organization for product innovation and product design. The study based outcomes further point towards the substantial impact of the "ethical inclinations" and "pressures" on the shaping of ethical climate for product design. The study further observed the incidence of "humane inclination" as exerting 0.232 .times influence on "ethical climate for product design", "responsibility inclination" as exerting

0.145 times influence on "ethical climate for product design", "moderation inclination" as exerting 0.210 times influence on "ethical climate for product design" and "justice inclination" as exerting0.153 times influence on "ethical climate for product design". In terms of pressure, the "stakeholder pressures" as exerting 0.145 times influence on "ethical climate for product design" and "mimetic pressure" as exerting 0.168 times influence on "ethical climate for product design". The factor "ethical climate for product design" was observed to be positively influencing the "marketing performance". The factor "ethical climate for product design" was observed to lead to 0.478 times change in the firm based "marketing performance". In nutshell, it can be concluded that the ethical inclination and pressures from outside the organization; are bent on shaping the climate for product development as well as possess consequences for marketing performance. The aforesaid data model fit indices were observed to be CFI as 0.968, NFI as 0.923 and TLI as 0.963 with RMSEA of 0.050 and CMIN of 1.653. These data model indices reflect satisfactory achievement of data fit across the assumed model.

The research observed the incidence of the subjective impact of climate on the market performance of the firm in question. The research also borrows extensively from the ideology that managerial thinking is an asset (BARNEY, 1995) which ultimately possess the ability to influence outcomes, performance as well as the positioning of firm across competitive matrix. The findings of the current research reflect and built upon the earlier studies (AKGUN, Keskin,Byrne, 2010) that procedural justice climate (HUHTALA, Kangas,Lamsa,Feldt, 2013) and managerial perceptions (BANERJEE, 2015) in new product development teams does impact the outcomes and marketing performances.

Implications

Mangers are seemingly under pressure for incorporation of ethics, pro-environment approach and eco-sensitivity in product design (AMBROSINI, Bowman,Collier, 2009), attribute decision making and respective development and commercialization phases. The managerial perceptions of environment sustainability of products, ecological contents embedment across product and pro-environment approach in product commercialization; has been advocated. This research seems to provide meaningful insights into the role of managerial perceptions of ethics and environment approach in shaping the notions of ethical climate for product marketing (BANERJEE, 2015) in organizational domain. The research could contribute towards enhancement of firm based capability (BARNEY, 1995) in seeking better and optimum alignment with natural and environmental concerns (HOOGH, Hartog, 2008) while product design. The research further offers numerous benefits in terms of product quality improvement (BOON, Paauwe,Hartog, 2009), enrichment with natural ingredients or supplementation with pro-nature components. The data showed the tendency to reflect on the ethos of the perceptions (BANERJEE, 2015)and managerial trust (DAYAN, 2010)as shaping the production. The research captures the managerial awareness of the contextual influences and prospects of institutional fit (BOON, Paauwe,Hartog, 2009), that could drive next line of innovation in organizational perspective. Given the rise in sensitivity of environment approach (KLECUN, Zhou, 2019), such a research could be fruitful in understanding the aspects that could possibly shape the impetus for change and strategic evolution of change (CARUCCI, 2016). The future will consistently call for incorporation of environment sensitivities (CARD, 2005) and capabilities in leveraging the internal strengths in the market place. There is ample theoretical evidence for the managerial cross functional perceptions (MEUER, Bretel,Flatten, 2014) and ethical inclination with regard to new product design.The research also provides support for earlier studies

(CARD, 2005) on impact of institutional contexts and need for incorporation of socially sustainable (HUQ, Stevenson, 2018) product design practices.

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DIGITAL FINANCIAL LITERACY: OPPORTUNITIES AND CHALLENGES IN RURAL INDIA

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Abstract

The world is stepping into a new digital era, where digitalization is the need of the hour. This digitalization is into various sectors like education, manufacturing, health care, financial services etc. When it comes to digitalization of financial products and services, one thing which comes to mind is about digital financial literacy which has become a global policy making agenda (OECD, 2018). The G20 has paid special attention to the opportunities and challenges that digital financial services present for both existing and new financial product users.

Digital technologies are becoming more interwoven into the economy, and they're having a big impact on the financial industry by bringing new products, services, and providers to the market. With the increase in mobile connection, this technology is increasing day by day. The spirit of today's India is digitalization. The government is putting many efforts for digital India and launched a number of programs to promote Digital India. Digital financial literacy helps users to make an easy and safe transaction. People from urban areas with this technology somehow help themselves for easy and sound transactions. But India has one major population which resides in rural areas, this vulnerable population lacks literacy in digital communication. Light has been thrown on rural digital financial literacy, about their awareness and access to digital communication. What opportunities and challenges are they facing? Rural India is also contributing in Indian economy. It would be interesting to know about their current digital knowledge and use of that knowledge.

Digitalization is becoming broader day by day, and with-it is complicated to deal with it. Digital financial literacy is the key aspect to understanding and resolving these issues. It is a mid way between digital literacy and financial literacy. A new wine in an old bottle.

Keywords: *Digital financial literacy, Digitalization, Digital practices, Rural India, financial literacy*

INTRODUCTION

If we look upon the financial world, then one thing is certain and that is gradually things are changing. What it was a century back has been changed a lot today. 10 years back a person had to go to the bank and withdraw money by filling a form. But today it is one click away and you will get money anywhere in the world. This is what digitalization has done to our economy. It is the process of transforming information into digital, which makes things much easier. With digitalization the world is going to new heights.

India will not lag behind the race, from withdrawing money to loan payment today everything is digitalized. Presently India is ranked 49th in inclusive internet index 2021 (Arora, 2021). Digital India launched in 2015 by the PM whose main motive was to make every citizen capable of doing transactions digitally. Yet it is an old saying that to get something we have to lose something. Same with the case of digitalization, one needs to understand the basics of the digital world before it will come to a practice. In India digital practices are not well used, and the major issue for not practicing digital technology is due to absence of knowledge and skill. This is how they use their financial information to get full advantage of digital technology. Financial digital literacy is the key ingredient of this recipe and without this, it would be tasteless. Later on, November 2016 demonetization hit Indian economy, digital financial literacy became the need of the hour. Cashless transactions are a requirement of the nation, and use of digital transactions becomes a compulsory requirement of every citizen.

India is the third most populated country of the world, this population is divided mainly into two parts, urban and rural. Urban India is that part where technology, literacy, awareness is high and due to this reason urban people are more versed about technology and practice them. On the contrary rural is that part of India where awareness, more illiteracy, low economic status and above all less network of internet (Nedungadi et al., 2018). Rural people are less aware and have low practice of digital financial literacy. So, this part is an underprivileged part of India and their digital financial literacy should be research of interest, as how the country can increase their digital awareness so that they don't need any support for financial transactions. This research mainly focuses on two research questions.

RQ1: How much does the rural population of India practice digital technology?
RQ2: What are opportunities and challenges faced by rural India for digital financial literacy?

OBJECTIVE OF STUDY
India is an agricultural country, and agriculture is mainly done by rural people of the country. These people mostly rely on cash transactions, as many of them do not even have a bank account. This valluranable population has not even proper internet connection, which is the basic requirement of digital transaction. Current study will throw light on how much this section of society is knowledgeable and aware about digitalization. Government has launched digital India, what opportunities and challenges rural people are facing for getting digitalized. Looking into the mirror, urban population and rural population differ in many ways like infrastructure and development, socio-economic condition, literacy level etc. Rural population basically depends on agriculture or small businesses, a handful of people work in offices. If digitalization is the main motive of India which is globally known, then what privileges and difficulties faced by this segment of society would be a major area of interest.

RESEARCH METHODOLOGY
The data is collected through secondary sources. The secondary data was collected through the government reports, journals, news articles and information available on the internet etc. For the study more, emphasis is given on the government data, official website notification and circulars since it is more reliable.

LITERATURE REVIEW

Digital financial literacy is a combination of two terms: digital literacy and financial literacy (Tony and Desai 2020). Digital literacy is knowledge, awareness and skill to use digital information whereas financial literacy is knowledge, awareness and use of financial information. Both aim is to increase human knowledge and make their life easy. It's not like that financial literacy is just introduced in the market, it was coined years before in 1787, John Adams known as the founding father of financial literacy. The concept of financial literacy with evolution becomes digital financial literacy. Now with the knowledge of financial literacy, digital financial literacy is a trend people need to be guided about (Gupta, 2019). Although branches of digitalization spread into rural areas, not much of it has an effect due to inefficient digital financial literacy. Indian people think the requirement of digital financial literacy is an adult's need but it is the requirement of an old person who is unable to go to the bank for any cash transaction.

This is for sure that the rural sector is a big chunk of Indian economy (Thomas and Krishnamurthy, 2017), so it is in the country's development. But looking into the mirror, rural people are still counted in the primitive part. Their literacy is low and also, they are being exploited by one or another. Although Government's efforts for making India digitalized, rural population are not adopting digital financial services. The main reason for this is digital illiteracy, not trusting in technology, inability to use smart phones and inferior internet connectivity (Modi, 2021). People of rural areas are less aware of digitalization (Bhatt, 2020), which gives a clear picture that for this awareness they should be literate and have sound knowledge of technology. Digitalization has proved to be a revolution to Indians. However, due to various factors, it could not affect rural India. Rural India contributes around 46% to National income which is commendable but unfortunately illiteracy, low skill development, digital poverty etc. are making challenges in rural road to growth (Kumar,2021). Rural segment who are better known as an underdeveloped part of India, reasons could be many but how they themselves eliminate this darkness from their life the one answer is Literacy and when talking about Digital financial literacy answer is financial literacy. India has a long way to go to a cashless economy, although cash is an important means of transaction due to lack of alternatives, universally acceptable and no transaction cost (Irani, 2020). Government is pushing to increase digital awareness but cash still is favored mode of transaction in Rural India. Also, the government has an important role in designing an enabling regulatory environment and encouraging regulatory protection and education (Klapper and Singer, 2017), which will give a shape to digitalization.

IMPORTANCE OF DIGITAL FINANCIAL LITERACY

Literacy of any kind is important and useful for a common man. Be it numerical literacy, health literacy, financial literacy or digital financial literacy. In today's world digital financial literacy is an important aspect for the digital age (Morgan, Huang and Trinh, 2019). Talking about money, the most essential thing of human life, money is required for our day to day life. However, smartly dealing with money is a human challenge. People often end up in a miserable life with mismanagement of money.

Gradually this money is digitalsing globally. Now-a-days an individual should have knowledge of digital literacy as well as financial literacy; combining both will give birth to digital financial literacy which will help people for better financial inclusion. So, in many ways digital financial

literacy is a must for an individual. Organizations and agencies throughout the world, such as the OECD, UNESCO, and the European Commission, have been striving to develop frameworks for defining and quantifying digital literacy in a range of digital settings and mediums (e.g., internet, computer, mobile phones, tablet, various digital platforms and digital applications) (Lyons et al., 2019: Lyons & Kass-Hanna, 2021). With the latest Covid-19 pandemic, the picture has shifted. Digital financial services are growing rapidly; presently, everything is done through mobile phones, computers, and other electronic devices (Lyons &Kass-Hanna, 2021). Lots of countries around the globe are not having high rates of literacy and most of the financial services are not framed according to illiterate (McCaffrey and Ahimbisibwe, 2015), which gives results to people who are not effectively reached with financial services. This is an urge for digital financial literacy which not only gives a clear picture of how to use digital technology for financial services but also acknowledges us for control over risk.

RURAL DIGITAL FINANCIAL EDUCATION STRATEGIES AND PROGRAMS

Every country designs a digital literacy framework according to the local population. Millions of Indians redefine and empower themselves with the help of education. Right to education is the priority in the constitution of India. Education is on the forefront in the national agenda (Pitroda, 2020). As it is clearly defined that India is divided in two parts-rural and urban. So, policies, campaigns, and projects are designed accordingly. Digital India launched by Pradhan Mantri Narendra Modi with a vision that every citizen of India should have digital knowledge, awareness and skill to use information for their growth. Apart from digital India, the government took many steps to give digital education to rural areas. Two major among them are DIKSHA and VISAKA (Prasad Meghwal and Dayama, 2018).

DIKSHA and for rural it is Pradhan Mantri Gramin Digital Sakshrtra Abhiyan (PMGDIKSHA) is an initiative to digitally literate one person in a family. This scheme would authorize rural citizens by giving training to operate electronic devices like computer, laptop, smart phones etc. rural people after this training can operate their emails, search any information, do digital payments and hence make them enable to use technology which help them and also make them participate in nation building. This scheme targets rural people and also marginalized people like Scheduled caste, scheduled tribe, women, poor people, minorities. Currently there are 379440 training centres across India which successfully give training to 41471725 (data changes from time to time). Scheme is a wonderful opportunity for rurals to achieve the goal of financial inclusion through digital mode.

Vittiya Saksharta Abhiyaan (VISAKA) an initiative of the ministry of human resource Development (MHRD). Basic purpose of this scheme is to give financial knowledge to people and to promote a cashless economy. It is beneficial to both the government as well as citizens to work collectively towards a cashless economy which will bring economic growth, transparency and also will remove threats to national security. It is one of the major works in the field of financial literacy spread all over India.

"Cash is king, but digital is divine." In its most recent assessment, the Reserve Bank of India (RBI) portrays India's financial structure in this way, reflecting the country's growing reliance on both cash and digital payments. RBI also put many strategies to achieve the vision of designing a financially aware and empowered India. According to National Strategy for Financial Education,2020-2025 is

to improve usage of financial services in a safe and secure manner. The National centre for financial education introduced financial education programs for adults (FEPA), it aims to provide basic financial education to adults of underserved areas especially rural areas. Rural bank staffs are trained to give information and help people to do digital transactions. Learning by doing is also another strategy to help rurals by encouraging them to do digital transactions which will remove fear of not being able to use digital transactions.

RURAL INDIA- AWARENESS AND ACCESS OF DIGITAL COMMUNICATION

Now the big question arises is whether rurals are very well versed with the concept of digitalization or else only strategies, projects, schemes are introduced just to show off. If we look upon the rural areas then the picture is clearer that due to many reasons' digitalization is not the cup of tea for them. Reasons could be anything, low infrastructure, less literate people, low internet connectivity, low economy status, low awareness for social and health (Nedungadi et al., 2018). These are hindrances in economic growth of individuals as well as the country. Rurals are not well equipped to utilize today's technology. Lack of awareness is the major reason which prevents people from taking suitable financial products and services (Grandolini, 2015). Access to digital communication is another big obstacle to rural economic growth. Some major reason are:

Broadband connectivity: Uninterrupted broadband connectivity will enhance digitalization. People will frequently use technology, but this is not the scenario of rurals. According to TRAI in March 2020 rural internet usage is more than 38% out of the total internet usage in the country, which increased from 32% in March 2017. In Spite of this increase, there is a digital divide between rural and urban areas. Internet penetration is 33% in rural areas which is very less as compared to Urban areas whose penetration is 99% documented in latest TRAI report. The ground reason for this low internet connectivity is rural infrastructure and awareness.

Nature of economy: Rural India contributes 46% of the national economy, which is a pretty good figure. Still most of the rurals believe in cash transactions as according to them it is the safest way of transaction (Singh and Malik, 2019). Most of the rurals are poor and earn a meagre salary, they do not have a digital platform where they wanted to keep and later use that money. As money comes and goes from their hand. So, it is useless to go to the bank or do digital transactions.

Fear of Fraud: Indians are popular for their saving behavior (Sundararajan, 2021), since their childhood they learn to save from family. Now when they think about going digital, they have to think twice who will care for their hard-earned money. They have fear of fraud and also their money gets drowned. Rurals are very conservative in nature, so they fear if someone will take or steal their money that worry will not make them go fully digitally. Digital transactions are far away saving for them.

Lack of Digital financial literacy: Last but not least, the most important factor which enables rurals use digital technology is lack of digital financial literacy (Nedungadi et al., 2018). Digital financial literacy gives awareness, knowledge and skill to use financial information for better financial inclusion. If rural people who live in remote or far flung areas will not learn then they will not get the perfect outcome. Rurals areas do not have a good source where people can trust and learn; sometimes difficulty to understand will lead to digital illiteracy.

CONCLUSION

The research proposes an overview of the importance of digital financial literacy for rurals.Without it rurals are clueless to have access to digital world, it's a first stone which should be turned off so that the path of digitalization would be smooth for them. Further research tells about programs and strategies of the government for rural digital financial literacy. Pradhan Mantri Gramin Digital Sakshrata Abhiyan which is the milestone for enhancing digital financial literacy of rurals gives training and knowledge of financial literacy which can be avail through many centres of DIKSHA. Another government project Vittiya Saksharta Abhiyan (VISHAKHA) imparts pure knowledge of finance through digitalization which means completely cashless transactions. RBI also makes strategies and implies those for the development of unprivileged.

In India the rural population is 66% which shows that rural population in India is more than urbans. Still rurals face many challenges to survive in the digital age, from poor internet connectivity to mostly illiterate who cannot even write their name. Digital India which is a wide spectrum of ray could not reach its periphery until it is known and used by everyone. Challenges could be many but to overcome those challenges should be the zeal of every citizen of the country.

Government brings many schemes, projects and strategies to increase the financial knowledge and skill of a single person. Globally digitalization is the need of the hour as Covid-19 has put its arms everywhere and people are confined to their houses. Digital transactions increased rapidly, to walk with the stream one has to increase their awareness and practice digital daily for a better and beautiful future. Government is doing their part but as a responsible citizen one should come forward and increase their area to boost up their knowledge and use of technology. Digital financial literacy is the key for all, so if Indians take charge of themselves. India is number two in browsing the internet (Jhonson, 2021), but still lagging in the global digitalization race. As individuals become aware, confident, knowledgeable and responsible, their level of potential to contribute and benefit increases, and this will not only aid human development but will give growth to the country as well as the whole world.

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IOT EXPLORATION, KNOWLEDGE EXPANSION AND DEVELOPMENT IN SMART CITIES

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ABSTRACT

The widespread use of Internet of Things (IoT) is allowing Smart City projects & efforts throughout globe. Electronic devices & protocol suites are being added to everyday objects in order to make them linked & connected to Internet. This makes it possible to build smart (or smarter) cities all over the planet. The internet of things has accelerated the development of smart city systems for sustainable living, enhanced comfort, and productivity for people by hosting various technologies and permitting interactions between them. The Internet of Things for Smart Cities spans several disciplines and relies on a variety of underlying systems to function. We give a comprehensive overview of the Internet of Things in Smart Cities in this article. Our cities will become smarter as result of these linked devices. Purpose of this article is to offer comprehensive overview of smart city idea, as well as its various applications, benefits, & advantages. This study builds on previous research on technology adoption by emphasising significance of social personality belief foundations for IoT adoption in context of providing citizen-centric services in smart cities. Systematic review studies were done to determine elements that promote IoT adoption & to highlight barriers to IoT diffusion in setting of smart cities. Several researchers have attempted to define & characterise smart cities & then identify opportunities & challenges in building smart cities.

KEY WORDS- *Internet of Things, Smart City, Social Personality, and Development.*

INTRODUCTION

Substructures & services have been required to meet needs of residents due to fast increase in population density inside metropolitan areas. As result, there has been remarkable rise of digital devices, such as sensors, actuators, smart phones, & smart appliances, which lead to huge commercial objectives of Internet of Things (IoT), because it is feasible to interface & communicate amongst all devices over Internet. Combining these digital gadgets was formerly difficult, if not impossible. Similarly, obtaining their knowledge is critical for day-to-day activity management &

long-term growth planning in city. Notion of "smart city" has gained lot of traction in scientific literature & international policy[1] This approach essentially harnesses slew of IT advancements that are slamming into us at breakneck pace in order to make cities smarter for people. About half of world's population lives in cities & urban regions. Over last few decades, urban population growth has had negative impact on number & quality of services given to people. goal of smart cities is to provide practical answers. Various government & private sector Smart City projects have resulted in deployment of ICT to discover sustainable, efficient, & effective answers to expanding list of issues that cities face. This paper provides overview of Internet of Things (IoT) in context of smart cities & discusses how IoT may improve city's smartness. We also outline flaws & hazards that come with IoT implementation & acceptance in smart city setting. These tools are being adopted in technology-driven & citizen-centric manner. In most cases, however, technology adoption & diffusion factors were investigated & comprehended from technology-driven perspective. With respect to particular character of technology implementation purpose & expected outcomes, less emphasis is placed on exploring citizen-centric element. [2]

INTERNET OF THINGS (IOT) FOR SMART CITIES

The Internet of Things (IoT) is broadband network that uses conventional communication protocols, with Internet serving as its convergence point. Internet of Things' main concept is pervasive presence of things that can be monitored & inferred, as well as change situation. As result, expansion of various items & communication equipment empowers IoT. Things in Internet of Things include smart devices such as smart phones & other amenities such as food, appliances, & landmarks that may work together to achieve common goal. Major feature of Internet of Things is its impact on people's lives. Because cabling for millions of sensors is costly, communication between sensors should be wireless under IoT idea. [3]
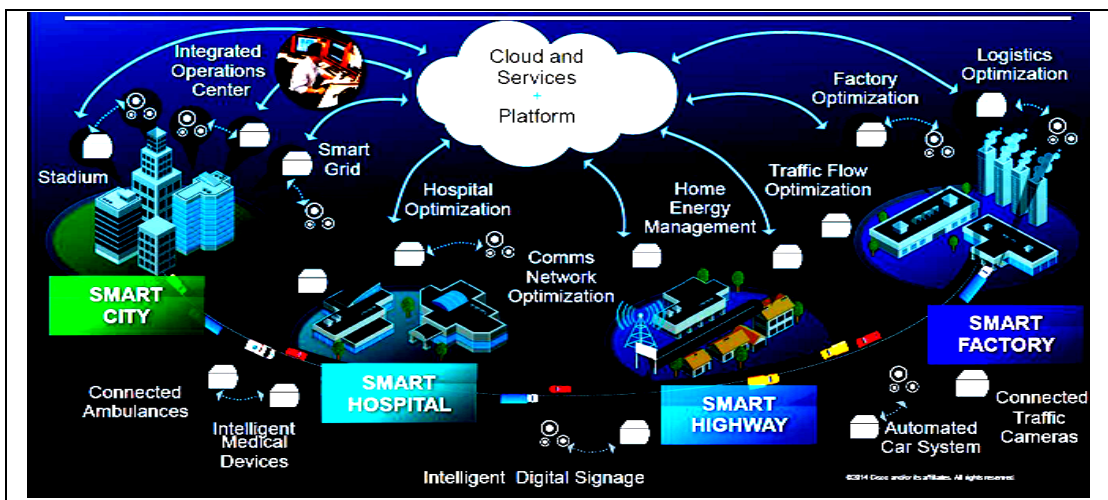

Figure 1: Smart city development

Low-power standard communication is ideal for connecting large number of devices. Some networks are introduced as follows, based on location & distance coverage.

1. Short-range protocols such as ZigBee, Dash, & Wi-Fi are used in home area networks.

The HAN connects all monitoring & control components in home.

2. Wide Area Networks enable communication between consumers & distribution utilities, requiring significantly more coverage than HAN & requiring fibre cable or broadband wireless connections such as 3G between customers & substations for deployment.

RADIO-FREQUENCY IDENTIFICATION (RFID)

RFID, which includes readers & tags, plays critical role in Internet of Things. To incorporate network connected with digital information & services, using technologies on each related item, achieving automated identification, & devoting single digital identity to any of things would be conceivable. RFID may be used in smart grids for variety of purposes, including item tracking & localisation, healthcare applications, parking lots, & asset management. Each tag may function as sensor since it contains not only manually entered data but also data such as environmental information. [4]

NFC (NEAR FIELD COMMUNICATION)

It is mostly used in smart phones for bidirectional short-distance communication. This range is generally measured in centimetres. Usage of NFC in smart phones also allows us to employ it in smart cities. One of its uses is to utilise smart phones with NFC as wallet, allowing us to use our smart phones as personal cards like bank cards, identity cards, public transit cards, & access control cards. NFC may also be used to exchange data across devices, multimedia, & documents because it is bidirectional. It is possible to modify state of items by monitoring their location by installing NFC in strategic place around house & creating interface with central controller, for example, turning on Wi-Fi when user returns home.

WIRELESS PERSONAL AREA NETWORK (WAPAN) WITH LOW RATES (LWPAN)

LWPAN is type of short-range radio technology that can communicate across long distances of up to 15 kilometres. This technology consumes very little energy & has battery life of around ten years. It enables low-cost & low-rate communication for sensor networks, according to IEEE 802.15.4 standard. It has physical & medium access level protocols on bottom two levels, as well as upper layer protocols like 6LoWPAN & ZigBee on top two tiers. [5]

WIRELESS SENSOR NETWORKS (WSNS)

WSNs make wide range of accurate data available & may be used for variety of purposes, including healthcare, government, & environmental services. Furthermore, WSNs & RFIDs may be used to achieve variety of goals, including obtaining data on location of persons & things, movement, temperature, & so on. Wireless sensor nodes with radio interface, analog-to-digital converter (ADC), several sensors, memory, & power supply make up WSN. Many components of wireless sensor node are depicted. Wireless sensor node framework describes several types of sensors that measure data in analogue format & convert it to digital data using ADC. According to data needs, several operations are performed on data through memory & microcontroller. Finally, radio interface is used to transfer data. power supply must be provided for all of these devices. [6]
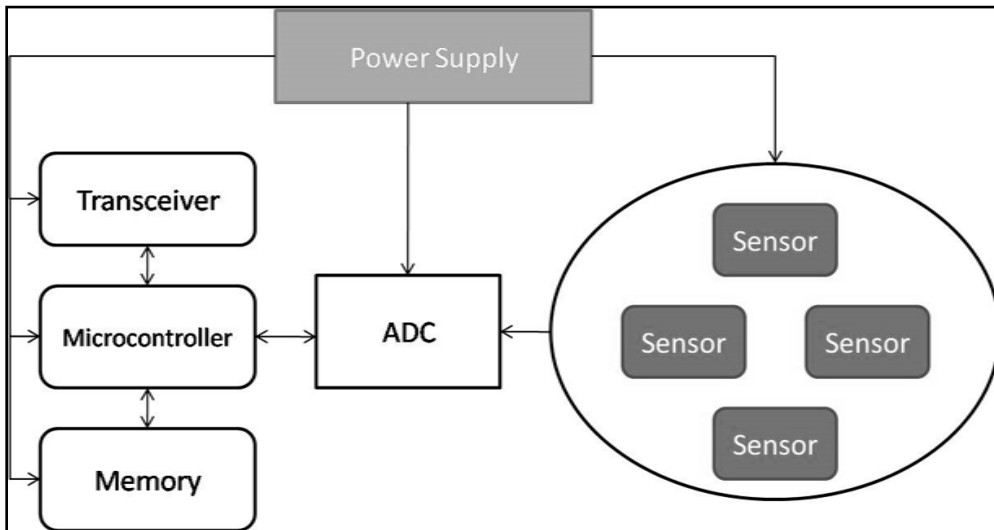
Figure 2: wireless sensor node's design.

APPLICATIONS OF INTERNET OF THINGS IN SMART CITIES

IoT technologies will become critical instrument for communication between businesses & their consumers, enhancing efficiency of urban agglomerations substantially. Significance of this setting is underscored by fact that growing proportion of population is urbanising, & over 70% of humankind will live in cities by 2045, implying that number of individuals involved with this technology will be vast. Internet of Things (IoT) is new paradigm that integrates features of computers, wireless sensor networks, Internet communication protocols, sensing technologies, communication, & devices with embedded technologies. IoT is being utilised to interconnect, interact, control, & offer insights into different fragmented systems inside smart cities, resulting in more connected & intelligent environment. Unprecedented potential to address urban issues are provided by large number of linked devices & huge amount of data created by them. Technologies are combined with urban systems to create environment in which real & digital worlds meet & interact in continuous synergetic manner. IoT technology used to smart cities has been focus of several companies & academic institutions. Internet of Things (IoT) applications in smart cities & smart communities have been steadily growing, incorporating real-time data streams. Vehicle traffic detection, parking occupancy & reservations, security & surveillance, air quality monitoring, & intelligent garbage cans are just few examples. These applications have potential to improve individuals' health, safety, & convenience. However, initial wave of IoT installations for smart cities has number of issues that make it difficult to expand. Vendors fought for IoT by building proprietary vertically integrated solutions. City's adoption is hampered since cities have learned that items from diverse vendors do not function together. Inability to link multiple data sources or build fundamentally new applications to gain better value over time is hampered by this lack of interoperability. However, technologies are on verge of becoming standardised, & industry players are currently working on devices that use these technologies to allow smart city applications. These enabling technologies have also matured to point that they can be used to implement IoT solutions & services in real world, based on field trials that will help clear up ambiguity that now limits widespread acceptance of IoT paradigm. Success of these programmes requires participation from

all areas of city. Policy, company, community, & citizen should collaborate more openly. Many Smart City programmes, on other hand, are heavily utilised. As result, academic & professional researchers must continue to excel in solving technical & technological problems. Several disciplines of ICT are involved in developing scenarios for more Smart Cities, including IoT, AI, Big Data Analysis, & Nanotechnology. [7]
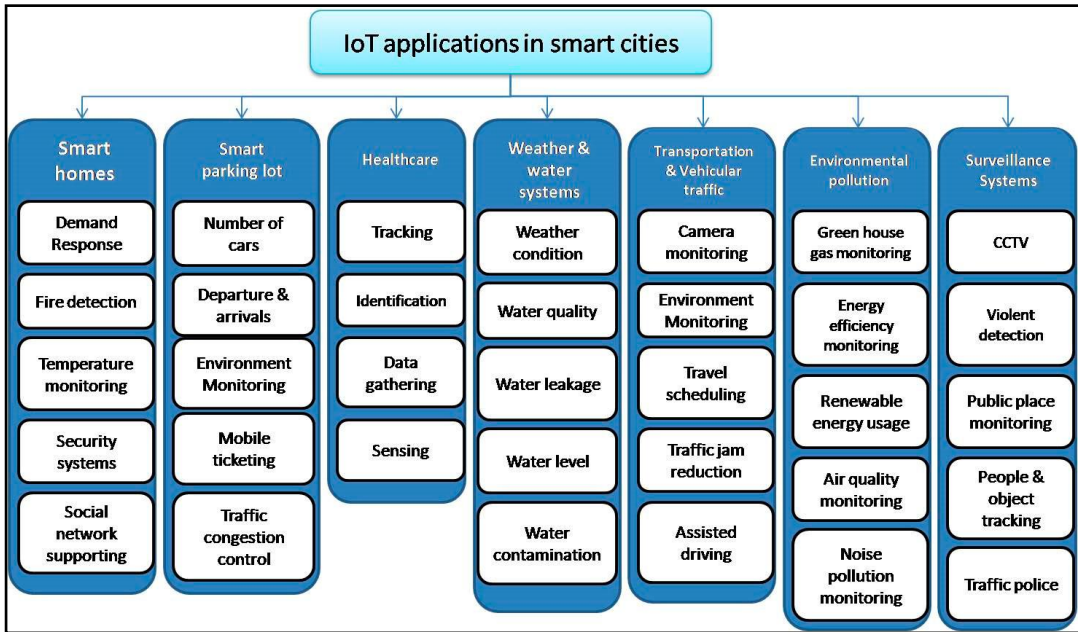

Figure 3: Internet of Things' primary uses

SMART CITY IOT POTENTIAL APPLICATIONS
SMART COMMUNITIES & CITIES

The effective deployment of Internet of Things might result in creation of number of services that interact with environment. As result, it can provide variety of opportunities for contextualization & geo-awareness. Furthermore, collective intelligence creates methods for regulating & delegating authority & power to inhabitants. Furthermore, by utilising IoT, standard middleware may be made available for future smart city services. Sensor virtualization is thought to be way to bridge gap between present technology & inhabitants. [8]

SMART BUILDINGS & HOMES

Heterogeneous equipment enables automation of comparable & frequent operations using IoT platform in homes & buildings. Indeed, by converting objects into appliances with data that is completely linked via Internet, web interfaces may be used to provide services. large variety of smart home applications make use of sensor networks. Each smart device is connected to Internet via aforementioned programmes, which allow for remote monitoring & control. Smart lighting, for example, has received lot of attention in recent years. Lighting consumes around 19 percent of overall power use, resulting in 6% of air pollution. As result, various smart lighting management systems can save around 45 percent of energy required for illumination. Major goal of smart homes

is to minimise energy consumption in building, which accounts for significant percentage of total power usage. Heat, ventilation, & air conditioning are some of factors that boost consumption. As result, detecting building in order to command appropriate action is critical. State of environment is verified before action such as dimming lights or switching on air conditioning, & this is done using smart metres. It can also help with demand forecasting. [9]

CUSTOMERS WHO ARE RESPONSIVE

Transitive controllers & variety of other smart gadgets may be utilised to set up smart home. Home gateway is developed to allow house controllers to collaborate with aggregators, who are in charge of gathering data from large number of households. Aggregation entity can establish power purchase price from grid & deliver acceptance/rejection signals of bids to devices based on signals received from transitive controllers. Capacity to monitor & manage each electrical appliance improves portion of active consumer in system functioning, which is referred to as DR. Because of technological & economic benefits, demand-side operations are big component of International Energy Agency's (IEA) energy policy choices. Demand Side Management (DSM) is process of modifying consumer's energy consumption curve in response to changing electricity prices over time & other payment incentives from utility providers. Main goals of DR are to reduce customer energy bills, power grid operation costs, & greenhouse gas emissions, as well as to maximise shift peak load demand. [10]

SMART GRIDS & SMART ENERGY

The Internet of Things enables intelligent management & control of energy distribution & consumption in diverse environments. IoT node offers variety of characteristics, such as sensing & networking that improve likelihood of optimal energy provider development. This management system can be created in event of emergency. Fault location, isolation, & service restoration are some of important results of aforementioned advancement.
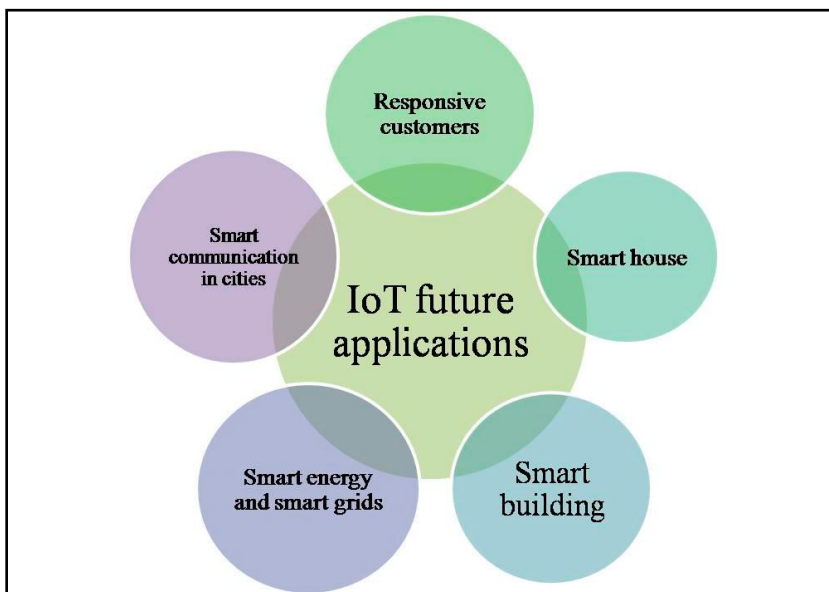
Fig-4- Smart City IoT Potential Applications

INTERNET OF THINGS & SMART CITY CONSTRUCTION CHALLENGES

Smart city breadth & size are driven by advancements in ICT & information exchange technologies. With advent of Internet of Things, this fast progress is redefining smart city building.

Massive spatial–temporal urban data management, integration, & release

Currently, information outputs of digital urban information systems are too static & simplistic, frequently appearing as responses to simple queries & lacking in data analysis from many sources throughout time to aid decision-making process in urban management. Ability to model temporal data in today's urban information systems is still lacking. Specific demands of digital real-time updates, historical reconstruction, & future prediction cannot be met by data structure & arrangement of temporal data from many sources. As result, integrating multi-source heterogeneous urban data is one of cornerstones to creating smart city for today's times. There is also requirement for administration of urban infrastructure & components, as well as capacity to update & visualise multi-dimensional geographical & temporal data quickly. [11]

The development of internet of things & model of heterogeneous sensor data

Sensor deployments have risen in recent years as result of advancements in sensor & cloud technology, processing & storage capabilities, & lower sensor production costs. Unlike smart cities, Internet of Things (IoT) arose primarily as result of technological advancements rather than user or application demands. One of most common & commonly used definitions of IoT is that it enables people & objects to connect at anytime, anywhere, with anything & anybody, preferably via any path/network & utilising any service. Despite their differences, IoT & SC are going in same direction to accomplish shared objective. Due to diversity of sensor platforms, observation methods, sensor processes, location information, & technological requirements, process of constructing models representing sensor information in terms of position characteristics, seen objects, time, & status is complicated. [12]

Large-scale information management in space & time

A smart city's spatial information is created by variety of sensors, controllers, & computing terminals, all of which are preserved by computers & storage devices in various departments & places. It's not easy to manage & coordinate these devices with their various structures & wide-area dispersion. Smart cities create lot of unstructured data, such as images, audios, & videos, in addition to structured data like temperature values & geographic coordinates. It's mammoth effort to store & manage so much data in so many different formats. Smart cities are in charge of doing in-depth analyses of urban data, public affairs, decision support, real-time duties, & timely responses to user requests. [13]

Legal protection & effective information sharing methods

"The use of Smart Computing technologies to make essential infrastructure components & services of city more intelligent, networked, & efficient," according to one definition of smart city. By Washburn. To accomplish efficient & effective information exchange across many city departments, such as traffic, public security, media, utilities, & weather, we must overcome all conceivable bottlenecks & difficulties. Furthermore, there is need to learn from industrialised nations on how to

create coalitions for exchanging geographical data. It's also critical to provide reliable information services & to share policy procedures & legal protections across all local agencies. [14]

CONCLUSION

The significance of evaluating how new concepts & technology (particularly Internet of Things) assist smart cities cannot be overstated. Goal of this review article was to look at different IoT system specs & features, as well as effective incentives for using them. Because completion of IoT substructures can open up wide range of options for smart cities, most significant research reasons were first stated, followed by discussion of many key & useful applications. It was demonstrated how they may be used to expand & improve daily tasks. Internet of Things is most effective approach to make city smart. Indeed, IoT may be used in variety of scenarios, including building monitoring using passive WSNs, environmental monitoring (for example, gas concentrations, water levels in lakes, or soil humidity), waste management, smart parking, decreasing CO2 emissions, & autonomous driving. Such objectives need massive number of interconnected items. Indeed, number of linked items is rapidly increasing, with predictions that by 2020, 50 billion connected objects will be deployed in smart cities. However, such large quantity poses various dangers & privacy concerns. [15]

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TRADITIONAL HRM TO SUSTAINABLE HRM: NEED FOR THE PARADIGM SHIFT

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ABSTRACT

Work is a pivotal element for contemporary subsistence and human resources are recognised as one of the valuable inputs for the growth and success of the organisations. Effective HRM practices bear a positive relation with the organisational performance, but still it is believed that in practice, Human resource are not developed and reproduced, rather they are only consumed and exploited. Where strategic HRM focus broadly on enhancement of economic output, reflected in three bottom line, it is now being challenged with the concept of "Sustainability". For survival in the highly competitive, complex and dynamic knowledge-based economy, it becomes crucial for the organisation to retain a certain level of sustainability- a shift from short term perspective to long-term approach. For ensuring long-run viability of the organisation, active and continuous involvement in rejuvenation, renewal and reproduction of establishment's resources, including existing and potential human resources plays a vital role. To overcome the emerging challenges of HRM in lieu of changing environment, the exploration of innovative ways for the management of human resources has become momentous. Sustainability aims at providing new solution and for making corporations and system more viable in the long-run and less detrimental to society and the global well-being.

The present paper highlights the need for the paradigm shift from traditional to sustainable human resource management, aims at exploration of linkages between the sustainability and Human resource management and approaches governing sustainable Human resource management.

INTRODUCTION

The notion of sustainability seems to be vital for the establishments working across the globe. Human resources are recognized to be one of the most constructive assets for the organisation. Although there is plethora of research on Human resource practices and sustainability individually**(Ibrahim, N. S., & Rahman, R. A. (2017).**but research on the combination of both i.e. Sustainable Human resource practices is yet not established. There is dearth of studies on sustainable human resource practices and even the research available, fails to chalk out the clear and systematic link between the human resource practices and Sustainability. Some of the attempts are made to study taking into account the subject but they are broadly disseminated across various HRM

subfields, take into consideration varied interpretation of sustainability and scarcely reveals the interrelation between each other or with the conventional HRM literature. **(Mazur, B. (2015)).**
In the present scenario, sustainable development and sustainability have become indispensable for the survival of the world as the whole and business community in particular. There is a dire need for the companies to develop sustainable practices, where Human resource has to play the strategic role. (01 mazur pdf). The development of thought of sustainability has been effected by three major groups: environmentalists or ecologists, corporate strategists and the "Brundtland Commission" (UN world Commission Environment and Development)

Ecologists' view on sustainability can be traced back in 1712 by the German nobleman Hans Carl von Carlowitz in reference to sustainable generation of woods. The focus of the ecologist's movement was protection of natural resources taking into consideration of over-exploitation of natural and environmental resources of the planet. As ecologists stressed on conservation of environment, the conventional objective of corporate strategists was financial sustainability of business, linking it to "sustainable competitive advantages". Yet another social aspect of sustainability was included by the Brundtland Commission outlining the sustainable development as a growth and progress meeting the needs of the contemporary generation without affecting the capability of forthcoming or future generations to fulfil their requirements. At present, the notion of social aspect of sustainability has become significant for the survival of the corporate houses. Further, dissemination of concepts of "Corporate Social Responsibility" or "Corporate Sustainability"in research and practice has widened the scope of sustainability linking it to Human resources concerns. **(Mazur, B. (2015)).**

Although the notion of sustainability is wide, there is dearth of models for the practical insinuation to assist organisations for sustainable development. In context of sustainable development of organisations, two themes are predominant. The foremost one focus on the transformation or modification that organisations are bound to made in order to fit themselves in the ambit of sustainability or sustainable development, where it can be defined as the development meeting the demands of present generation without hampering the capability of the future population to fulfil their economic,environmental and social needs, the three pillars of sustainabledevelopment. The second subject central to organisational sustainability is to explore more ethic based and strategic human resource management for the achievement of objective of organisational sustainability through workforce growth and progress. Both these issues entailnew adoptions inorganisational values and culture, its structure and organisational priorities. Moreover, the issues can be dealt in acollaborative way as both needs a comprehensive approach, long term vision and a modification in the process to gain economic results**(Jabbour, C. J. C., & Santos, F. C. A. (2008).**

The concept oforganisational sustainability issymmetric to social responsibility as both aims at acknowledgement of achieving sufficient level of social and environmental performance along with economic results. Organisational sustainability can be referred to the apparent and ethical managerial decision that aims at long term organisational stability through outperforming at economic, social and environmental dimension with equity. Although, sustainability demands investment on the part of the organisation but at the same time, it is a value-addition to the company shareholders, subsequently extending it to sustainability at the global level. The multifaceted concept of value of shareholders take into consideration the short and long term actions ensuring the

inclusion of all the stakeholders and improved economic performance of the organisation. Moreover, it provides for the development of proficiency and expertise for innovation, the key factor for the future growth and development of the organisation. **(Jabbour, C. J. C., & Santos, F. C. A. (2008)**

Sustainable Human Resource Management:
In the current scenario, organisations are challenged by factors like globalisation, structural changes, technical advancement and growing anticipation of consumers that demands a continuous redesigning of business panorama. To survive, compete and grow in such multifaceted and ever demanding environment, organisations are bound to widen its horizon to sustainable development. Furthermore, there is urgent need to highlight the significance of long-term.

Moreover, it is gradually accepted that traditional market models' strong focus on rather short-termed efficient and effective exploitation of natural, social, and human resources in organizations will not ensure organizational viability in the long run the way the world is changing puts HR in the spotlight. HR could guide organization's leaders on their way to sustainability as Boudreau and Ramstad (2005) assert that sustainability improves understanding organizational success by going beyond the traditional focus on financial results. Sustainability can be integrated in management of people in organizations and sustainable HRM can be considered as a design option for employment relationship, and a contribution to sustainable corporate development (Zaugg *et al.*, 2001; Gollan, 2005; Ehnert, 2006; Ehnert, 2009a, Ehnert *et al.*, 2014a). In this respect, Gollan and Xu (2014) argue that adopting sustainable principles, practices, and structures towards different organizational strategies and creating a climate for releasing employees' potential under a shared value of sustainability are the central challenges for the HR function. Therefore, HR policies and practices need to be designed based on sustainability goals to bring about sustainable business performance and positive employee outcomes for better equality, development and well-being. **(Tabatabaei, S. A. N., Omran, E. S., Hashemi, S., & Sedaghat, M. (2017).**

Human resources acts as pioneer in developing and embedding the values needed for the inclusion of sustainability as the part of the organisation and also in ensuring the implementation of the developed strategies within the organisation. Hence, sustainable human resource management can be understood as the application of mechanism and tools on employees for development of competencies, trust, values and skills required for the achievement of three bottom lines. As a corollary, sustainable Human resource management can be outlined as "the adoption of HRM strategies and practices that enable the achievement of financial, social and ecological goals, with an impact inside and outside of the organisation and over a long-term time horizon while controlling for unintended side effects and negative feedback**"(Ibrahim, N. S., & Rahman, R. A. (2017).**

Need for sustainable Human resource Management
There is an emerging inclination of corporate houses towards sustainability across the globe but the research on sustainable HRM has remained surprisingly low. The scenario of reckless wastage and exploitation of resources seems fit in the past situation where the supply of resources appeared to be unlimited. For instance, people enjoying the benefit of resources in the earlier decades of the 21st century seldom realised the unsustainability arising out of the continuous consumption of the available resources until the financial crises broke out in 2007.The net effects of such unbalanced

consumption without regeneration and renewal had extensive consequences on the present and upcoming generation particular in many developed countries.HRM also contributed to the state of affairs through appreciation of short term performance illusion with inability to contribute towards real value creation and preying resources for incentives like pensions of present and future employees, as a result the balance left are not enough to fulfil the pension obligations. However, as we are now clearer of the widespread international constrains and limitation, organisations now appears to be more enthusiastic to observe and consider sustainability in their systems.

The relationship between sustainability and Human resources practices can be justified on several grounds. The foremost ground for supporting the relevance of sustainability perspective on Human resource management is the extension of argument in the favour of sustainability at social and ecological level. The fundamental underlying is that HRM have the capability to make practical implication of the concept of the corporate sustainability as now organisation cannot afford to overlook the societal and ecological perspective at the macro level.

The next rationale focus on micro level related to individual and human resource management level that deals with internal components or elements of change for the inclusion of sustainability concept in the organisations and their relationship with the Human resource management system. It can be observed that merely natural resources are not scarce, rather human resources in the organisation are also limited and the present approaches of human resource management are usually short term oriented and inadequate. Human resources are 'consumed' and exploited, not reproduced and that managing people in a sustainable way can emerge as a source of competitive advantage in tough job market.

Various factors like scarcity of highly potential employees, aging workforce and ever growing issues related to health, itself triggers the need of nurturing the sustainable HRM as a "survival strategy" for the businesses, reliant on prominent excellence of human resources.

Approaches Governing the Sustainable Human Resource Management

Sustainable Human resource management encompasses two major highlights, foremost is the requisite of economic , social and ecological alliance and the next is that the alliance enable each aspect to be performed in more efficient and effective way to arrive at synergic effect where "sustainability can be a $2 + 2 = 5$ (or even 50) game". Sustainability will become inevitable for the survival of the organisation in the future. With emerging challenges of Human resource scarcity and pessimistic effects of Human resource management in traditional ways, Sustainable Human resource management is regarded is an expansion of strategic Human resource management. Organisations usually find themselves in a fix between the short term profits and long term business sustainability.(2014) Sustainable Human resource management in the broad sense entails solution to the underlying issues involving HRM and sustainability. Dominant concerns at the heart of sustainable human resource management include:

1. Availability and future supply of competent, enthusiastic and motivated workforce.
2. Reduction in negative impact of Human resource management.
3. Assignment of responsibility and accountability for the resolving the above issues.

Various approaches endeavour to provide concrete solution for sustainable human resource management. Some dominant approaches are as follows:

Sustainable work system

The approach endorses the WECD definition while explaining the concept of sustainability. The umbrella of sustainability is the collaboration of many concepts making it complex in nature. The advocates of the approach doesn't focus on offering a single term solution or one truth or "one unified message, but rather, different impressions on sustainability". The difference can be chalked out through the argument that sustainability "encompasses three levels: the individual, the organizational and the societal. Sustainability at one level cannot be built on the exploitation of the others. These levels are intimately related to the organization's key stakeholders: personnel, customers, owners and society. [...] A prerequisite for sustainability at the system level (individual, organizational or societal) is to achieve a balance between stakeholders' needs and goals at different levels simultaneously". The focal point of Sustainable work system is the promotion of thoughts that escort the balance between quality of work life and organisational performance whereas the basic area of research in sustainable work systems be the work intensity targeting the utilisation of human resource wholly i.e. in physical, cognitive, social and emotional form. (**Colbert, B. A., & Kurucz, E. C. (2007).**

In response to the above mentioned concerns, the sustainable Work System put forward that the future availability of the competent and enthusiastic workforce or human resources can be assured by stressing on development, renewaland reproduction of social and human resources. The negative implications of HRM can be curtailed through appropriate insight at the procedures and instruments directing towards the exploitation or enhancement of human resources. (**Ehnert, I., & Harry, W. (2012).**As per the approach, Organisational actions are the key for imbibing practices leading to sustainability.

Sustainable resource management: The key idea governing the approach is formulation of unique rationality for managing the organisational resources through the explanation of scarcity of resources through the conceptual framework of "sources of the resources". Three basic conjectures underlying the approach are firstly, management of organisational balance between the "opening" and "maintaining" of their boundaries for the survival of the organisation. Next, organisations subsist due to mutual cooperation and exchange relation between themselves for the reproduction of the human resource establishment. Regarding issues involving sustainability and human resource, the approach proposes that for ensuring the future stock of highly competent and proficient human resource via investment in "Sources of the resources" as sustainability is not reliant on accountability, rather on financial viability decisions. For curbing the negative impact of Human resource management, adequate appreciation of three basic assumptions is required.

Sustainable HRM: The pioneer contribution to the approach was given by the representatives of the University of Ben, offering the initial systematic, theoretical and empirical collaborative notion of sustainability. Sustainable Human resource management was delineated as as "those long-term oriented conceptual approaches and activities aimed at a socially responsible and economically appropriate recruitment and selection, development, deployment, and release of employees" Sustainable Human resource management is explicated as a multi-dimensional concept encompassing the shared benefits of all the stakeholders.

Sustainable human resource management is particularly intended for the processes of change management in the organisation as it usually create enormous demands on the human resources of the organisation. The Swiss model endorses the concept emphasising enhancement of employee's employability, usage of participative management model for development of individual accountability and ensuring a cordial work-life-balance. Ehnert extended a critical step forward enlightening the general concept of sustainability, stressing on the desired outcomes at individual, organisational and social level and maintaining dual balance of efficiency and sustainability on long term perspective. Ehnert (2006), define "Sustainable HRM is the pattern of planned or emerging human resource deployments and activities intended to enable a balance of organizational goal achievement and reproduction of the human resource base over a long-lasting calendar time and to control for negative impact on the human resource base.**"(Stankeviciute, Z., & Savaneviciene, A. (2013).**

In concern to the above mentioned questions, the Sustainable HRM approach offers following solutions: the inclusion ofthe concept of sustainability in organisations goals and policies of human resource development, reward system can be the way of ensuring potential supply of motivated and well qualifiedhuman resource in an organisation.

Regarding the prevention of negative impact of HRM, it can be avoided by behaving in a self-discipline and responsible manner, and by actively participating in sustainability decisions and HRM functions as a 'guardian of HR' where the key aim of HRM is to sustain and "to deploy HR in a way that the employee's long-term development and performance is not affected but improved".

It is the mutual responsible of employees, organisation and society as a whole to ensure knitting of in organisational culture for their welfare and careers and for the development and the protection of the society as a whole.

CONCLUSION

It can be safely concluded that human resource of an organisation plays a pivotal role in the conception of sustainability in the business. In highly dynamic, ever demanding and complex environmental conditions, the companies are under acute obligation to forego their short-term profits in lieu of long term sustainability and for the promotion of a proper equilibrium between the three Ps i.e. profit, people and planet. Companies cannot rely solely on financial growth for their survival rather they are now bound to wide their horizon from economic growth to environmental protection and social equity to maintain its position in the market.

Sustainability can be regarded as a generic call for maintaining the human resources, social equity and ecological balance and more specifically it stresses on the preservation of the conditions required for the regeneration and the reproduction of the available resources.

At last it can be concluded with the help of a proverb which states that 'Give a *man* a *fish* and you feed him for a day.Teach a man how to fish and you feed him for a lifetime' Sustainability is not about teaching 'how to fish' rather about understanding that it is more important to let the fish reproduce and grow itself and that it will be possible only if the necessary conditions are maintained. In the same way, it is the high time that the purpose of the organisations and the

criterion of success should be re-discussed and re-defined keeping in view the long-term sustainability of the earth.

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REVISITING THE ANTECEDENTS AND CONSEQUENCES OF BRAND LOVE: A CRITICAL REVIEW

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ABSTRACT

'Loved brands' invite such strong attraction of consumers that they are not only preferred over other brands but are perceived as perfect relationship partners. Self-expression and brand personality are two factors that generate brand love. This research through exploratory research aims to explore relationship between brand personality, self-expression and brand love as well as to determine that, brand trust, brand commitment, attitudinal brand loyalty, positive word of mouth, brand devotion associate with brand love. After reviewing the intense literature, it offers a conceptual framework on brand love with special reference to global luxury fashion brands and proposes its antecedents and consequences. The concept of brand love can play a significant role in current market circumstances. Once a psychological connection is established with customers it will drive profits and other elements of brand equity. Marketers can take leverage of the knowledge about antecedents and consequences of this construct and craft innovative marketing strategies for future.

Keywords: Brand Love, Self-Expression, Brand Personality, Brand Trust, Brand Devotion, Brand Commitment, Attitudinal Brand Loyalty, Positive word of mouth

INTRODUCTION

Strong Brands are the real assets of a business entity. It is unique design, sign, symbol, words, or a combination of these, employed in creating an image that identifies a product and differentiates it from its competitors. In the age of consumer-driven markets, the scope of this definition has widened. Brands not only form identity of a company and its core product but also their potential buyers. A brand characterizes itself by the impression or perception the consumers carry in their minds. It elicits certain feelings, emotions, and thoughts. Over time, people associate with some particular brands that they become indispensable part of their lives. Such brands are active relationship partners of their consumers. Consumers not only consume or interact with brands but also develop an emotional bond for them. These brands make them happy, inspires delight and other heart-warming emotions. Consumers genuinely care about them, love them, trust them, and are deeply committed towards them. Research on various types of consumer brand relationships is being carried out for long time with strong theoretical conceptualizations and empirical findings. But the field further commands more work.

This study aims topropose a conceptual framework of brand love construct as the relevant mediating factor between various constructs of consumer brand relationships with special reference to global luxury fashion brands. Thus, it will try to further add to corresponding literature withthe following added objectives:

➢ To explore relationship between Brand Personality, Self-Expression and Brand Love.
➢ To determine that Brand Devotion, Brand Trust, Brand Commitment, Attitudinal Brand Loyalty, Word of Mouth associate with Brand Love.

SELF-EXPRESSION

Every human beinghas a fixed image of himself or herself in their mind that is their self-concept. When they buysomething, they suppose those objects bear a resemblance to their self-concept. That means marketers should try to sync products closer to their customer's self-concept.Self-expression means displaying your real spirit and true character (Catalin & Andrea, 2014).In the Digital Age, social media platforms have further aggravated the need of individuals to practice self-expression. Also, increased degree of product customization in the past two decades, due to advancement in technological design and manufacturing processes, associations related to one's self-identity has emerged as a vital source of brand value (Chernev et al. 2011). The symbolic attributes of brands play a significant role in fulfilling the persistent need for self-expression. Looking at target markets in this way, marketers can strategize for satisfying the drive for self-expression for different personality dimensions.

BRAND PERSONALITY

Brand personality refers to the set of human characteristics associated with a brand (Aaker, 1997). It is personification of a brand. Mutual resemblance between brand image and self-image leads to a certain degree of predilection for a brand. Marketers create brand personality by several marketing variables such as user imagery, advertising, packaging (Aaker, 1997). Brand personality needs to be communicated consistently through brand voice, visual identity, and various actions. Consistent brand personality can make a brand a favourite choice of consumers. Another feature that an ideal brand personalitypossessesis distinctiveness to stand out in the market. The more self-expressive value and distinctiveness a brand's personality communicate more attracted the consumers will feel for it (Kim et al. 2001).Freling& Forbes (2005) describes brand personality as intangible appeal of product that shapes consumers beliefs and judgements about that product.

BRAND LOVE

In general sense love means an intense feeling of deep affection. Whether consumer feels the same feeling for brands is not a new question now. Many studies (Shimp& Madden, 1988; Adelman & Ahuvia 1993; Ahuvia2005a,2005b; Carol & Ahuvia, 2006) have provided notable results on this concept. Brand love is composed of the feeling of intimacy, passion and commitment (Sternberg,1986).Loved brands are constant companion and support mechanism for consumers. Robust self-brand connections are the key drivers of love like feeling for brands.

Brand love is no longer a new concept in the marketing research literature. Initially, its theoretical foundations had placed on the premises of the Interpersonal love theory of psychology. 'Love marks', a book written by Roberts (2005), CEO of Saatchi & Saatchi, mentioned this phenomenon

at a great length, indicating its relevance for managers. Carol & Ahuvia (2006) defines brand love as the degree of passion and emotional attachment a satisfied consumer has for a particular trade name. Ahuvia (2005a, 2005b) also thoroughly studied the concept of love applied to various object categories (places, ideas, pets, consumption objects). Batra et al. (2012) describe brand love as a higher-order construct including multiple cognitions, emotions, and behaviors, which consumers organize in his mind. It is much stronger feeling than brand attachment or mere brand liking. It is an emotional feeling that emerged in consumers from cumulative good experiences. The Qualitative analysis by Batra et al. (2012) yielded ten major components: high quality, linkages with firmly held values, beliefs that the brand provided intrinsic rather than extrinsic rewards, use of the loved brand to express both current and desired self-identity, positive affect, a sense of rightness and a feeling of passion, an emotional bond, investments of time and money, frequent thought and use, and length of usage. Variousresearchers have recognized that consumers' love for the brand is a facilitating or mediating variable in several positive brand outcomes. Fournier (1996) also has noted the importance of love in consumers' long-term relationships with brands. It results in attitudinal brand loyalty and positive word of mouth (Carol & Ahuvia, (2006); Albert et al. (2013)). Roy et al. (2013) state that brand love mediates the relation between satisfaction and loyalty. Brand love is composed of feelings of affection which generates brand trust (Albert et al. 2013). People are willing to spend more time, effort, and money on their loved brands (Bergkvist and Bech-Larsen, 2010). Fetscherinet al (2014) ascertained a stronger relationship between brand love and purchase intention and brand love and positive word of mouth.

Thus, understanding of brand love construct can prove insightful for managers in segmenting and targeting their consumers based on their post-consumption behavior.

ATTITUDINAL BRAND LOYALTY

Attitudinal loyalty is loyalty due to the positive attitude of consumers have for the brands. They depend on the brand unconditionally and are delighted to continue in their relationship with the company. A since revowto repurchase or support a favoured product/service constantly in the future, it can be observed in the form of repetitive brand purchases despite various external forces have potential to modify this behaviour. Unlike Behavioral loyalty, the attitudinal loyalty of a brand is independent of several situational factors. Attitudinal loyalty emerges when a brand fulfils the emotional and functional needs of consumers. Consequently, consumers develop an emotional affiliation with brands. According to Bennett &Rundle-Thiele (2002), commitment, preference, and recommendation are essential components of attitudinal brand loyalty.

Loyal consumers are the nucleus of most strong brands. Creating and maintaining consumers who are attitudinally loyal is the base of every marketing strategy. So that, they will make brands face fierce competition in the market as well as sustain themselves for a longer-term.

BRAND TRUST

Brand trust is a feeling of reliability in the functional and symbolic attributes of the brand. Consumers trust the brands which meet their intended promises. Such brands always try to work beyond the expectations of consumers. They intensively care about the emotions of their consumers. Lack of information or low-quality imagery can drift apart present as well as potential consumers. Trust is something not established overnight. Once a brand accomplishes in being dependable,

people will admire its offerings repeatedly without thinking. Thus, trust induces a notion of loyalty also which may later grow as deep commitment. Satisfying brand experience is the necessary stimulator of brand trust. Therefore, brands should provide a pleasant brand experience at each customer brand encounter.

The Global Consumer Insights Survey made by PwC asked over 22,000 consumers about factors that influence their purchase decision (other than price). Trust in the brand was ranked number two. Brand trust is critical to the growth of business and can influence your revenue.

BRAND COMMITMENT

Brand commitment is strong allegiance with a brand due to a high degree of attitudinal strength and emotional attachment. Morgan and Hunt (1994) describe commitment as an enduring desire to continue a valued relationship. Evidence in different research domains shows that holding a strong commitment to specific objects/events/issues demonstrates enhanced resistance to attempts of persuasion (Srivastava & Owens,2010). Committed consumers want to bind themselves with a particular brand reason behind this is their identification with the core values and image of that brand. Furthermore, consumers are willing to make all necessary efforts for sustaining such relationships for an infinite time.

POSITIVE WORD OF MOUTH

Positive word of mouth is induced by a genuine connection and pleasing experiences with some brands. Customers are so amazed by the functional and symbolic values of the brand. They feel obligated to spread some genuine word about it. Word of mouth marketing is emerging as one of the most valuable promotional tools. Consumers have a tendency to rely on other people's genuine view points that are built on their prior experiences. Reports suggest that 72% of people get news from friends and family, making word of mouth the most popular channel for sharing.

BRAND DEVOTION

Brand devotion is an emerging construct in the marketing research literature. Sarkar & Sarkar. (2016) describe brand devotion as analogous to religious devotion. Some brands like Apple offer an orientation to consumers just as religion provides in life. It is a brand effect of a higher order. Devoted consumers firmly share the mission and vision of brands. They defend brands on public platforms and act as loyal advocates. There is a close interaction between brand and customer values. It is sort of extreme loyalty that inspires consumers to buy T-shirts, caps, mugs, stickers, etc. to flaunt brand names and trademarks (Pimentel & Reynolds, 2004).

LUXURY FASHION MARKETS IN INDIA

India's luxury market is developing at a very fast speed even more than developed nations. According to a recent report from market data portal Statista (April 2020), India's luxury goods market is expected to be worth $7,956 million in 2020 (after adjusting for potential covid-19 losses) and projected to grow annually by 10.6% CAGR between 2020-23, with cosmetics and fragrances forming the largest segment. International brands like Gucci, Prada, Louis Vuitton, Dior, Cartier and many others have grown extensivelyin India and continuouslytaking newer routes of progress. One of the most distinctfeatures of a luxury consumer is that the buying decisions are often based on

sentiments rather than lucidity. Consumers acquire luxury fashion brands as they facilitate self-expression and distinctiveness.

Due to high emotional and symbolic value associated with luxury fashion markets, this study has selected this fast-growing sector as the area of study.

REVIEW OF LITERATURE

RELATION BETWEEN SELF-EXPRESSION AND BRAND LOVE

Our possessions are a major contributor to and reflection of our Identities (Belk, 1988). Brands by creating meaningful associations that add value beyond the intrinsic product attributes enters a unusual relationship with its user (Fournier 1996). Very often, consumers lean towards the brands that are apt for their self-image (Catalin & Andrea, 2014; Chernev et al. 2011). This will lend a hand in expressing their unique identity and symbolizing their lifestyle in public. Furthermore,a self-expressive brand is likely to be associated with consumers' personal values, add hedonic pleasure and provides sensory fulfilment. Consequently, consumers develop passionate feelings for brands. A number of studies (Ahuvia, 1993;Carol & Ahuvia, 2006; Batra et al 2012; Rodrigues, 2018`) established self-expressive nature of brands as antecedent of thriving brand love feelings in consumers.Moreover, when consumers start believing that a particular brand is able to convey their true inner and outer self to society, they will feel deep emotional feelings of love and loyalty for that brand. Therefore, this research proposes self-expression as an antecedent of brand love.

RELATION BETWEEN BRAND PERSONALITY AND BRAND LOVE

Aaker, (1997) defined brand personality as personification of brands and provided a five-dimensional framework of brand personality dimensions which consist of Sincerity, Excitement, Sophistication, Competence and Ruggedness. These dimensions are instrumental in conveying symbolic benefits of brands to consumers. Brand personality has emerged as a contemporary tool to enhance brand equity (Phau& Lau, 2000). Brand personalitycan increase usage of particular brand and can also evoke trust, emotion and loyalty (Aaker, 1997; Sung & Kim, 2010).It is due to strong congruence between consumers preferred personality and his perceived personality of that brand (Phau& Lau, 2000).Self-congruency is biggest feature of self-expressive brands. Freling& Forbes (2005) have empirically established in their work that strong brand personalities are allied with positive consumer outcomes such as more favourable product evaluations and brand associations that are effective and unique.Another research suggests that a number of favourable outcomes are credited to brands with favourable personalities such as emotional contentment and may command a willingness to endure a given brand and to pay premium prices for a brand (Freling& Forbes, 2005). Some other studies show that the effects of brand personality dimensions on the emotional brand outcomes. For example: -Sincerity and Competence most strongly affect brand attitudes and brand commitment (Eisend& Sauer, 2013). According to Sung & Kim (2010), the Sincerity dimension associates with brand trust, the Sophistication and Excitement dimensions associate with the brand affect. Ismail & Spinelli (2012) found that Excitement dimension of brand personality have an indirect impact on brand love through the attributes of brand image. Roy et al (2016) also supports this finding.

RELATION BETWEEN BRAND LOVE AND ATTITUDINAL BRAND LOYALTY

Chaudhari & Holbrook (2001) states that brand loyalty is significantly persuasive element that drives brand equity and market performance of brand. Loyal brands establish worth of your brand in marketplace. Consumer loyalty is gained by providing superior quality products and services. But in today's marketplace brands should not limit their efforts to providing superior quality products only. Rather they should try to create an emotional equation with brands. Consumers' emotional aspects (self-concept connection, emotional attachment, and brand love) improve their brand loyalty (Hwang &Kandumpully, 2012). Loyalty induced from positive emotional attitude can actually prove to be a sustainable competitive advantage for brands.Customers love for specific brand leads to positive outcomes for the brand leading to positively perceived image, higher engagement with the brand and also greater loyalty for the brand (Kang, 2015). Carol & Ahuvia (2006) also testified a positive relation between brand love and attitudinal brand loyalty.

RELATION BETWEEN BRAND LOVE AND BRAND TRUST

As in interpersonal love contexts (Fehr, 1988), trust in the partner seems to help determine a person's feelings toward the partner/brand. If a consumer believes that he or she can depend on the brand, it enables the extensionof the feelings of love and affinity. Many researches have established brand trust and brand love as important mediating factors of brand loyalty (Chaudhari & Holbrook, 2001; Huang 2017). Albert et al (2013) found that reliability and honesty dimensions of brand trust significantly instigates brand love. Sensory experiencesare the major stimulators of brand love. These experiences mainly pushcustomers' brand trust by prompting emotional dependence. Trust in a relationship intensifies when love deepens among partners. In addition to this, the authors also suggested that brand love is instrumental in reinforcing the trust and interest in continuing a relationship with brand (Gumparthi&Patra, 2019). Therefore, brand trust is proposed as a consequence of brand love.

RELATION BETWEEN BRAND LOVE AND POSITIVE WORD OF MOUTH

Communications are the essence of any marketing activity. WOM is generally agreed to be the informal communication between private parties in which products or services are evaluated (Anderson, 1998). In apaid media world, consumer-to-consumer communications are ofmuch importance (Keller, 2020).Berger (2014)states that consumers sharing word of mouth are derived by five goals 1. Self-Presentation, 2.Emotion Regulation 3.Information Acquisition 4.Social Bonding 5.Persuading Others. WOM has been shown to influence a variety of conditions: awareness, expectations, perceptions, attitudes, behavioural intentions and behaviour (Buttle, 1998). Market mavens, opinion leaders and influencers also derive attitude formation and purchase behavior of consumers. Positive word of mouth is outcome of delightful consumer experiences (Roy et al., 2013). Consumers who feel love for a brand are more likely to talk positive about it (Carol & Ahuvia, 2006; Batra et al., 2012; Roy et al 2012; Albert et al 2013). Fetscherinet al (2014) has studied about consumer brand relationships and found that brand love has a positive impact on brand loyalty and both influences positive word of mouth and purchase intension in different degrees. Albert et al (2013) states that brand love has more favourable impact on positive word of mouth as it is induced by free choice of consumers. Based on the earlier research positive word of mouth is an important outcome variable of brand love.

RELATION BETWEEN BRAND LOVE AND BRAND COMMITMENT

Fournier (1996) describes brand commitment as long-term, willingly imposed pledge to continue with brand over a long time in spite of adverse circumstances. It is a psychological tendency that infers an affirmative attitude toward the brand and a willingness to maintain a valued relationship with it (Chaudhuri and Holbrook, 2001). It is emotional investment of consumers in their desired brands. Sung & Campbell (2007) applied investment model to consumer brand relationships and outlined that three basis of dependence satisfaction, alternatives and investment significantly predict brand commitment. Other antecedents of brand commitment are brand trust and brand satisfaction and ultimately results into repurchase intension and loyalty (Ercis et al., 2012). Wang (2002) showed brand commitment as an outcome of brand-person fit and in turn leads to exclusive purchase intension. Intangible symbolic benefits associated with unique personality of brand can induce brand commitment (Tong et al., 2017). Moreover, brand commitment is the key element which distinguish between true brand loyalty and spurious brand loyalty (Amine, 1998).Albert et al (2013) emphasized the influence of brand love on the two dimensions of commitment, affective and continuance. As in interpersonal love partners are committed to each other, similar tendencies exist for brand commitment. This study suggests brand commitment an outcome of brand love.

RELATION BETWEEN BRAND LOVE AND BRAND DEVOTION

Pimentel & Reynolds (2004) proposed a model on consumer devotion which describes that there are various antecedents (distinction, self-expression) which leads to calculative or normative commitment for brands, thereafter scalarization processes converts the calculative commitment into much intense affective commitment. Both of them integrates to form consumer devotion for brands. Such devotion is subsidized by active sustainable behaviors (display behavior, collecting, sacrifices). It is depicted as a highly emotional concept reflecting very intense relationships between consumers and objects (Pichler & Hemetsberger, 2007). Individuals like to associate with religion to give meaning to their lives. Objects and brands act as a mediator in this process by using them as totems (Pichler & Hemetsberger, 2007).

Sternberg theory of love (1986) states three components of love intimacy, passion and commitment. Likewise, consumers' devotion is also composed of three components encompassing passion, intimacy and dedication (Pichler &Hemetsberger, 2007). Due to this similarity of causal components, this research emphasis brand devotion as outcome of brand love.

DISCUSSION AND ANALYSIS

ANTECEDENTS OF BRAND LOVE

    a) Self- Expression

    People considers possessions as central to their sense of self. They contribute a person in delivering a long-lasting persona. Possessions like brands can present the nature of individuals lay a bearing on their choice**.** There is a high probability of preference for self-expressive brands. Brand logo, brand values, and taglines carry high symbolic appeals. The more a brand is self-expressive, the more it is appreciated by consumers. Appreciating or liking a brand is the primary stage in cultivatinglove towards it. Therefore, the self-expressive ability of a brand has a significant role in arousing brand love. Adelman &Ahuvia (1993) defines love for objects as a higher-level integration of both the desired and the actual self with brands. Bergkvist and Bech-

Larsen (2010) found that, of the six brands studied in their research, consumers exhibited a resistant attitude toward self-expressive brands than toward more utilitarian branded products. People purchase luxury brands for expressing their selves to society. So, self-expressive luxury brands can empower consumers to formulate their social status are loved by them. Rodrigues et al. (2018) suggest that consumers are inclined to love luxury brands that are perceived as an effective means of expressing their individuality congruently.

b) Brand Personality

People like people who are similar to them. A similar rule applies in the context of branding also. Consumers associate with brands that are similar in characteristics to them or that they aspire to have. Brand personality provides a point of differentiation. It is a sustainable competitive advantage as it is difficult and futile to copy it. Once a unique brand personality establishes, it will serve for a long time with various positive outcomes for the marketer. It can add to the levels of brand trust and evoke brand emotions, which, in turn, can build the level of brand loyalty (Sung & Kim, 2010). The intangible element, self-brand congruity, is the foremost determining factor of brand love. Since consumers who consider their personality is in a good fit with the brand feel unusual warmth and comfort for such brands (Nilay et al., 2016). A brand personality that is visible, variable, and personalized is always loved. Self-brand image congruence positively moderates the influence of brand imagery on romantic multi-brand brand love (Sarkar & Sarkar, 2016). Thus, brand Love is motivated by brand personality (Bairrada, 2019). One of the several impulses to buy luxury fashion brands is their distinctive and prestigious personality. Luxury fashion products are generally in limited designs and specialty products. Hence, due to uniqueness in their allure, such brands are likely to be closely attached to consumers' hearts.

CONSEQUENCES OF BRAND LOVE

a) Attitudinal Brand Loyalty

Attitudinal loyalty resides in the customer's mind to willingly patronize a brand. Loyalty which is attitudinal in nature urges the emotional obligation that consumers arrive after his act of purchase. It is observable in the form of intention to repurchase or recommend others. Once a consumer starts loving a brand, he may like to stick to that brand. Due to the development of sensitive bonds, lovers show a repetitive purchasing behavior of the particular brand set. Also, he is likely to mention the experiences of that brand to others. Therefore, attitudinal brand loyalty is a positive and substantial influence on consumers' brand love. It is a feeling of fidelity and enthusiastic affection ascended for loved brands. Carol & Ahuvia (2006); Batra et al. (2012); Roy et al. (2013); Bergkvist & Bech-Larsen (2014): Bairrada et al. (2019) supports this finding that brand love has a powerful force on attitudinal brand loyalty. People love the attention they get when some brand reflects their true style statement among their peer groups. As a result, they love that particular brand and its personality. As it, buy them social recognition. Such brands win attitudinal loyalty from consumers (Wu et al., 2015; Abimbola etal.,2012).

b) Brand Trust

Trust is considered a crucial constituent of the associations between consumers and companies. Sung & Kim (2010) found a significant positive relation between brand personality dimensions

(competency, ruggedness, sincerity) and brand trust. When consumers trust their brands, they are likely to develop attitudinal loyalty due to lower perceived risk (Mabkhot et al., 2017). Extensive literature has described brand trust as an antecedent of brand love. But it is not necessary to trust is always a prerequisite of emotional attachment. The attachment itself can boost trust. Therefore, this research proposes that brand love has a direct positive effect on brand trust. People love brands for their symbolic attributes. It is possible that in their journey of love, they develop a substantial trust in utilitarian values too. Brands that have earned a special place in the consumer's heart also win their confidence. They feel that brands will take care of them while sufficing promises. Consumers who feel affection for a brand are likely to trust that brand (Albert et al., 2009). One of the vital personality dimensions of luxury fashion brands is their competency (Tong et al., 2017). This personality dimension encompasses traits such as reliability, refinement, and authenticity. Moreover, genuine product quality also motivates consumers' trust in these brands.

c) Positive Word of Mouth

Positive word-of-mouth refers to sharing genuine experiences and recommending others on your behalf. Word of mouth is the most effectual method of customer acquisition and retention. Luxury Brands can elicit a positive word of mouth by investing in building sustainable relationships with their consumers and giving them words to share. It will make them spread those words. Emotional attachments are one of the biggest drivers of word-of-mouth marketing (Rodrigues & Rodrigues, 2019). When consumers feel for the symbolic values of the brand, they are not likely to drop it. People respond more to emotions. Therefore, for brands that create experiences that result in positive emotions, positive word-of-mouth efforts will follow for them and also go a long way. Brand love is again a passionate emotional bond experienced by consumers (Carol & Ahuvia, 2006). Thus, it directly results in positive word-of-mouth behavior. Consumers are eager to spread the positive word about brands they love for their self-expressive features. This finding is supported by various researches like (Carol & Ahuvia, (2006); Batra et al (2012); Roy et al. (2014); Anggraeni, A. (2015), Albert &Merunka (2013)).

d) Brand Commitment

High level of commitment is the exceptional tenet of healthy consumer-brand relationships. Consumers pledge their emotional and investment-related commitments for brands that provide symbolic values (Fournier, 1996) that no other brands can bring them. Shukla et al. (2016) found that social switching cost results in affective commitment for luxury fashion brands. This study proposed that brand love boosts brand commitment for luxury fashion brands. A consumer who loves a brand is more likely to be interested in maintaining an enduring relationship with those brands. They are highly resistant to change. It is the result of their intense emotional attachment that emerged from unique self-brand connections. Brand love plays a more powerful role than overall customer satisfaction in driving switching resistance loyalty (Tsai, 2013). There is a noteworthyimpact of brand love on twinaspectsof brand commitment: affective and continuance. Love drives the tendency to uphold the relationship with the brand for both functional reasons and affective reasons (Albert &Merunka 2013). Moreover, commitment is the ultimate constituent of love feeling. It is also evidenced in Sternberg's (1986) triangular theory of love, which is one of the fundamental theories that explain the structure of interpersonal love.

e)   Brand Devotion

Devotion is the highest order of allegiance one can develop for a brand. Many factors like self-brand integration, affective commitment, intense dedication, and feeling of belongingness with brand community fuel this sort of faithfulness. It is an emotional connection a consumer has with the core values of a brand. Such brands command a sacred status and play a central role in the life of consumers. One such factor is brand love that initiates this journey by developing a feeling of compelling emotional attachment. Romantic love towards multiple brands can get converted into single brand devotion through interactive processes of overcoming switching obstacles and selective perception (Sarkar & Sarkar, 2016). Therefore, brand devotion is an outcome of brand love. Brand lovers are most likely to be future brand devotees. This proposition is supported by many researchers in their studies on brand devotion (Wang et al., 2018; Sarkar & Sarkar, 2016). Due to high investment value and high consumer involvement, luxury fashion brands are likely to command devoted consumers. Brand love feeling escalates this process. Devoted consumers form exclusive brand communities of these brands.

CONCEPTUAL FRAMEWORK

This study intends to offera conceptual framework encompassing all propositions. This research is directed by two specific objectives. Firstly, to determine whether brand personality and self-expression, both independent variables, lead to the experience of strong feelings like brand love for luxury fashion brands. Secondly, whether brand love resultsin other important consumer behavior variables like: brand trust, attitudinal brand loyalty, positive word-of-mouth, brand commitment and brand devotion for these brands. After the intensive literature review, it appears that both self-expressive value of brands and brand personality are antecedents of brand love and other consumer behavioural outcomes mentioned above are consequences of brand love. These findings are depicted in the form of a model as below:
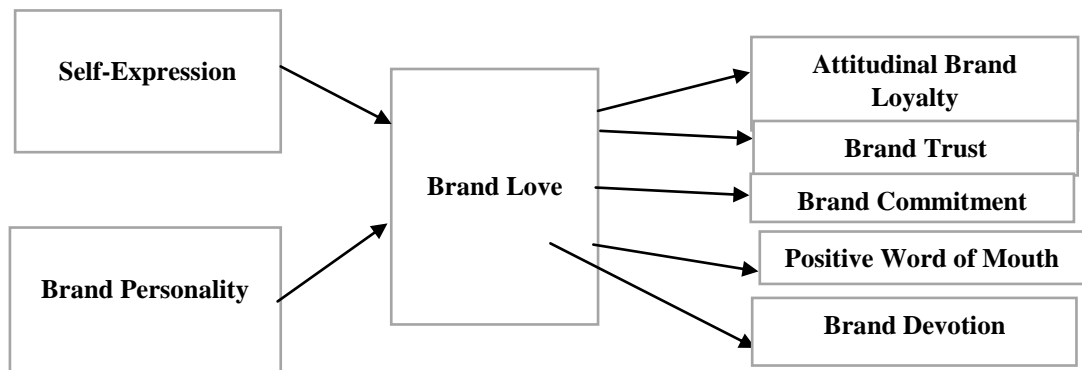
Figure 1: Conceptual Framework on Brand Love for Luxury Fashion Brands

CONCLUSION

There is a synergistic effect of self-expression and brand personality on brand love which further results into number of positive consequences for brands. The above conceptual framework establishes the actionable antecedents of brand love. Managers can work on these antecedents and can further predict other behavioral outcomes. Global luxury brand marketers need to focus on developing strong brandimages to meet consumers 'need of uniqueness. The tacticfor marketers is

to identify the functional, emotional, and symbolic needs of consumers and then find the perfect match between those needs and brand offerings. It is indispensable formarketersto form connections that are not only special but alsolong-lasting.Consumer will never resistin coming back for their favourite brands with whom they share irreplaceable emotional bonds.

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FORENSIC ACCOUNTING: A CONTEMPORARY PARADIGM IN CORPORATE GOVERNANCE

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ABSTRACT

Corporate frauds or white-collar frauds have come into the spotlight nowadays. It's not just the company that gets affected, but the entire economy gets shaken by such fraudulent activities. However, corporate governance tends to keep strict vigilance over the administrative, legal, statutory framework of the company, but as evidenced by rising fraudulent cases, such a structure of corporate governance still lacks to put a curb on corporate fraud. Even the auditing framework looks upon the arithmetic accuracy of the books of accounts and mandatory compliances. Hence to control these ever-rising corporate scams, there is a need for such a system that can look into the data beyond its arithmetical accuracy and investigates the truthfulness of accounts rather than its correctness, and collects evidence for litigation. This has given rise to a separate forte called Forensic accounting.

This research paper explores the domain of forensic accounting as a contemporary area in Corporate governance that has not gained as much attention as the Auditing framework has, but its role is significant in detecting corporate frauds. This is why companies have started recognizing it as a fraud detection mechanism and forestall corporate fraud. A forensic accountant often searches for signs of concealment that are not dependent upon the extent of auditing financial statements. This study depicts the opinions of the professionals regarding the acceptance of forensic accounting by the corporates, its role in the mitigation of corporate frauds, its scope in the coming future, the procedure in which it has been carried out, etc.

Keywords: *Corporate governance, Forensic accounting, Corporate frauds, White-collar crimes, Auditing*

Introduction

The number of financial crimes and equivocal monetary exercises has been speeding up everywhere in the world. Thus, organizations are presented with exposure to financial criminal activities. With the entirety of the new corporate scams at Satyam Computer Services, Xerox Corporation, Parmalat, and all the prominent corporate cheats at HealthSouth, WorldCom, Enron these frauds have made

Forensic Accounting a developing industry. The occurrence of corporate fraud raises the finger on the governance and administration of the affected company.

Corporate governance ensures tightened regulation, through its vigilance, monitoring, disclosure mechanism, etc. One of the major areas of corporate governance is the auditing framework that expresses an opinion on whether the presentation of accounting records is 'True, Fair & Just' or not. Generally, it is conducted in every accounting year as a statutory requirement to ensure arithmetic accuracy and compliance with mandatory procedures in the books of accounts. It is believed that an auditor would recognize extortion in the event that one was being executed during the audit. The reality, however, is that the systems for monetary audits are intended to identify material errors, not insignificant frauds. This is the point from where the role of forensic accounting starts.

Forensic accounting has an investigative attitude whereas auditing is carried with "proficient wariness". A forensic accountant will often need broader corroboration and is likely to ponder more on apparently insignificant transactions.

PROCESS OF FORENSIC ACCOUNTING

1. **Initialization**

   It is essential to explain and eliminate all doubts with regards to the genuine thought process, reason, and utility of the assignment taken. It is useful to acquire comprehensive, significant facts, issues, and players within reach. A conflict report ought to be conveyed as and when parties relevant are set up. It's often valuable to do a primitive investigation preceding the formation of a plan of action. This will permit consequent planning to be founded on a more complete comprehension of the issues.

2. **Development of Plan of Action**

   This arrangement will consider the information acquired by meeting the client and doing the underlying investigation and establishing the goals/objectives that need to be attained and the methodology or plan of action to attain them.

3. **Ascertainment of relevant Evidence**

   Contingent upon the facts of the case, this may include finding records, monetary data, resources, assets, an individual or organization, another professional, or evidence of the happening of an event. To assemble definite proof, the FA should comprehend the particular kind of deception that has taken place, and how it has happened. The proof ought to be adequate to eventually demonstrate the fraudster's identity, the mechanics of the conspiracy, and the degree of loss incurred.

4. **Perform the Analysis**

   The genuine investigation performed will be needy upon the facts of the task and may include:
   - Calculation of damages incurred both monetary and non-monetary.
   - Summarizing a huge volume of transactions.
   - Tracing the performance of Assets
   - Determine PV calculations using an appropriate WACC or Discount rate.

- Use of Statistical tools like Regression analysis, Sensitivity analysis, etc.
- Usage of Computer software, like CAAT, DBMS, Spreadsheets, etc.

Significantly, the investigation team is specialized in the skills of gathering evidence that can be utilized in a legal dispute within a specified time frame, and in keeping reasonable custody until the presentation of evidence in the court.

5. **Reporting**

   Issuance of FA report is the last advance of fraud audit. The auditors will incorporate information specifying the deceitful exercise if any has been detected. The customer wants a report containing:
   - Scope of Investigation,
   - Methodology used
   - Findings of the auditing,
   - Summary of evidence,
   - Conclusion to the degree of loss incurred
   - Limitations of scope and findings
   - Suggestions
   - Supportive Tables, Graphs, Schedules

   The report likewise will also reflect on how the fraudster executed its plan, and which controls were bypassed and violated to do so. Furthermore, the Investigation team shall also prescribe upgrades to controls inside the association to forestall any similar cheats and extortions happening in the future. This report must be based on the facts and figures rather than the opinions and intuitions of the report writer.

6. **Legal Proceedings**

   This forensic investigation will lead to prompt legitimate actions against the suspect, and individuals from this team will most likely be engaged with any resultant legal dispute as witnesses. The evidence accumulated during the Forensic audit requires to be presented in court, and a team might be called upon to the court as a witness, to portray the proof they have assembled, and to clarify how the suspect was recognized.

Objectives of the study
- To explore Forensic accounting as a contemporary domain of Corporate governance.
- To study the opinions of professionals on the efficacy of the Auditing framework and Forensic accounting.
- To analyze the process that is conducted for forensic accounting.
- To explore the role of forensic accounting in mitigating corporate frauds.

Review of Literature

Several pieces of research have already been performed on Forensic accounting, its role, and significance, comparison between auditing and forensic accounting, its relevance in different aspects like corporate finance, tax evasions, etc. Few of the literature are illustrated below:

(TTY Alabdullah, MMA Alfadhl, Sofri Yahya & Ala Mohammad A. Rab, 2013) found thatfrauds could be forestalled and restricted by Forensic accounting. Monetary frauds and defilement have expanded in Iraq; the explanation is that educational programs do not include Forensic accounting in their curriculum and are not taught in Iraqi colleges similar to the case in the colleges of the developed nations. Presently, there are no courses for Forensic accounting in Iraqi colleges in both undergraduate and postgraduate. Besides, a large portion of the accounting and auditing workforce in Iraq is experiencing poor information, perception, and insight into Forensic accounting techniques. Thus, it is suggested that the strategies of Forensic accounting ought to be a significant perspective forced at instructive educational plans and preparation of accountants in Iraqi colleges and for different experts that belong to IICA (Iraqi Institute of Chartered Accountants). This thus guarantees that there will be numerous approaches to restrict or possibly moderate the frauds and defilement in the nation.

The goal of the research conducted by **(Shah Megha, 2016)** was to perceive the possible gaps, regarding the auditors' obligations towards corporate deception or frauds. The criticalness of a gap is settled not simply by its degree (this shows a gap exists), but by how forensic Accounting specialists think about the issue. The course of action lies in extending the degree of an auditor's freedom and obligations with more remedial measures to diminish corporate announcing frauds thus preparing for extended audit quality through a decrease in the degree of the audit expectation gap. Such a gap should be diminished by the auditor himself by improving audit duties, training various clients, and incorporating new standards.

The purpose of the study of **(Hadi, Ahmed Mahdi; Abed, Ahmed Rahi; Kadim, Hayder Oudah, 2018)** was to determine the scope of limiting tax avoidance in Iraq especially when the nation was confronting serious political agitation and military activities. The research also inspected how Forensic accounting could be preferably appropriate for the present status of the Iraqi economy which is confronting a transformation from an oil economy to a tax-based economy. The research experienced various significant discoveries regarding the role of forensic accounting in presenting a powerful taxation framework in Iraq. This research also examined the existing taxation system in Iraq to throw light on the key shortcomings and provided suggestions for tax revenue mobilization.
The significant discoveries of the research include a need for the use of forensic accounting in presenting tax changes in Iraq. The examination suggested that every single legitimate organization furthermore, government organizations ought to build up forensic accounting units. Professional courses and colleges should also include forensic accounting in their syllabus. Moreover, it suggests improving on direct duties, expanding non-oil incomes from indirect tax collection, and strengthening customs and duty organizations. The research ended up being a commitment to the Iraqi public accounting practices.

The study conducted by **(Bhujanga MankuRai, 2017)**inferred that Forensic Accountants are needed to investigate the complexities engaged with the frauds which go beyond the standard and routine kind of test checks led by the conventional auditor, such as an internal and statutory auditor. In India, fraud detection and investigation processes are not integrated and are hence done by independent and separate agencies. The detection part and investigation part is carried out by the auditors and policing offices respectively. Besides, the duty of prevention of fraud rests in the hands of the top administration of the business. Regardless of the organizations completing their tasks

effectively, it is seen that the rates of fraud are expanding unabated. This shows that the current arrangement of identification, investigation of fraud, and its avoidance can't contain the fake demonstrations of deceitful elements.

Considering the above mentioned, this research has proposed a mix of Forensic and conventional accounting. To lead the exploration essential information has been gathered and investigated to decide the assessment of the target group that there is without a doubt a pressing requirement for coordinating both the frameworks (Forensic and Traditional) to guarantee the decrease of monetary frauds in the business world. Besides, secondary information has been investigated to comprehend the weakness in the current arrangement of fraud counteraction measures and the idea of the researchers to forestall something similar. The analyst has inferred that the government organizations and expert bodies need to find prompt ways to guarantee to integrate the frameworks of Forensic Accounting and Traditional Accounting to guarantee a cleaner organization and a corruption-free environment.

(Enyi, Patrick Enyi, 2008) inferred official defilement and frauds worldwide have taken amazing steps. FA techniques and investigation as seen from the educational plan of a couple of institutions offering them as part of the syllabus have been generally portrayed by investigation concerning tax evasion cases, following illicit cash streams, money laundering cases, the discovery of monetary frauds in monetary institutions, the anticipation of insider trading and more. Less accentuation has been laid on the location and anticipation of operational frauds, for example, once in a while seen inside a manufacturing unit. The desire to bring in additional cash and get rich no matter what has delivered the word "trust" is practically futile in certain circles. So, it can be gained from the research, various strategies were utilized,
(i) Comparative analysis between previous and current assessment years.
(ii) Variance analysis between the actual and budgeted standards. This created the principal significant piece of information that put our group on the inquiry because of the extraordinary nature of the variance.

Research Methodology
This study is a combination of analytical and exploratory research, in which the researcher has collected data using primary sources via questionnaire. The researcher has used one of the non-probability sampling techniques named Snowball sampling. Under this technique, only those respondents are asked to fill the questionnaire who knows the field of research i.e. Forensic Accounting. Further, they are requested to forward the questionnaire to their connections who are eligible to fill the questionnaire, i.e. they know Forensic accounting. This research is based on sample size 60 that covers respondents who are Professionals (CA/ CS/ ICWA etc.), Professors, Students (Post-graduate)/ Articles/ Trainees, Corporate people from both finance and non-finance backgrounds. The statistical tools used for this research are the Chi-square test and Bar diagrams.

Data Interpretation and Analysis

1. **Work domain of respondents**

Fig. 1: Work domain of respondents
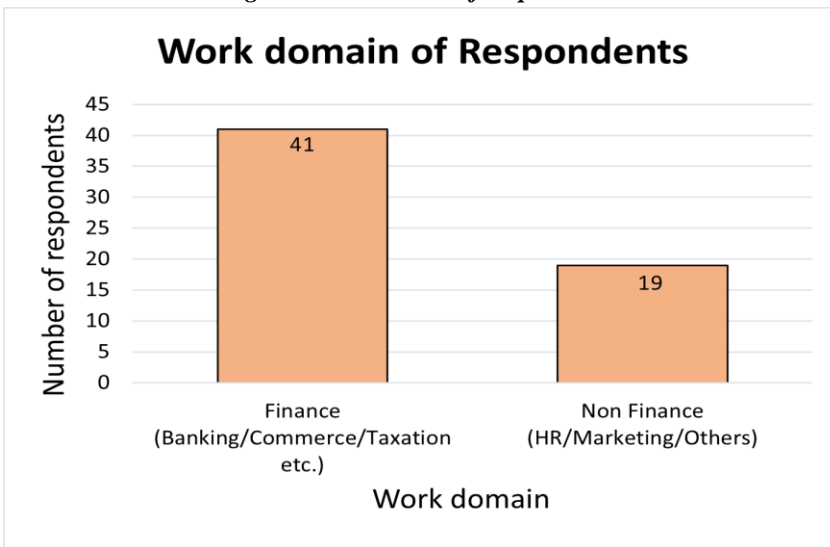
- It was observed that out of 60 respondents, 68.33% respondents (41, in numbers) were from Finance (Banking/Commerce/Taxation, etc.) background whereas 31.66% of respondents (19, in numbers) were from Non-Finance (HR/Marketing/Others) background.

2. Qualification of respondents

Fig.2: Qualification of respondents
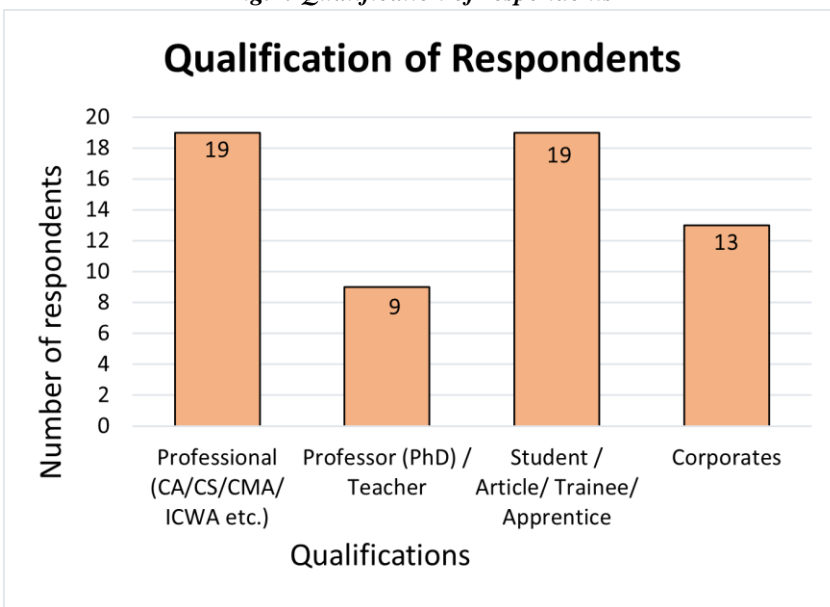
- Among 60 respondents, 31.67% respondents (19, in numbers) were Finance professionals (i.e., CA/CS/CMA/ICWA, etc.), 15% (9, in numbers) were Professors or Teachers, 31.67% (19, in numbers) were Students/Trainees/Articles, etc., and 21.67% respondents (13, in numbers) were Corporate employees.

3. **Opinions of respondents on the statement "Forensic Accounting is an advancement over Auditing to detect Corporate Frauds"**

Fig. 3: Opinions of respondents on statement 3
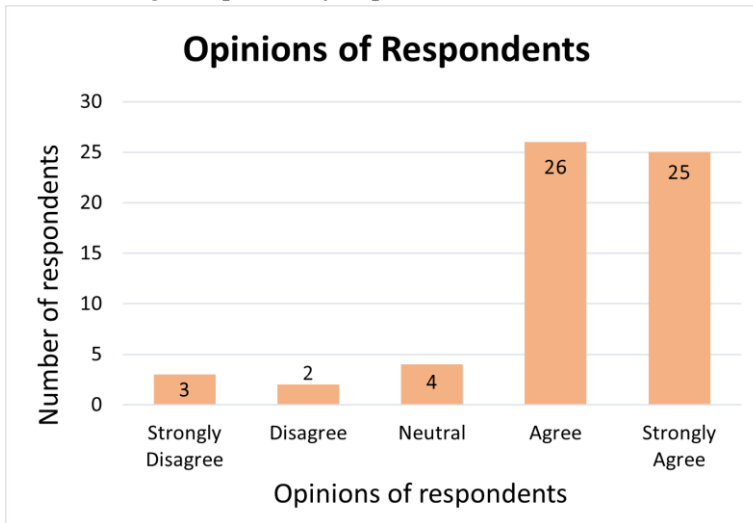
- It was inferred that out of 60 respondents, only 5% of respondents (3, in number) strongly disagreed and 3.33% (2, in number) disagreed that "forensic accounting is an advancement over Auditing to detect Corporate Fraud". However, 6.66% (4, in numbers) were neutral, whereas more than 3/4th respondents, (i.e., 43.33% (26, in numbers) and 41.66% (25, in numbers) were agreed and strongly agreed respectively.

4. **Opinions of respondents on the statement "Forensic Accounting can act as a tool for Management-by-Surveillance to mitigate the occurrence of fraud in advance."**

Fig. 4: Opinions of respondents on statement 4
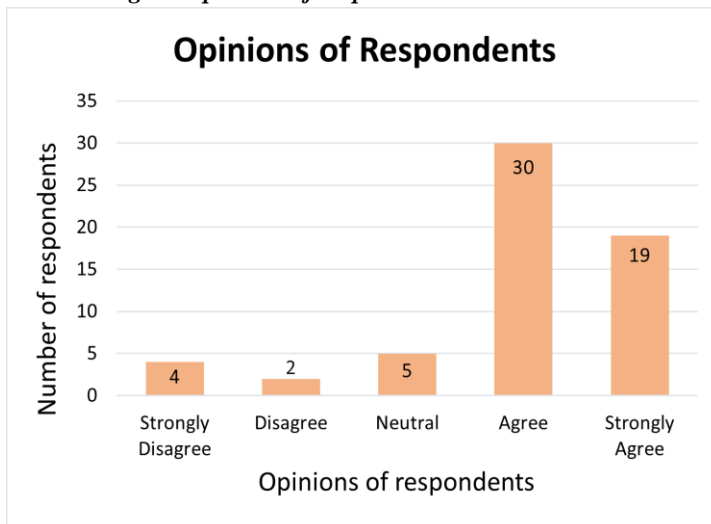
- It was noted that out of 60 respondents, 31.66% (19, in numbers) strongly believe that Forensic Accounting can act as a tool for *Management-by-Surveillance* to mitigate the occurrence of fraud in advance. In addition, 50% (30, in numbers) also agreed with the statement. However, 8.33% (5, in numbers) were indifferent and only 3.33% (2, in numbers) disagreed and 6.66% (4, in numbers) strongly disagreed with the statement respectively.

5. **Opinions of respondents on the statement "There shall be full-fledged provisions about Forensic Accounting in Companies Act 2013 for its regulation."**

Fig. 5: Opinions of respondents on statement 5
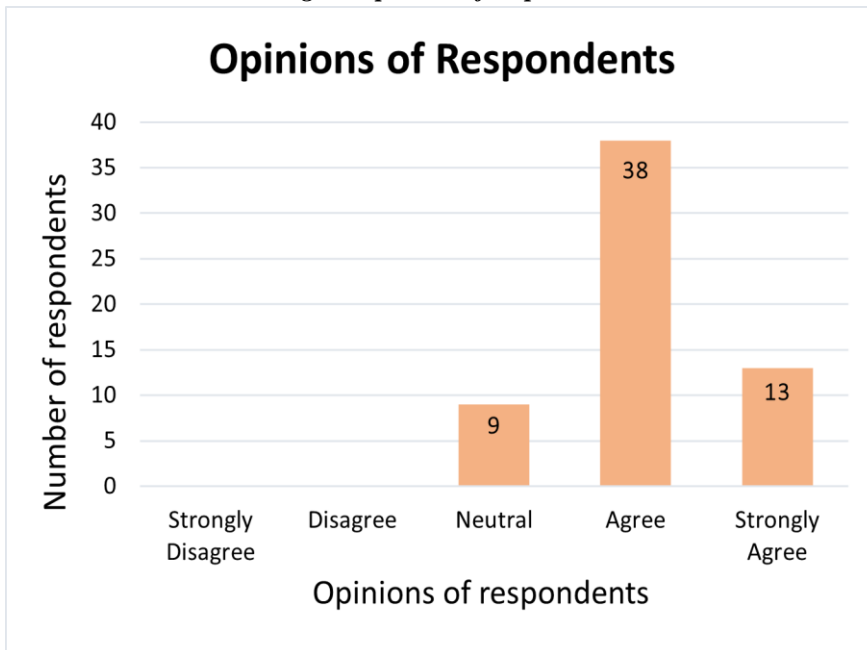
- It was inferred that out of 60 respondents, 63.33% (38, in numbers) and 21.67% (13, in numbers) respondents, agreed and strongly agreed with the statement, **"**There shall be full-fledged provisions about Forensic Accounting in Companies Act 2013 for its regulation." respectively. However, 15% (9, in numbers) are still neutral. But no one disagreed to bring provisions.

The latest update on the provisions regarding forensic accounting is that ICAI had invited comments on the exposure draft of FAIS (Forensic accounting and investigation standards), whose last date was 30th September 2020. This draft has been approved but the date from which it will be effective or applicable is yet to be notified.

6. **Opinions of respondents on the statement "Who do you think looks beyond the numbers, correlates them with other variables and checks the possibility of such numerical in the records."**

Fig. 6: Opinions of respondents on statement 6
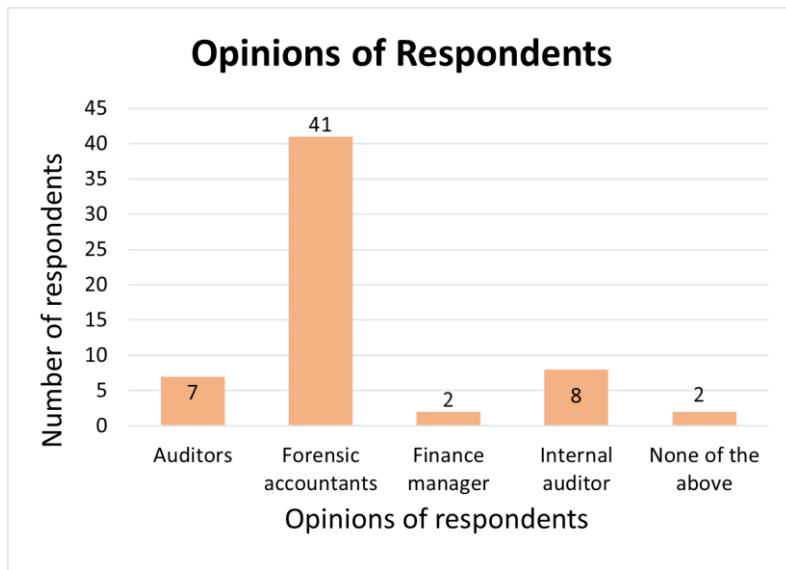
- It was inferred that out of 60 respondents, 68.33% (41, in number) believe that Forensic accountants look beyond the numbers, correlate them with the other variables, and check the authenticity of such numeric value in the records. 11.67% (7, in number) and 13.33% (8, in number) respondents believe that Auditors and internal auditors do this respectively. However, an insignificant number (2, i.e., 3.33%) of respondents believe it to be Finance managers whereas the same amount (2, i.e. 3.33%) of respondents believes no one does that.

Hypothesis testing: 1

Null Hypothesis (H_0): There is no significant association between the work domain of the respondents and their opinion that forensic accounting is an advancement over auditing to detect corporate frauds.

Alternative Hypothesis (H_1): There is a significant association between the work domain of the respondents and their opinion that forensic accounting is an advancement over auditing to detect corporate frauds.

Table 1: Chi-Square test for Hypothesis 1

Particulars	Value	Df	p-value	H_0 rejected/ accepted
Pearson Chi-Square	12.731	4	.013	Rejected

Source: SPSS Output

At 95% level of significance, and df=4, the p-value of the Chi-square test is 0.013 which is less than 0.05, therefore the null hypothesis is rejected and hence alternative hypothesis is accepted. So as per hypothesis testing 1, there is a significant association between the work domain of the respondents and their opinion that forensic accounting is an advancement over auditing to detect corporate frauds.

Hypothesis testing: 2

Null Hypothesis (H$_0$): There is no significant association between professionals and their willingness to accept Forensic Accounting as a tool to avoid frauds in advance.

Alternative Hypothesis (H$_1$): There is a significant association between professionals and their willingness to accept Forensic Accounting as a tool to avoid fraud in advance.

Table 2: Chi-Square test for Hypothesis 2

Particulars	Value	Df	p-value	H$_0$ rejected/ accepted
Pearson Chi-Square	11.132	4	.025	Rejected

Source: SPSS Output

At 95% level of significance, and df=4, the p-value of the Chi-square test is 0.025 which is less than 0.05, therefore the null hypothesis is rejected, and hence alternative hypothesis is accepted. So as per hypothesis testing 2, there is a significant association between professionals and their willingness to accept Forensic Accounting as a tool to avoid fraud in advance.

Conclusion and Implications

In a country like India, where there is such a high rate of corporate frauds, the future of Forensic accounting looks brighter. As new fraud cases are being reported regularly, there will be a need for such a mechanism that can curb such frauds. Respondents believe that Forensic accountants dive deeper into the data and investigate the possibility of the value of the figures that the auditor or other finance professionals may not look upon.

It may not be prominent and well known in the present time, but soon it will turn up as the need of the hour. Its future could be either an extension of Auditing compliance or it will be recognized as a completely new domain of study under Finance.

As per the data interpretation and analysis of the study, the majority of professionals accept and acknowledge the significance of forensic accounting to mitigate corporate fraud. They have accepted it as an advanced version of auditing. Furthermore, they also believe that the regular practice of forensic accounting can act as a tool that can keep surveillance on the wrongdoers and therefore it can avoid the chances of occurrence of frauds in advance. This shall be accompanied by the structured framework that can be recognized uniformly with the help of an amendment in the Companies Act 2013.

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ANNEXURE
(QUESTIONNAIRE)

1. **Name:**

2. **Work Domain**:
   - Finance (Banking/Commerce/Taxation etc.)
   - Non-Finance (HR/Marketing/Others)

3. **Qualification:**
   - *Professional (CA/CS/CMA/ ICWA etc.) ___*
   - *Professor (PhD) / Teacher __*
   - *Student / Article/ Trainee/ Apprentice __*
   - *Corporates ___*
   - *Other __*

- **Select the most appropriate based on your experience and observations.**

Serial no.	Statements	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
4.	Forensic Accounting is an advancement over Auditing to detect Corporate Frauds					
5.	Forensic Accounting acts as a tool for Management-by-Surveillance to mitigate the occurrence of fraud in advance.					
6.	There shall be full-fledged provisions about Forensic Accounting in Companies Act 2013 for its regulation.					

7. Who do you think looks beyond the numbers, correlates them with other variables, and checks the possibility of such numerical results in the records?

- Auditors
- Forensic Accountants
- Finance Manager
- Internal Auditor
- None of the above

A STUDY TO SEE ASSOCIATION BETWEEN AGE AND CUSTOMERS BANKING HABITS TOWARDS SERVICES BEING RENDERED BY THE CO-OPERATIVE BANKS IN HIMACHAL PRADESH

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ABSTRACT

For studying association between age and the customer's perception towards banking services rendered by the co-operative banks in Himachal Pradesh. Only three co-operative banks of the state namely, HPSCB, KCCB and JCCB have been selected on the basis of multistage sampling method. The sample size of the study is 400. The sample respondents are distributed according to the number of account holders in different co-operative banks in state. Primary data required for the study was collected through well structured questionnaire by adopting multistage sampling and the size of the sample was based on Solvin's formula method. Arithmetic mean, standard deviation Coefficient of variation, Skewness, Kurtosis and Chi-square test were used as statistical tools. As research suggests that in some of the co-operative banks there is a dire need to increases the banking habits among the customers. Huge numbers of the customers are using co-operative banks for its modern technologies which meet their expectations.

The present paper devotes to the study the showing association between age and the customer's perception towards banking services rendered by the co-operative banks in Himachal Pradesh.

Key words: Co-operative banks, Perception, awareness level, Multistage and Solvin's Formula HPSCB, KCCB and JCCB.

INTRODUCTION:

Banks plays an important role in the economic development of a nation. Service quality has become significant differentiator and most powerful competitive weapon, which all the service organization wants to process. Banking being at present one of the competitive sectors, the sector needs to improve on the quality of services that they are offering to the customer. Since the customer is one who really experiences the service, the evaluation of quality of the service must come from the customer.

In India, Co-operative bank is an important constituent of the Indian Financial System. It plays an important role even today in rural agricultural financing. The business of co-operative bank in the rural areas also has increased phenomenally in recent years due to the sharp increase in the number of primary agricultural co-operative societies. The co-operative banks in India registered under Co-operative Societies Act.The co-operative banksare also regulated by the RBI. They are governed by the banking Regulation Act 1949 and Banking Laws (Co-operative Societies) Act, 1965.

Co-operative Banks: Co-operative movement was originated in Germany when Heman Schultz started such societies for the artisans of the cities. Whereas co-operative motion was introduced in India as a state policy and substructure of it was laid down by the co-operative credit societies Act, 1904 which was passed with a view to encourage agriculturists, artisans and persons of limited measure. The Himachal Pradesh state co-operative banks registered in august 1953 under the co-operative societies act, 1912 are working in the six district of the state i.e. Bilaspur, Chamba, Kinnaur, Shimla, Sirmour and Mandi districts at the top in the three tier co-operative credit structure. The kangra central cooperative banks was registered on 17 march, 1920 are working five district i.e. Kangra, Kullu, Hamirpur, Una and Lahaul Spiti and the Jogindra central co-operative bank was set up in 24th august 1924 is working only in the one distirct i.e. Solan of the Himachal-Pradesh, individual and primary co-operative credit societies arealso enrolled as the members of the co-operative bank.

Review of literature: Vasanthi, T and Gowari, D (2013) in their paper entitled "Study on customer perception towards service quality attribute of public sector banks and private sector banks" there was 26 PSBs functioning in Coimbatore district with 159 branches out which 50 branches were selected from all banks under study. Franklin, L. L and Vellimularruby, A (2014) in his study reveals that the Customer perception towards, services provided by banks specially ATMs services. Mahadevan, A and Mahamad, F.A (2014) in their paper on impact of HRM practices on Organizational performance observed that the result of the studies from developed countries to developing countries time and again showing that HR practices had significant impact on organizational performance. Anita, (2014) in her study on the topic a comparative study of public and private sector bank in India in regards to customer satisfaction. The results of the study observed that private banks were ahead of public sector bank in this strategic intent. Mehta Esha (2016) made an attempt to study the output of the bank employees. Patil, M.S and Kamble, H.Y, (2017) analyze the HRD policies followed by UCBs to study the perception of officers and clerks relating to HRD policies and compare the perception of the officers and clerks relating to HRD policies and to compare the perception of officers and clerks on HRD policies. Gautamaditya and Jain Sameeksha, (2017) had compared on the basis of factors identified for managing performance i.e. performance planning, performance review, implementation performance feedback, reward and recognition, performance improvements. Venkatesulu A, (2018) aim of the paper to study the current status of urban co-operative banks (UCBs) industry in India and development that are needed to boost the performance of these co-operative banks have better economic growth. Velmurugan Ramaswamy, (2018) study the level of job satisfactions of the private sector bank employees towards perception of safety and suitability: with regard to psychological and physical work helpful in determining the quality of work life effects, which resulted on the different monetary system including poor performance , job stress absenteeism and turnover. Otiso, Kennedy.

Ntabo, (2018) in his paper titled "influence of organizational structure on the quality service of commercial banks in Nandi County, Kenya." The study was anchored on the dynamic capabilities theory.

METHODOLOGY:

Aim of the present research paper is to analyze "association between ages and the customer's perception towards banking services rendered by the co-operative banks in Himachal Pradesh". The primary emphasis of this research is focused on analyze socio demographic profile i.e. Ages and banking habits of the customers about banking services being rendered by the co-operative banks. To make the sample more representative multi-stage sampling was used for this purpose. Under this method the selection is made of primary, intermediate and final or ultimate units from given population or stratum. The sample for the study has been consisting of 400 respondents to make the population more representative. The size of the sample was based on Slovin's formula method.

Sample size (N) = n=N/1 +N (e)^2
Here N= total population, n= sample size, e= level of standard error i.e., 5 % level, N= 12. Working note-
n=N/1 +N (e)^2

Schedule-1

Name of the bank	Districts	Number of customers (%)	Quota	Sample size	Sample
HPSCB	Mandi	413992(15)	413992/2662538*400	62.19	60
	Shimla	311487(12)	311487/2662538*400	46.79	48
	Sirmour	211505(8)	211505/2662538*400	31.77	32
	Bilaspur	193415(7)	193415/2662538*400	29.06	30
	Chumba	155349(6)	155349/2662538*400	23.34	24
	Kinnaur	57391(2)	57391/2662538*400	8.62	08
KCCB	Kangra	670226(25)	670226/2662538*400	100.68	100
	Hamirpur	181675(7)	181675/2662538*400	27.29	28
	Kullu	152115(6)	152115/2662538*400	22.85	24
	Una	142107(5)	142107/2662538*400	21.35	20
	Lahaul-Spiti	15321(1)	15321/2662538*400	2.30	04
JCCB	Solan	156020(6)	156020/2662538*400	23.44	24
Total		2662538(100)			400

The data for the study has been sourced from filled questionnaire from the customers of the co-operative banks in Himachal Pradesh. The final analysis is done by mean, standard deviation, coefficient of variation, Skewness and Kurtosis using SPSS.

Objective of the study:

- To study association between age and the customer's perception towards banking services rendered by the co-operative banks in Himachal Pradesh.

ANALYSIS AND INTERPRETATION:

The observation and result showing association between customer ages with banking habits used in the study to make generalization about the changes are as shown below in the tables:

T**able -1.1: Association between Age and type of bank accounts customers have**

The Himachal Pradesh state co-operative Bank Limited						The Kangra Central Co-operative Bank Limited					The Jogindra Central Co-operative Bank Limited				
Age	SB	CA	FD	Loan	Total	SB	CA	FD	Loan	Total	SB	CA	FD	Loan	Total
Up to 20 year	30(64)	9(19)	6(13)	2(4)	47	25(93)	2(7)	-	-	27	3(75)	1(25)	-	-	4
20-40	56(60)	11(12)	16(17)	10(11)	93	77(87)	5(6)	6(5)	1(2)	89	7(50)	1(7)	4(29)	2(14)	14
40-60	34(59)	7(12)	12(21)	5(9)	58	52(86)	1(2)	4(7)	3(5)	60	2(33)	-	2(33)	2(33)	6
60 & Above	-	-	2(100)		2	-	-	-	-	-	-	-	-	-	-
Total	120(60)	27(13)	36(18)	17(9)	200	154(87)	8(4)	10(6)	4(2)	176	12(50)	2(8)	6(25)	4(17)	24

HPSCB: Chi-Square Value 13.170, P. Value .155, Cramer Value .148, **KCCB:** Chi-Square Value 6.807, P. Value .339, Cramer Value .139, **JCCB:** Chi-Square Value 5.643, P. Value .464, Cramer Value .343

Table 1 mentioned that majority of the respondent shave saving bank account and age wise 20-40 years of customers have most of the accounts in the co-operative banks under study. The chi-square statistics of HPSCB, KCCB and JCCB are found in the tune of 13.170, 6.807, 5.643 respectively with its 'P' Value .155, .339, .464 which indicated that there is no association between age and different types of bank account. Further, the Crammer's value for HPSCB, KCCB found .148, .139 indicated a weak association and for JCCB the value observed .343 indicted a moderate association between ages and types of account under study.

Table-2: Association between ages and from how many times the customers have account in co-operative bank

The Himachal Pradesh state co-operative Bank Limited					The Kangra Central Co-operative Bank Limited					The Jogindra Central Co-operative Bank Limited				
Age	1	2	3	4 & More	Total	1	2	3	4 & More	Total	1	2	3	4 & More	Total
Up to 20 year	17(36)	7(15)	5(11)	18(38)	47	6(22.)	4(16)	-	17(63)	27	3(75)	1(25)	-	-	4
20-40	12(13)	10(11)	20(21)	51(55)	93	17(19)	9(10)	20(22)	43(48)	89	-	-	4(29)	10(71)	14
40-60	-	3(5)	7(12)	48(83)	58	9(15)	1(2)	4(7)	46(76)	60	-	-	1(16)	5(84)	6
60 & Above	-	-	-	2(100)	2	-	-	-	-	-	-	-	-	-	-
Total	29(14)	20(10)	32(16)	119(60)	200	32(18)	14(8)	24(14)	106(60)	176	3(12)	1(4)	5(21)	15(63)	24

HPSCB: Chi-Square Value 40.016, P. Value .000, Cramer Value .258, **KCCB:** Chi-Square Value 21.456, P. Value .002, Cramer Value .247, **JCCB:** Chi-Square Value 24.381, P. Value .000, Cramer Value .713

Table 2 depicts from the table that majority of the respondents from different age groups have bank account since more than 4 years in bank and age wise 20-40 years of respondents have most of the bank accounts.The chi-square statistics of HPSCB, KCCB and JCCB are found in the tune of 40.016, 21.456, 24.381respectively with its 'P' Value .000, .002, .000 which indicated that there is no association between ages and from how many times the customers have account in co-operative bank. Further, the Crammer's value for HPSCB, KCCB found .258, .247 indicated a small association and for JCCB Cramer's value found .713 indicted a strong association between age and from how many times the customers have account in co-operative bank.

Table-3: Association between age and how many times the customers of the Bank visit your branch in a month to obtain the facilities?

The Himachal Pradesh state co-operative Bank Limited					The Kangra central co-operative Bank Limited					The Jogindra Central Co-operative Bank Limited				
Age	Once	Twice	Thrice	&More	Total	Once	Twice	Thrice	&More	Total	Once	Twice	Thrice	&More	Total
Up to 20 year	34(72)	11(23)	-	2(4)	47	6(22)	17(63)	3(11)	1(4)	27	1(25)	2(50)	1(25)	-	4
20-40	51(55)	33(35)	7(8)	2(2)	93	65(73)	16(18)	3(3)	5(6)	89	7(50	6(43)	-	1(7)	14
40-60	37(64)	19(33)	1(2)	1(1)	58	36(60)	17(28)	1(2)	6(10)	60	5(83)	1(17)	-	-	6
60 & Above	-	02(100)	-	-	2	-	-	-	-	-	-	-	-	-	-
Total	122(61)	65(32)	8(4)	5(3)	200	107(61)	50(28)	7(5)	12(7)	176	13(55)	9(37)	1(4)	1(4)	24

HPSCB: Chi-Square Value 13.538, P. Value .140, Cramer Value .150, **KCCB:** Chi-Square Value 29.369, P. Value .000, Cramer Value .289, **JCCB:** Chi-Square Value 8.298, P. Value .217, Cramer Value .416

Table 3 states that the majority of the respondents from different age group have visited to bank branch only for once a month and age wise most of the respondents having age of 20-40 years visit to bank branch to avail services under study. The chi-square statistics of HPSCB, KCCB and JCCB are found in the tune of 13.538, 29.369, 8.298 with its respective 'P' Value .140, .000, .217 which indicated that there is not found any association between the statements. Further, the Crammer's value for HPSCB, KCCB found .150, .289 indicated a small association and for JCCB Cramer's value found .413 indicted a strong association between the given variables under study.

Table-4: **Association between Age and how many customers has availed online services offered by the Bank**

The Himachal Pradesh state co-operative Bank Limited				The Kangra Central Co-operative Bank Limited				The Jogindra Central Co-operative Bank Limited			
Age	Yes	No	Total	Yes	No	Total	Yes	No	Total
Up to 20 years	27 (58)	20(42)	47	16(59)	11(41)	27	1(25.00)	3(75.00)	4
20-40	47 (50.50)	46(49.50)	93	55 (61.80)	34 (38.20)	89	7(50.00)	7(50.00)	14
40-60	18(31)	40(69)	58	34 (56.70)	26 (43.30)		3(50)	3(50)	6
60 & Above	-	2(100)	2	-	-	-	-	-	-
Total	92(46)	108(54)	200	105(60)	71(40)	176	11(46)	13(54)	24

HPSCB: Chi-Square Value 10.183, P. Value .017, Pearson's Phi Value .226, **KCCB:** Chi-Square Value .394, P. Value .821, Pearson's Phi Value.047, **JCCB:** Chi-Square Value .839, P. Value .657, Pearson's Phi Value.187

Table 4 depicted that the majority of the respondents of KCCB having different age groups are availing online services in comparison to the respondents of HPSCB and JCCB under study. The chi-square statistics of HPSCB, KCCB and JCCB are recorded in the tune of 10.183, .394, .839 respectively with its 'P' Value .017, .821, .657 which indicated that there is found no association in case of HPSCB and JCCB whereas observed association in case of KCCB between the said statements under study. Further, the Pearson's Phi value for HPSCB, JCCB found .226, .187 indicated a weak association and for KCCB Phi value found .047 indicted a very week association between the statements.

Table-5: Association between Age and Payment made through Credit/Debit card is easy then physical money payment by customer

The Himachal Pradesh state co-operative Bank Limited				The Kangra Central Co-operative Bank Limited			The Jogindra Central Co-operative Co- Bank Limited		
Age	Yes	No	Total	Yes	No	Total	Yes	No	Total
Up to 20 year	27(57.9)	20(42.6)	47	19(70.37)	8(29.63)	27	4(100)	-	4
20-40	67(72)	26(28)	93	79(70)	10(30)	89	9(64)	5(36)	14
40-60	25(43)	33(57)	58	51(89)	9(11)	60	3(50)	3(50)	6
60 & Above	-	2(100)	2	-	-	-	-	-	-
Total	119(59.50)	81(40.50)	200	149(85)	23(15)	176	16(67)	8(33)	24

HPSCB: Chi-Square Value 15.563, P. Value .001, Pearson's Phi Value.279, **KCCB:** Chi-Square Value 5.405, P. Value .067, Pearson's Phi Value.175, **JCCB:** Chi-Square Value 2.786, P. Value .248, Pearson's Phi Value.341

Table 5 revealed that the majority of the respondents of the different age groups under study have tendency to use digital mode of transaction then physical money under study. The chi-square statistics of HPSCB, KCCB and JCCB are found 15.563, 5.405, and 2.786 with its 'P' Value .001, .067, .248 which indicated that there is no association between the statements under study. Further, the Phi value for HPSCB, JCCB found .279, .175 indicated a weak association and for KCCB Phi value found .341 indicted a moderate association between the statements under study.

Table-6: Association between Age and co-operative bank is moving from paperless banking to e-banking. Do you think it is worthy or not.

The Himachal Pradesh state co-operative Bank Limited				The Kangra Central Co-operative Bank Limited			The Jogindra Central Co-operative Bank Limited		
Age	Yes	No	Total	Yes	No	Total	Yes	No	Total
Up to 20 year	20(43)	27(57)	47	20(74)	7(26)	27	3(75)	1(25)	4
20-40	47(50.50)	46(49.50)	93	73(82)	16(18)	89	6(42.90)	8(57.10)	14
40-60	24(41)	34(59)	58	46(77)	14(23)	60	2(33)	4(67)	6
60 & Above	-	2(100)	2	-	-	-	-	-	-
Total	91(45.50)	119(54.50)	200	139(79)	37(21)	176	11(46)	13(54)	24

HPSCB: Chi-Square Value 3.183, P. Value .364, Pearson's Phi Value.126, **KCCB:** Chi-Square Value 1.081, P. Value .582, Pearson's Phi Value.078, **JCCB:** Chi-Square Value 1.798,   P. Value .407, Pearson's Phi Value.274

Table 6 states that majority of the respondents of KCCB having age in the group of up to 20 year and 20-40 year of age groups are willingness for moving from paperless banking to e-banking in comparison to the respondents of the HPSCB and JCCB under study. The chi-square statistics of HPSCB, KCCB and JCCB are mentioned in the tune of 3.183, 1.081 and 1.798 respectively with its 'P' Value .364, .582, .407 which indicated that there is no association between the stated statements. Further, the Phi value for HPSCB, KCCB, JCCB are recorded .126, .078 and .274 indicated that a very weak association is observed in case of KCCB and weak association observed in case other banks under study.

Table-7: Association between Age and Do you recommended any one for opening bank account in co-operative bank

The Himachal Pradesh state co-operative Bank Limited				The Kangra Central Co-operative Bank Limited				The Jogindra Central Co-operative Bank Limited			
Age	Yes	No	Total	Yes	No	Total	Yes	No	Total
Up to 20 year	33(70)	14(30)	47	21(78)	6(22)	27	1(23)	3(75)	4
20-40	51(55)	42(45)	93	58(65)	31(35)	89	11(78.57)	3(21.43)	14
40-60	40(69)	18(31)	58	42(70)	18(30)	60	6(100)	-	6
60 & Above	-	2(100)	2	-	-	-	-	-	-
Total	124(62)	76(38)	200	121(69)	55(31)	176	18(75)	6(25)	24

HPSCB: Chi-Square Value 7.828, P. Value .050, Pearson's Phi Value.198, **KCCB:** Chi-Square Value 1.599, P. Value .450, Pearson's Phi Value.093, **JCCB:** Chi-Square Value 7.429,   P. Value .024, Pearson's Phi Value.556

Table7 depicted that the majority of the respondentsof different age groups have tendency to guide new customers to open an account in the co-operative banks under study. The chi-square statistics of HPSCB, KCCB and JCCB are found in the tune of 7.828, 1.599, 7.429 with its respective 'P' Value .050, .450, .024 which indicated that there is no association between the statements under study. Further, the Pearson's Phi value of KCCB isfound.093 indicated a very weak association and weak association is observed in case of HPSCB .198 and for JCCB the value found .556 indicted a very strong association between the stated statements.

Table-8: Association between Age and customers think that the co-operative bank providing loans on easy terms

The Himachal Pradesh state co-operative Bank Limited			The Kangra Central Co-operative Limited Bank			The Jogindra Central Co-operative Bank Limited		
Age	Yes	No	Total	Yes	No	Total	Yes	No	Total
Up to 20 year	24(51)	23(49)	47	12(44)	11(56)	27	2(50)	2(50)	4
20-40	39(42)	54(58)	93	57(64)	32(36)	89	8(57)	6(43)	14
40-60	22(38)	36(62)	58	33(55)	27(45)	60	2(33)	4(67)	6
60 & Above	-	2(100)	2	-	-	-	-	-	-
Total	85(43)	115(57)	200	102(58)	74(42)	176	12(50)	12(50)	24

HPSCB: Chi-Square Value 3.396, P. Value .334, Pearson's Phi Value.130, **KCCB:** Chi-Square Value 3.592, P. Value .166, Pearson's Phi Value.143, **JCCB:** Chi-Square Value .952, P. Value .621, Pearson's Phi Value.199

Table 8 depicts that in case of KCCB the majority of the respondents having different age groups have thought that co-operative bank providing loans on easy terms and conditions in comparison to other co-operative banks under study. The chi-square statistics of HPSCB, KCCB and JCCB are found in the tune of 3.396, 3.592 and .952respectively with its 'P' Value .334, .166, .621 which indicated that there is no association between the statements. Further, the Pearson's Phi value for HPSCB, KCCB, JCCB are found .130, .143 and .199 indicated that a weak association is observed between the statements under study.

Table-9: Association between Age and Customers thinks that the co-operative bank providing higher rate of interest on deposit in comparison to Nationalised and Private sector bank

The Himachal Pradesh state co-operative Bank Limited			The Kangra Central Co-operative Bank Limited			The Jogindra Central Co-operative Bank Limited		
Age	Yes	No	Total	Yes	No	Total	Yes	No	Total
Up to 20 year	21(45)	26(55)	47	6(22)	21(78)	27	1(25)	3(75)	4
20-40	31(33)	62(67)	93	45(51)	44(49)	89	4(29)	10(71)	14
40-60	16(28)	42(72)	58	24(40)	36(60)	60	1(17)	5(83)	6
60 & Above	-	2(100)	2	-	-	-	-	-	-
Total	68(34)	132(64)	200	75(43)	101(57)	176	6(25)	18(75)	24

HPSCB: Chi-Square Value 4.501, P. Value .212, Pearson's Phi Value.150, **KCCB:** Chi-Square Value 7.058, P. Value .029, Pearson's Phi Value.200, **JCCB:** Chi-Square Value .317, P. Value .852, Pearson's Phi Value.115

Table 9 suggested that the majority of the respondentsof different age groups have thought that the co-operative banks under study are not providing higher interest on deposit in comparison to the Nationalised and Private sector Bank.The chi-square statistics of HPSCB, KCCB and JCCB are found in the tune of 4.501, .7.058, .317 with its 'P' Value .212, .029, .852 which indicated that in case of HPSCB, KCCB there is found no association whereas as in case of JCCB there is found association between the statements under study. Further, the Pearson's Phi value for HPSCB, KCCB, JCCB are found .150, .200, .115 indicated a weak association between the statements.

Table-10: **Association between Age and Do you think co-operative bank charging higher rate of interest on loan in comparison to Nationalized and Private sector banks.**

The Himachal Pradesh state co-operative Bank Limited				The Kangra Central Co-operative Bank Limited				The Jogindra Central Co-operative Bank Limited			
Age	Yes	No	Total	Yes	No	Total	Yes	No	Total
Up to 20 year	26 (55)	21(45)	47	7(26)	21(74)	27	1(25)	3(75)	4
20-40	39 (42)	54(58)	93	32(36)	57(64)	89	6(43)	8(57)	14
40-60	14 (24)	44(76)	58	16(27)	44(73)	60	2(33)	4(67)	6
60& Above	-	2(100)	2	-	-	-	-	-	-
Total	79(39.50)	121(80.50)	200	55(31.20)	121(68.80)	176	9(37.50)	15(62.50)	24

HPSCB: Chi-Square Value 12.186, P. Value .007, Pearson's Phi Value.247, **KCCB:** Chi-Square Value 1.860, P. Value .395, Pearson's Phi Value.103, **JCCB:** Chi-Square Value .483, P. Value .786, Pearson's Phi Value.142

Table 10 mentioned that the majority of the respondents of the different banks under study havebeen not think that the co-operative banks are charging higher rate of interest on loan in comparison to the Nationalised and Private sector Banks.The chi-square statistics of HPSCB, KCCB and JCCB are found 12.186, 1.860, .483 with its 'P' Value .007, .395, .786 which indicated that in case of HPSCB, KCCB there is found no association whereas as in case of JCCB association is observed between the mentioned statements. Further, the Pearson's Phi value for HPSCB, KCCB, JCCB are found .247, .103, .142 indicated a small association between the statements.

Table-11: Association between Age and are you satisfied with the banking products and services offered by your bank

The Himachal Pradesh state co-operative Bank Limited				The Kangra Central Co-operative Bank Limited				The Jogindra Central Co-operative Bank Limited			
Age	Yes	No	Total	Yes	No	Total	Yes	No	Total
Upto 20 year	32 (68.10)	15(31.90)	47	19(70.40)	8(29.60)	27	2(50.00)	2(50.00)	4
20-40	62 (66.70)	31(33.30)	93	58(65.20)	31(34.80)	89	10(71.40)	8(28.60)	14
40-60	34 (58.60)	24(41.40)	58	50(83.33)	10(16.67)	60	5(83.30)	1(16.70)	6
60 & Above	2(100)		2	-	-	-	-	-	-
Total	130 (65)	70(35)	200	127(72.20)	49(27.80)	176	17(70.80)	7(29.20)	24

HPSCB: Chi-Square Value 2.425, P. Value .489, Pearson's Phi Value.110, **KCCB:** Chi-Square Value 5.937, P. Value .087, Pearson's Phi Value.184, **JCCB:** Chi-Square Value 1.297, P. Value .523, Pearson's Phi Value.232

Table 11 states that the majority of the respondents of the co-operative banks under study having different age groups have satisfied with the banking products and services offered by the banks under study. The chi-square statistics of HPSCB, KCCB and JCCB are found in the tune of 2.425, 5.937, 1.297 respectively with its 'P' Value .489, .087, .523 which indicated that in case of the co-operative banks under study no association is found among the statements. Further, the Pearson's Phi value for HPSCB, KCCB, JCCB are found .110, .184, .232 indicated a small association between the statements.

Table-12: Association between Age and are you thinking of switching over to other bank

The Himachal Pradesh state co-operative Bank Limited				The Kangra Central Co-operative Bank Limited				The Jogindra Central Co-operative Bank Limited			
Age	Yes	No	Total	Yes	No	Total	Yes	No	Total
Up to 20 year	11(23.40)	36(76.60)	47	6(22.20)	21(77.80)	27	1(25)	3(75)	4
20-40	9(9.67)	84(90.32)	93	19(21)	70(79)	89	1(7)	13(93)	14
40-60	8(13.80)	50(86.20)	58	13(22)	47(78)	60	-	6(100)	6
60 & Above	-	2(100)	2	-	-	-	-	-	-
Total	28(14)	172(86)	200	38(22)	138(78)	176	2(17)	22(83)	24

HPSCB: Chi-Square Value 5.223, P. Value .156, Pearson's Phi Value .162, **KCCB:** Chi-Square Value .010, P. Value .995, Pearson's Phi Value .007, **JCCB:** Chi-Square Value 2.026,   P. Value .363, Pearson's Phi Value .291

Table 12 presents that the majority of the respondents of the co-operative banks under study of having different age group have been not wanted to switch over to other banks. The chi-square statistics of HPSCB, KCCB and JCCB are observedin the tune of 5.223, .010, 2.026respectively with its 'P' Value .156, .995, .363 which indicated that in case of HPSCB, JCCB there is found no association whereas in case of KCCB observed association between the statements. Further, the Pearson's Phi value for HPSCB, KCCB, JCCB are found .110, .184, .232 indicated that a small association observed between the statements under study.

Findings of the study:

- It is found that majority of the respondents have saving bank account and age wise 20-40 years of customers have most of the accounts in the co-operative banks under study. The chi-square statistics of HPSCB, KCCB and JCCB are found that there is no association between age and different types of bank account. Further, the Crammer's value for HPSCB, KCCB indicated a weak association and for JCCB the value indicted a moderate association between ages and types of account under study.

- It is observed that majority of the respondents from different age groups have bank account since more than 4 years in bank and age wise 20-40 years of respondents have most of the bank accounts. The chi-square statistics of the banks indicated that there is no association between ages and from how many times the customers have account in co-operative bank. Further, the Crammer's value for HPSCB, KCCB indicated a small association and for JCCB indicted a strong association between the statements.

- The majority of the respondents from different age group have visited to bank branch only for once a month and age wise most of the respondents having age of 20-40 years visit to bank branch to avail services under study. The chi-square statistics of HPSCB, KCCB and JCCB indicated that there is not found any association between the statements. Further, the Crammer's value for HPSCB, KCCB indicated a small association and for JCCB indicted a strong association between the given variables under study.

- The majority of the respondents of KCCB having different age groups are availing online services in comparison to the respondents of HPSCB and JCCB under study. The chi-square statistics of the banks indicated that there is found no association in case of HPSCB and JCCB whereas observed association in case of KCCB between the said statements under study. Further, the Pearson's Phi value for HPSCB, JCCB indicated a weak association and for KCCB Phi value depicted a very week association between the statements.

- The majority of the respondents of the different age groups under study have tendency to use digital mode of transaction then physical money under study. The chi-square statistics of the banks under study indicated that there is no association between the statements under study. Further, the Phi value for HPSCB, JCCB indicated a weak association and for KCCB value observed a moderate association between the statements under study.

- The majority of the respondents of KCCB having age in the group of up to 20 year and 20-40 year of age groups are willingness for moving from paperless banking to e-banking in comparison to the respondents of the HPSCB and JCCB under study. The chi-square statistics of the banks indicated that there is no association between the stated statements. Further, the Phi value for HPSCB and JCCB indicated that a very weak association is observed whereas in case of KCCB weak association observed in case other banks under study.

- The majority of the respondents of different age groups have tendency to guide new customers to open an account in the co-operative banks under study. The chi-square indicated that there is no association between the statements under study. Further, the Pearson's Phi value of KCCB is indicated a very weak association, weak association is observed in case of HPSCB and for JCCB the value indicted a very strong association between the stated statements.

- The majority of the respondents of the KCCB having age groups have thought that co-operative bank providing loans on easy terms and conditions in comparison to other co-operative banks under study. The chi-square statistics of the banks indicated that there is no association between the statements. Further, the Pearson's Phi value indicated that a weak association is observed between the statements under study.

- The majority of the respondents of different age groups have thought that the co-operative banks under study are not providing higher interest on deposit in comparison to the Nationalised and Private sector Bank. The chi-square statistics of the banks indicated that in case of HPSCB, KCCB there is found no association whereas as in case of JCCB association observed between the statements under study. Further, the Pearson's Phi value for the same indicated a weak association between the statements.

- The majority of the respondents of the different banks under study have been not think that the co-operative banks are charging higher rate of interest on loan in comparison to the Nationalised and Private sector Banks. The chi-square statistics of the banks indicated that in case of HPSCB, KCCB there is found no association whereas as in case of JCCB association is observed between the mentioned statements. Further, the Pearson's Phi value for HPSCB, KCCB, JCCB are found .247, .103, .142 indicated a small association between the statements.

- The majority of the respondents of the co-operative banks under study having different age groups have satisfied with the banking products and services offered by the banks under study. The chi-square statistics of the banks indicated that there is no association is found among the statements. Further, the Pearson's Phi value indicated a small association between the statements.

- It is found form the study that the majority of the respondents of the co-operative banks under study of having different age group have been not want to switch over to other banks. The chi-square statistics of the banks under indicated that in case of HPSCB, JCCB there is found no association whereas in case of KCCB observed association between the statements. Further, the Pearson's Phi value for the same indicated that a small association observed between the statements under study.

Suggestions:

- The banks under study ensure proper plan to make aware their customers about different types of bank account kept by the bank.

- The banks under study also make efforts to increase e-banking habits among their customers.

- The banks also plan to minimize the interest charging and allowing rate equal to private and nationalized banks to get confidence among the customers.

- The term and conditions of sanctioning loans must be clear, simple and easy to get customers benefited.

- The banks under should plan to provide services to the customers taking in view their ages so that new customs can be established.

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ONLINE CLASSES: A SUSTAINABLE PLATFORM FOR FUTURE DIGITAL LEARNING.

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ABSTRACT

Due to the emergence of COVID-19 pandemic, there is a growing need for educational institutes to shift learning from offline mode to online so as to make education accessible to everyone and allowing students to pursue their education without any hindrance. Delivery of classes through online platform has been a challenge both for schools and students. The purpose of this study was to conduct an online survey regarding student's perception and experience related to online classes, the online platform they find the most comfortable one making it sustainable for future also. The sample consisted of 100 students from schools, undergraduate and post graduate level comprising of 64% males and 36% females. Online survey method was used for the purpose of data collection. The findings show that the students are satisfied with online classes, MS Teams is considered as the most comfortable platform and quizzes as the most preferred teaching learning aid of online learning by the students. There is a need to make online learning more sustainable for future generation.

Keywords: Online learning, COVID-19, innovative technology in online learning.

INTRODUCTION

COVID-19 pandemic effects are beyond imagination on economy. In some areasit has given positive effect like Banks, food, health, online shopping industries etc. (Mustafa, M., 2021)but in major areas, it has given negative effect(Orlov, G. et. Al., 2021)like education, manufacturing, agriculture industries etc. Education industry still facing this issue due to closure of their institutions across the globe. During that pandemic crises' education institutes had to switch to online classroom learning for the benefit of their student's education and future (Ali, W., 2020).In starting of lockdown period, Education institutes were not prepared for online classes due to this they were facing issues in digital platform classes. Both education institutes and students were in dilemma in online class learning patterns and its complexity. With the prompt efforts and strategies now education institutes have improved themselves with latest innovative techniques for giving best digital platform for online learning to their students. They are still boosting their class learning environment to make it more convenient, easily accessible, and interactive than traditional conventional classroom learning. Now education institutes are making this practice more effectively for future requirement also. So, this will be helpful for developingplatform for sustainable digital online learning and practices.

This research paper is designed to analyze the relevance of online learning from student's perspective in Indian education system. This analyze of online classroom teaching methods and student's perceptions about this will be helpful for making it sustainable, innovative teaching and practicesfor Indian education system for future generation also.

LITERATURE REVIEW

Before COVID pandemic crises, Indian education system were preferring traditional conventional classroom learning to teach their students. In this method, instructors were interacting face to face with their students while delivering lectures, discussing case studies in class, and taking projects viva etc (Chan, E. Y. M, 2019)instructors were also counselling their students personally in case of any issue. Both instructors and students found it very interactive because it gave conducive environment in classroom learning.

During lockdown period, when COVID situation were getting more worst, and all education institutes were not operational. In that critical situation also, educational institutes were finding more ways of teaching options for the future of their students. That time educational institutes had opted online classes platform which was newly introduced mode of teaching and not something that has been a part of regular classes. It was very tough for educational institutes to opt online digital classroom platform, but to avoid any delay in students studies educational institute opted many online platforms of different applications like Zoom, Google meet, Web X, What's-up Group Calling, Ms Teams etc.

In starting of lockdown period, online classroom learning was the biggest hurdle for educational institutes to train their teachers and students about operating of these online applications (Mahmood, S, 2021).This was remarkable that both teachers and students were showing interest in online learning. Teachers were delivering lectures and engaging with their students with the best possible way. Not only studentsbut also their parents were also cooperating all the time to learn and adjust with new system.

Now educational institutesare well established with their online classroom learning methods and they are taking online classes for their students in well-mannered way. Some of the institutes are also taking hybrid (both online and offline) classes as per govt. norms in their locations. So, there is need of understanding student's perspectives about online class learning and their requirement to make it sustainable practice for future generation.

OBJECTIVES OF THE STUDY:
1. To understand the relevance of online learning from students' perspective.
2. To understand pros and cons of online learning
3. To identify the scope of online learning innovative techniques for sustainable development of education system for future generation.

RESEARCH METHODOLOGY
Sample Data: The key purpose of this research study was to know about student's perspective towards online classes. During COVID pandemic crises students has faced many challenges while taking online classes on different digital platforms and applications. That is the reason there is need

to know the student's perceptions about pros and cons of online learning and their views for developing sustainable online learning platform for education system. The sample of the study included 100school, undergraduate and postgraduate students.: 36 female and 64 male respondents. The respondents included school students(N=100,28%), undergraduate (N = 100, 57%) as well as postgraduate (N = 100, 15%) students. All the students participated in the survey were currently attending online classes of different courses.

Survey: An online survey technique was used to gather data about the perceptions of different students regarding online learning. A structured questionnaire was used to assess the effectiveness of online learningwith different teaching platforms. Students were asked about their experience towards online classes. Through pilot study appropriate revisions and modifications were made in the questionnaire based on their ideas and suggestions.

DATA ANALYSIS& RESULT DISCUSSION:
The data obtained through an online survey was analysed based on students' responses. These responses were stated in pie charts and percentages. Demographic data were obtained using the Likert scale and is reported in percentage of students' responses.

- **STUDENT'S PERCEPTION REGARDING ONLINE LEARNING**

➢ **Gender**

Table 5.1: Frequency Level of the Respondents(Gender)

Gender	Frequency	Percent
Male	64	64%
Female	36	36%

This table represent the gender group and number of respondents who responded towards their perspective regarding online class learnings. Among them 64% students were male, and 36% students were female

➢ **Student Category**

Table 5.2: Frequency Level of the Respondents(Student Category)

Student Category	Frequency	Percent
School	28	28.0
Under-Graduate	57	57.0
Post-Graduate	15	15.0
Total	100	100.0

The table represents' the student category and number of respondents who responded towards their perspective regarding online class learnings,among them 28% students were studying in school, 57% students were from Undergraduate courses, and 15% students were from PostGraduate courses.

➢ **Type of Education Institute**

5.3: Frequency Level of the Respondents (Type of Education Institute)

Type of Education Institute	Frequency	Percent
Private	94	94.0
Government	2	2.0
Deemed	4	4.0
Total	100	100.0

The table represent the number of respondents from different **educational institutes** s who responded towards their perspective regarding online class learnings.Among them 94% were students from private institutes, 2% students were from Government institutes and 4% deemed institutes

➢ **AGE**

5.4: Frequency Level of the Respondents (Age group)

Type of Education Institute	Frequency	Percent
"6-16 Years"	20	20.0
"17-21 Years"	66	66.0
"Above 21 years"	14	14.0
Total	100	100.0

The table represent the number of respondents from different age groups who responded towards their perspective regarding online class learnings. Among them 20% students from private institutes, 2% students were from Government institutes and 4% deemed institutes

➢ **Student's responses**

Table 5.5 Experience about online learning environment				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Excellent"	11	11.0	11.0	11.0
	="Good"	39	39.0	39.0	50.0
	"Neutral"	21	21.0	21.0	71.0
	"Fair"	15	15.0	15.0	86.0
	"Poor"	14	14.0	14.0	100.0
	Total	100	100.0	100.0	

The table represent the number of respondents who responded towards the statement that experience about online learning environment. Among them 50% students were satisfied.

Table 5.6 Difference between online digital learning and conventional offline learning					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Strongly Disagree"	2	2.0	2.0	2.0
	"Disagree"	7	7.0	7.0	9.0
	"Neutral"	24	24.0	24.0	33.0
	"Agree"	39	39.0	39.0	72.0
	"Strongly Agree"	28	28.0	28.0	100.0
	Total	100	100.0	100.0	

The table represent the number of respondents who responded towards the statement that difference between online digital learning and conventional offline learning. Among them 67% students were agreed on this statement.

Table 5.7 Online digital learning is more motivating than conventional offline learning					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Strongly Disagree"	3	3.0	3.0	3.0
	"Disagree"	9	9.0	9.0	12.0
	"Neutral"	17	17.0	17.0	29.0
	"Agree"	40	40.0	40.0	69.0
	"Strongly Agree"	31	31.0	31.0	100.0
	Total	100	100.0	100.0	

The table represent the number of respondents who responded towards the statement that Online digital learning is more motivating than conventional offline learning. Among them 71% students were agreed on this statement.

Table 5.8: Direct interaction with the teacher in offline mode is necessary for learning.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Strongly Disagree"	42	42.0	42.0	42.0
	"Disagree"	37	37.0	37.0	79.0
	"Neutral"	15	15.0	15.0	94.0
	"Agree"	3	3.0	3.0	97.0
	"Strongly Agree"	3	3.0	3.0	100.0
	Total	100	100.0	100.0	

The table represent the number of respondents who responded towards the statement that direct interaction with the teacher in offline mode is necessary for learning. Among them 79% students were disagreed on this statement.

Table 5.9: Which teaching learning aid do you find most interesting?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Quizzes"	32	32.0	32.0	32.0
	"Assignments"	23	23.0	23.0	55.0
	"PPTs"	25	25.0	25.0	80.0
	"Audio visual"	13	13.0	13.0	93.0
	"Polls"	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

The table represents the number of respondents who responded towards the statement that which teaching learning aid do they find most interesting? Among them 32% students were interested in quizzes, 23% were interested in assignments, 25% were interested in ppts, 13% were interested in audio visual and 7% were interested in polls methods.

Table 5.10: Students prefer recorded videos of class lectures than time bound classes					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Strongly disagree"	16	16.0	16.0	16.0
	"Disagree"	29	29.0	29.0	45.0
	"Neutral"	35	35.0	35.0	80.0
	"Agree"	14	14.0	14.0	94.0
	"Strongly agreed"	6	6.0	6.0	100.0
	Total	100	100.0	100.0	

The table represents the number of respondents who responded towards the statement that students prefer recorded videos of class lectures than time bound classes. Among them 45% students were agreed, and 35% students were neutral on this statement.

Table 5.11: Students are more interacting and discussing with class teacher in online learning than offline learning.				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Strongly Disagree"	6	6.0	6.0	6.0
	"Disagree"	11	11.0	11.0	17.0
	"Neutral"	23	23.0	23.0	40.0
	"Agreed"	37	37.0	37.0	77.0
	"Strongly Agreed"	23	23.0	23.0	100.0
	Total	100	100.0	100.0	

The table represents the number of respondents who responded towards the statement that Students are more interacting and discussing with class teacher in online learning than offline learning. Among them 60% students were agreed, and 23% students were neutral on this statement.

Table 5:12 Students like online polls, quizzes and assignment during classes to make them attentive.				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Quizzes"	32	32.0	32.0	32.0
	"Assignments"	23	23.0	23.0	55.0
	"Ppts"	25	25.0	25.0	80.0
	"Audio-Visual"	13	13.0	13.0	93.0
	"Polls"	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

The table represents the number of respondents who responded towards the statement that Students like online polls, quizzes, and assignment during classes to make them attentive. Among them 60% students were agreed, and 23% students were neutral on this statement.

Table 5:13 Students find online learning more comfortable than classroom learning?				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Strongly Disagree"	16	16.0	16.0	16.0
	"Disagree"	29	29.0	29.0	45.0
	"Neutral"	35	35.0	35.0	80.0
	"Agree"	14	14.0	14.0	94.0
	"Strongly Agree"	6	6.0	6.0	100.0
	Total	100	100.0	100.0	

The table represents the number of respondents who responded towards the statement that Students find online learning more comfortable than classroom learning. Among them 45% students were disagreed, and 35% students were neutral on this statement.

Table 5:14 Do you feel that online learning has made education easily accessible?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Strongly Disagree"	6	6.0	6.0	6.0
	"Disagree"	11	11.0	11.0	17.0
	"Neutral"	23	23.0	23.0	40.0
	"Agree"	37	37.0	37.0	77.0
	"Strongly Agree"	23	23.0	23.0	100.0
	Total	100	100.0	100.0	

The table represents the number of respondents who responded towards the statement that Do they feel that online learning has made education easily accessible? Among them 60% students were agreed, and 23% students were neutral on this statement.

Table 5:15 Do you go through online recorded sessions when missed out?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Strongly Disagree"	13	13.0	13.0	13.0
	"Disagree"	53	53.0	53.0	66.0
	"Neutral"	25	25.0	25.0	91.0
	"Agree"	4	4.0	4.0	95.0
	"Strongly Agree"	5	5.0	5.0	100.0
	Total	100	100.0	100.0	

The table represents the number of respondents who responded towards the statement that do they go through online recorded sessions when missed out? Among them 66% students were disagreed, and 25% students were neutral on this statement.

Table 5:16Is use of audio visual and other innovative technique more in online than offline?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Strongly Disagree"	35	35.0	35.0	35.0
	"Disagree"	33	33.0	33.0	68.0
	"Neutral"	32	32.0	32.0	100.0
	Total	100	100.0	100.0	

The table represents the number of respondents who responded towards the statement that do they go through online recorded sessions when missed out? Among them 66% students were disagreed, and 25% students were neutral on this statement.

Table 5:17: Is online class a time saver for you instead of going to school?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Strongly Disagree"	43	43.0	43.0	43.0
	"Disagree"	31	31.0	31.0	74.0
	"Neutral"	26	26.0	26.0	100.0
	Total	100	100.0	100.0	

The table represents the number of respondents who responded towards the statement that Is online class a time saver for them instead of going to school. Among them 74% students were disagreed, and 26% students were neutral on this statement.

Table 5:18: Do you feel more concentrated while taking online class		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	"Strongly Disagree"	17	17.0	17.0	17.0
	"Disagree"	32	32.0	32.0	49.0
	"Neutral"	20	20.0	20.0	69.0
	"Agree"	20	20.0	20.0	89.0
	"Strongly Agree"	11	11.0	11.0	100.0
	Total	100	100.0	100.0	

The table represents the number of respondents who responded towards the statement that Do you feel more concentrated while taking online class. Among them 49% students were disagreed, and 20% students were neutral, and 31% students were agreed on this statement.

CONCLUSION

Online learning is an important component of education and has witnessed immense growth and acceptance both by educational Institutions and students due to the spread of COVID-19 in 2019-2020, forcing students worldwide to move towards e-learning. While the present paper aims to suggest that online classes are comfortable for the students although much effort is needed to make it sustainable for the future generations. This study addressed the effectiveness of online versus traditional classes for students. Although online learning is proving helpful in safeguarding students' learning during pandemic, however, 31% students strongly find online classes as not effective as

conventional learning in motivating students to study. 42% Students are of the opinion that direct connection with the teachers play an important role in learning. As per student's perception Microsoft teams is considered as the most comfortable online learning platform by 82% students. Quizess and assignments are considered as the most interesting teaching learning aid by the students. 43% Students preferred recorded videos when missed, thus providing a pathway to make online learning sustainable for future.53% students suggested the use of quizzes, assignments, polls help them to be attentive during online classes. This study highlights the fact that 32%student considered online learning as time saver providing them enough time to concentrate on their hobbies, manage their responsibilities without affecting learning. Thus, there is a need to conduct research in the area of online learning practices to make it more sustainable for future.

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EFFECT OF CORONA VIRUS ON SMALL AND MEDIUM SCALES INDUSTRIES IN INDIA

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ABSTRACT

The Indian economy has great potential for the growth of large and medium and small enterprises, including machinery and equipment, metals and electrical goods, cement, food and beverages, building and development materials, rubber and plastics and automation technology. The Covid-19 epidemic has affected all economic sectors but it had the worst impact on MSMEs in India. This paper examines the current effects of corona virus on small and medium sized businesses in India. Once the dust settles, SMEs need time to compete, grow and change. Answers to this problem include updates on safety, sanitation and sterilization methods and updated souring policies, integration of new suppliers and normalization of their product portfolio, supply chain flexibility and greater responsiveness to disaster or emergency analysis and Management plans. In this way, small and medium-sized enterprises can deal with the Corona virus epidemic.

Key Words: Economy, Corona virus, Enterprise, Investment, Production

INTRODUCTION

As a very important section of the Indian economy, there has been an increase in micro, small and medium enterprise (MSME) sectors, which has made a significant contribution to manufacturing, innovation, exports and overall economic growth. Our country's social and economic development is focused on micro, small and medium enterprises (MSMEs). It contributes for 45% of total plant production, 40% of total exports and contributes significantly to GDP. In the MSME growth market, 7.09% of GDP is generated. In comparison, MSMEs contribute 30.5% to the facility. The Micro, Small and Medium Enterprises Act 2006, which allowed the growth and development of the industry in a system of micro, small and medium enterprises, established a mechanism for micro, small and medium enterprises to develop and enhance micro competitiveness. The new law addresses the problem of the lending sector, providing small and medium enterprises with credit flows to the sector and paving the way for preferential treatment of small and medium enterprises for government procurement of products and services Physical infrastructure barriers, formal deficiencies, technology implementation, Inability to obtain credit and risky capital, serious problems with late payments, etc. are concerns hinder the development of a conducive business environment for the industry. The Ministry of Micro, Small and Medium Enterprises indicated that a thriving market eco-system is a policy necessity in order to realize the sector's potential and to ensure a sustainable sector development. Global developments in the classification of small enterprises show that they differ significantly in different jurisdictions. However, comparisons of some countries show that most of workers use a vector to describe small enterprises. In India, the concept of small enterprises is currently focused on expenditure in equipment and machinery. To promote market convenience, the government has adopted new requirements for naming MSMEs on

a profit basis, which would be beneficial for small Enterprise. Prior to the enactment of the MSMED Act in 2006, there was no legal concept of SME in India. Therefore, there was no formal concept of small and medium enterprises [SMEs] as well as for those commonly known as large corporations and medium-sized enterprises. According to the latest definition, a small entity with an investment of Rs 1 crore in plant and machinery and not owned or controlled by a subsidiary of any other industrial enterprise. This condition was imposed to prevent large firms to set up their subsidiaries as small businesses. In addition, it was intended to discourage the misuse of incentives by establishing more than one SSI unit by the same person.

Studies by the Small Industries Development Bank of India (SIDBI) found that although investments in the SSI sector were blocked globally, the real impact of the review was not significant. However, the 1997 revision of allotment criteria introduced smaller units with higher cost potential. Meanwhile, the Indian government has agreed to limit expenditure ranges from Rs 300 lakh to Rs 100 lakh. There is no widely agreed concept on small and medium enterprises, especially within the US government. In the United States, companies with less than 500 employees are listed by SMSs.

MSME is a Chinese company with total assets between 40 and 400 million yen and 1 to 3000 employees. Depending on the size of the field market, trade volumes range from 10 to 300 million yen. In 1966, a sub-unit was set up with a maximum investment limit of Rs. 10,000. A subsidiary unit is defined as a business enterprise that engages in the production or manufacture of parts, components, sub-assemblies, equipment or an intermediary or is involved in the supply or presentation of services and industries is done. The case may be at least 50% of its production or its services to one or more local of indigenous enterprise

LITERATURE REVIEW

Yi Lu and his colleagues noted that due to a lack of disease prevention, workers were unable to return to work, production lines were cut, and business declined. Most SMEs could not restart work. Many small and medium-sized businesses often had to deal with cash flow issues, and despite having little or no sales, they also had to manage different fixed costs. As delays in resuming operations have put tremendous pressure on the viability of many small and medium-sized businesses, to facilitate cash flow in China and other countries involved, resume operations and stimulate demand. These Guidelines help SME to promote and relieve their suffering. (Yi Lu, 2020)

Mahajan describes the factors that drive Indian millennials to a particular online retailer in India and perceptions of millennials towards these online retailers. The paper studies the same in the Indian context. It has been found that millennials are satisfied with the services of selected online retailers. It was also found that four important factors in selecting a particular online retailer for thousands of years (Mahajan, 2017; Mahajan, 2015). The impact of SMEs and MCOs was classified as organizational challenges (like instability in the Business; Disruption in the supply chain; Planning for potential business cycles) and financial difficulties (like diversification of cash flow; access to financial packages; risk of bankruptcy). Meanwhile, strategic techniques and communication techniques address key elements of modern survival methods. The paper suggests some guidelines for a feasibility study, companies and agencies (Ahmed,2020)

Narula claims that long-term threats and opportunities will vary depending on the SME model. Instead of a one-size-fits-all solution, policy initiatives may also be sensitive to different forms of SMEs. The policy mix should shift from its original focus on short-term stability to long-term strategic solutions that will drive change and development through creativity, internationalization and communication. The policy mix will be of great concern (Narula, 2020)

OBJECTIVES OF THE STUDY

1) To study the impact of Coronavirus on SME's in India
2) To study the impact of Coronavirus pandemic on employment in SME's in India
3) To suggest measures to improve the present situation of SME's in India

RESEARCH METHODOLOGY

The paper studies the present impact of coronavirus on SME's in India. The study is descriptive in nature. The study uses secondary data for the analysis of the SME's. The secondary data is collected from websites, blogs, magazines and newspapers in India. The study critically analyses the present situation of manufacturing industry in India and its impact on employment. The geographical scope of the study is India. The paper first studies impact of coronavirus on SME's. and the impact of coronavirus pandemic on employment in this sector has been discussed.

DATA ANALYSIS AND INTERPRETATION

The Covid 19 pandemic has affected all economic sectors but nowhere as much as MSMEs in India. All available experimental data, such as Thousands of stranded migrant workers around the world indicate that covid-19 lockout triggered MSMEs the worst. Like the first relief package provided by the government which was announced on March 26, PM Garib Kalyan Yojana, the second package is allegedly based on the MSME market. An in-depth analysis of the nature of the MSME sector shows that micro, small and medium enterprises are suffering from severe economic pressures. As per the latest available annual report (2018-19) of the MSMEs division, there is Rs 6.34 crore of MSMEs in the country. About 51% of them are set in rural India. Together, they employ more than 110 million people, but 55 percent of employment is in urban micro, small and medium enterprises.

However, it is more clear that all micro, small and medium enterprises are divided into large, small and medium enterprises. 99.5% of all MSMEs fall into the micro category according to available information. While small and medium sized businesses spread across the same in rural and urban areas of India, they are mainly in urban areas of India. In other words, micro-enterprises generally apply to a person or spouse who works from home. About 66 percent of all micro and medium-sized businesses companies are run by persons belonging to Scheduled Castes (12.5 per cent). At around 80% of men and 20% of women, the gender distribution of workers is relatively stable across the board. Seven Indian states alone account for 50% of all MSMEs in terms of regional distribution. They are Uttar Pradesh (14%), West Bengal (14%), Tamil Nadu (6%), Maharashtra (8%), Karnataka (6%), Bihar (5%) and Andhra Pradesh (5%). Most are not even registered. One big explanation is that they're so little. Even GST does not count and most micro-enterprises do not. This inherent invisibility appears to work both with and against corporations. They may not have to manage account, pay taxes or meet with regulatory requirements since they are beyond the structured network. The government has sought to offer pay and extra credit for smaller businesses in certain developing nations, but it might do so when the smaller companies are identified. This may be the

biggest hurdle posed by MSMEs - lack of support. According to a 2018 study by the International Finance Corporation (part of the World Bank), less than a third (or about Rs 11,000). The crore (Rs. Crore) of MSME credit requirement is provided by a structured banking entity that can in principle finance it (Chart 5) This is because it reflects the RBI's efforts to increase liquidity in MSMEs has had little effect. Many funds come from unauthorized stores. In other words, this fact is critical. The high percentage of bad credit, which represents a relatively high coupon rating for large companies, explains why banks do not disburse loans to MSMEs. Another major challenge facing the company is the breakdown in payments to MSMEs

EFFECT OF COVID-19 ON SME IN INDIA
Modern disease like Covid-19 are coming all over the planet, leaving the entire community in a state of disarray and understanding how an epidemic stopped the country. The deadly epidemic has spread to about 195 countries and has been described by the World Health Organization as an epidemic. The virus also poses a major challenge to the increasingly fragile global economy. There is no doubt that the deteriorating Indian economy has been growing at one of the lowest rates in the last six years. So far, many industries have been devastated by a new set of economic problems caused by the virus. It is a well-known fact that in the global supply chain, China also plays a very important position for India and the MSME industry, and this industry is largely dependent on China for raw materials. For example, Indian drug manufacturers import about 70 percent of their ingredients and 30 billion worth of Chinese products from Chinese factories. As a result of the complete Chinese lockdown and partly Indian lockout, different concerns have arisen. These include declining exports, stagnation of production, availability of employment, and volatile demand and liquidity crises in the industry. Retail online retailing for small and medium businesses has also been affected by Corona epidemic. (Mahajan, 2020) We have already reached the second stage and as many experts claim, we will soon reach the third stage which involves the spread of group-to-less community nitty-gritty. One thing is for sure during the shutdown of the country till May 3, MSMEs will be most affected and the turbulent economy will leave many workers unemployed and will always provide thousands of jobs.

In India, there are now over 75 million micro industries operating, and 25,000 of them are at risk of shutting down, the shutdown imposed by AIM0 is about four more weeks, and the crisis continues with a staggering 43% shutdown. MSMEs are a pillar of the Indian economy and an important sector that has helped in the development of the spring and frontier economy. One of these difficult stages is the industry, which employs more than 114 million people and contributes more than 30% of GDP, so a decisive intervention is expected.

In view of the widespread destruction of Covid-19, there is a need for a continuous monitoring system by the government and immediate relief measures must be announced to boost confidence in this critical industry which is being hit by a wave of government unrest. To revive the consumer economy, a package of financial stimulus is needed. Countries such as the United States and China have taken a number of reform initiatives to keep COVID19 away from MSMEs. The complete shutdown has raised a lot of concerns, especially since these companies do not have enough cash to wait for the crisis. A new study of "Small and Medium-sized businesses" in construction shows that once their company is suspended, only 7% of them will be able to live on their money for about three months. Lack of available jobs is now a major obstacle to resumption. It will take a long time

for the government to do its part; otherwise it will be too late to reverse the mistake. Indian start-ups and SMEs to control the spread of covid-19 as a result of a sudden halt in economic activities during the nationwide lockout. About 80% of start-ups and small and medium-sized companies in the country plan to return close or sell their activities in the next six months. According to a survey of local constituencies, India has 47 per cent start-ups and small and medium-sized businesses are left

The survey, which was conducted in more than 90 Indian regions, received more than 13,970 responses from small businesses, including startups, SMEs and entrepreneurs. In contrast, 24% of the claimed cash will be available for only three months and only 23% for six months. Only 6% of entrepreneurs and small businesses report being insured for more than six months. It will be difficult for them to repay the loan. The covid-19 epidemic has affected industries around the world, with some companies affected more than others.

Many companies have run out of cash, as business growth has stalled and profits have plummeted. Small and medium-sized businesses in India have reached out to the government to help with the current crisis. They have submitted several applications through local departments, some of which pay 50% of the initial staff salaries for a month in March, funding for Indian startups fell by more than 50 per cent. According to market tracker Venture Intelligence, it raised about 35 354 million in 34 deals in March 2020, less than half of the 14 14,714 million it received in 46 deals in February. More than a dozen entrepreneurs have asked risky borrowing firms to fund their loans for longer than the initial negotiations, as reported earlier this month. The study found that workers in industries most affected by the epidemic - entertainment, housing, transportation, as well as distribution companies.

CONCLUSION

During the Covid-19 era, all small and medium businesses are struggling. Their biggest problems are low demand and disruption in the supply chain. However, the challenge is expected. After the dust settled down over time, these MSMEs will have to be competitive, evolve and change. The introduction of safety and sanitation measures Sustainability methods, updated sourcing policy, integration of new vendors, simplification of their product portfolio, more responsive assessment of supply chain flexibility, an analysis of disaster or emergency management plans has to be taken care of. In this way SME's can cope up with the threat of coronavirus pandemic.

Effect of Corona Virus on Small and Medium Scales Industries in India

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BEHAVIOURAL FINANCE – A STUDY ON CONCEPTUAL FRAMEWORK

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ABSTRACT

Investors' behaviour in portfolios frequently deviates from logic and reason, and they exhibit a variety of behavioural biases that influence their investment decision-making processes. What motivates portfolio investors to act the way they do? The actions of a portfolio investor frequently defy logic and reason. Emotional processes, logical errors, and unique personality qualities all contribute to the difficulty of making difficult financial decisions. As a result, investing entails more than just looking at data and making decisions about which assets and securities to buy and sell. Individual behaviour plays a big role in investing. Ignoring or failing to understand this notion can have a negative impact on the portfolio performance of portfolio investors, especially over time. This study aims to uncover the biases that exist in Indian stock markets, as well as how cognitive biases influence investment decisions. It depicts a behavioural finance and portfolio investor rationality model. It also illustrates how anchoring bias affects Indian portfolio investors.

Keywords: Behavioural finance, Anchoring theory, Loss aversion, Prospect theory

Introduction

Making decisions is a critical activity in the process of selecting an alternate choice from a circumstance that produces positive consequences for individuals or investors. The goal of investing is to make money for the investors. Individual market characteristics and information structure have an impact on investment decisions. As a result, investment may provide negative results for investors for the reason for which they invested, or they may not receive satisfactory results from their investment as a result of investor behaviour. "Money is desire embodied," according to Buchan (2001). People experience pain when they learn that the other option has better results, according to Kahneman and Tversky (1979) and Statman (1999). As a result, behavioural finance is a field of research that explains how individual emotions and behaviour affect stock values. Behavioural finance examines how and why investors' emotions and cognitive biases cause stock market abnormalities.

However, in modern finance, we use the concept of rationality and logical theory-based decisions such as the Capital Asset Pricing Model and the Efficient Market Theory to assume that people are rational and work to maximize their wealth. However, the reality is that people behave irrationally in real life, and irrationality is linked to behavioural finance. Behavioural finance describes our acts and behaviours, whereas modern finance is concerned with the explanation of an economic man's actions. Traditional finance is concerned with investment decisions in which all relevant information is provided.

Individuals preserve the full information according to the Traditional theory; they can also share the information and rational decision makers, according to Becker (1962); Thaler (1990) in the function of Behavioural Economics and Behavioural Decision Making in Americans Retirement Savings Decisions. These people's properties remained consistent and well-defined over time.

Behavioural finance, according to Phung (2010), is a relatively new discipline that develops the merging of psychology theory, cognitive and behavioural with finance and conventional economics to produce conclusions about people's irrational decision-making. The original version of behavioural finance theory was established in 1980 by a small group of academics from several fields.

Objective of the Study

Human psychology has a significant part in making decisions about specific actions. It is only normal for humans to make mistakes. It is necessary to comprehend cognitive biases, emotional deviation, and other elements that influence people's decision-making processes.

The most critical questions to which you must respond. How do cognitive biases affect an investor's psychological approach to making a decision regarding a specific action? As a result, the study has been dubbed "Behavioral finance - A study on conceptual framework" in order to better comprehend the conceptual framework.

Concepts of Behavioural Finance

Behavioural finance, according to Shefrin (1999), is a vast extension in the field of finance that compares the impact of psychology on financial practitioner behaviour. Behavioural finance, according to Statman (1999), also explains how emotions and cognitive errors influence the investor's investment decision-making process. Behavioural finance investigates the feelings of investors who have strayed in attitude and is divided into two subcategories.

- **Cognitive Deviations:** These deviations are caused by time, memory, and attention, and the constraints of these deviations are given precedence in behavioural finance.

- **Emotional Variation:** This is the second form of human behaviour deviation that is frequently overlooked in behavioural finance. The diagram depicts a behavioural finance-related investment attitude that is redirected. According to Hirshleifer and Teoh (2002), heuristic simplifications result from cognitive limits that lead to emotional deviations based on deviation assessments.
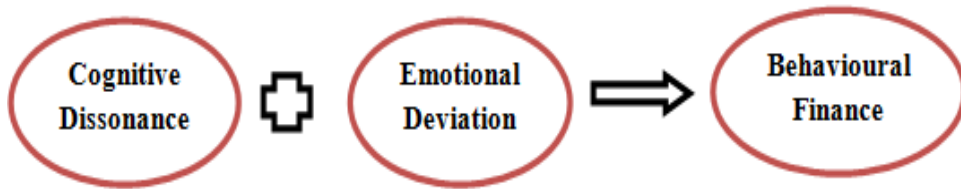
Ritter (2003) developed behavioural finance by employing models that are less narrow than Von Neumann-based models. In this article, it is said that behavioural finance has two building blocks on which it is dependent, implying that these are dependent variables of behavioural finance. The first is cognitive psychology, followed by arbitrage. The limits of arbitrage refers to projecting the most effective manner of investing mentor forecasting when arbitrage will be lucrative and when it will not be.Behavioural finance has its own theory that aids investors in making investment decisions by demonstrating market efficiency in terms of stock prices offered to investors. Behavioural finance is concerned with people's illogical decisions.

Ritter (2002) stated in a Behavioural Finance article that behavioural finance is divided into two sorts of blocks: arbitrage restrictions and cognitive psychology. People's investment behaviour in stocks and other efficient market investments is studied by cognitive psychology.Cognitive biases are related to how people make investment decisions, their impact on investment decisions, and how all of these aspects related to behaviour affect our efficient markets. The following are some cognitive psychology-related aspects that influence decision-making.

- Heuristics
- Overconfidence
- Mental accounting
- Framing
- Representativeness
- Conservatism
- Disposition effects
- Loss Aversion

These are all variables related to an individual's cognitive psychology that influence an efficient market when investors use prescriptions to find out trends for investing decisions. Heuristics manifest as the first dependent variable of cognitive biases when any change occurs or when they are confronted with a change that is not consistent with their rules of thumb, resulting in prejudices. Overconfidence, which is also a dependent variable of cognitive biases, is another related factor in which people are overconfident in their skills to conduct work or in their investing decisions.The other aspect is mental decision-making, which is based on people's ability to think about decisions that are made independently by some people but are actually dependent on each other or must be made jointly in a given decision.

Cognitive biases have an impact on the decision-making process, and their influence on investors' decisions is influenced by two sorts of variables.
- Heuristics

- Prospect Theory

Table 1: Represents the cognitive biases in behavioural finance

Cognitive biases	
Heuristics	**Prospect Theory**

1. Availability biases
2. Gambler's fallacy
3. Anchoring
4. Overconfidence
    • Too much trading
    • Overconfidence and investing
    • Skill and luck
	1. Loss aversion
	    • Guilt
	    • Familiar influence
	    • Fear and Anguish
	    • Risk and return
	    • Defence mechanism and Rationalization
	    • Financial and driving investment
	2. Regret aversion
	3. Self control
	4. Mental Accounting

These two variables are moderate for cognitive biases that are dependent on a subset of independent variables that are the primary cause of investment decision-making cognitive illusions. Other dependent elements are separated into variable overconfidence and loss aversion factors.In their article Loss Aversion: A Qualitative Study of Behavioural Finance, Kahneman and Tversky (1979) wrote, "Loss Aversion is the key notion that works in Behavioural finance." According to Rabin (1998) and Shalev (1996), people feel considerably more pain when they lose something than they do when they acquire something. The interconnectedness and how these variables are dependent or independent of each other in investment decisions is depicted in the diagram below. In the essay "Loss Aversion: a Qualitative Study of Behavioural Finance," Godoi, Marcon, Silva, et al. (2005) claimed that as a subjective part of financial decision.

Prospect Theory

Economists have believed that people make cold, rational, consistent decisions based on what will result in the best outcome for us as individuals since the 18th century (called Expected Utility Theory, or EUT). As psychologists, they found this ludicrous because they were well aware that how we should behave and how we really behave might frequently be very different.Kahneman and Tversky set out to learn how people make financial decisions in the real world, fully expecting to find some irrational results. The findings of Kahneman and Tversky's research revealed that people value losses and wins in very different ways, and that we make financial decisions based on the amount of possible gains and losses rather than how much money we end up with.This conclusion defied the premise that had long underpinned traditional economic models, and thus Prospect Theory was established. These findings may have ramifications for how we handle our financial portfolios as investors.

Loss Aversion

Prior to the development of Prospect Theory, economists believed that, but Kahneman and Tversky's research revealed that this isn't always the case, and that humans dread losing money far more than earning the same amount.When it comes to how we behave as financial beings, the implications are that people are willing to accept (or settle for) a position with a tolerable degree of gain, but are far more likely to take risks when they believe they can limit their losses. Loss aversion is the term for this type of behaviour.

Availability

The availability of information, according to behavioural economists, has a significant impact on our decision-making. Gloomy economic news and reports concerning share price drops or stock market collapses, on the other hand, might have a disproportionate effect on investors' attitudes when it comes to investing.

Representativeness

We tend to appraise or label something new based on how closely it follows a stereotype whenever we encounter it - an investment, a person, a car, a business, or anything else. People use representativeness as a mental shortcut to determine if something belongs to a category based on how well it embodies the stereotype.

The Law of Small Numbers

The law of small numbers is an economic term for a common blunder people make when making forecasts or estimating likelihood. Tossing a coin is the most basic example of it.When we toss a coin, there is a 50% chance that it will fall on its head and a 50% chance that it will land on its tail. This is incorrect since the outcome of each coin toss has no influence on the outcome of the next, hence the odds of each toss remain 50/50.

The Gambler's Fallacy

When we toss a coin, there is a 50% chance that it will fall on its head and a 50% chance that it will land on its tail. This is incorrect since the outcome of each coin toss has no influence on the outcome of the next, hence the odds of each toss remain 50/50.

The Hot-Hand Effect

While the law of small numbers causes people to underestimate the chances of a specific event in some circumstances (such as the likelihood of seeing a run of five heads in a coin toss), it causes them to overestimate in others. This is referred to as the 'hot-hand effect' by economists.

Anchoring

The investigation into anchoring is one of the most surprising findings of the study of behavioural economics. The tendency to tie our thoughts to a reference point, even if the knowledge has no bearing on the decision we're making, is known as anchoring.

Conservatism

When we find an investor holding to an early judgement about an investment without appropriately absorbing fresh facts, we call this conservatism bias. They believe that their original point of view is

more meaningful and important than any subsequent information. They usually behave based on old information, but they are less likely to act based on fresh information that contradicts it.

Herding Behaviour

On the eve of the 1929 stock market crash, business entrepreneur and philanthropist John D Rockefeller reportedly quipped that it's time to get out of the market when the bellhop in your hotel starts chatting about share advice. Whether or not this storey is real, it does a good job of emphasizing the dangers of herding when it comes to investing.

Overconfidence

As you might expect, overconfidence is not a characteristic that solely applies to investors. In a variety of personal and professional contexts, we're all guilty of exaggerating or overestimating our prospects of success. Overconfidence isn't fueled by rewards; it's a natural trait, which makes it all the more potent in shaping our behaviour.

Under-Confidence

While not as common or widespread as overconfidence, under confidence can have a negative impact on our financial decisions. Individuals can underestimate their abilities and chances of success when deciding which investments to make, according to research.

Confirmation bias and self-attribution bias

Confirmation bias: Imagine one person just learned some private information about a company in which you own stock, or received a tip about a prospective investment opportunity. When we receive new information, confirmation bias causes us to perceive it in a way that is compatible with our existing ideas; we interpret it as confirming what we already believe.

Self-attribution bias: When we attribute our triumphs to our own deliberate and intentional activities but blame our failures to events beyond our control, we are exhibiting self attribution bias. This is viewed as a sort of self-defense or self-promotion.

Projection Bias

We are all aware of how projection bias can affect us in everyday life, even if we don't know what it's called. It occurs when we make the error of assuming that our preferences in the future would be the same as our current ones.

Magical Beliefs

Magical beliefs don't seem like a concept you'd expect to find in an economics textbook — they seem more at home in the pages of J.R.R. Tolkien. They are, however, the label given by behavioural economists to certain human preoccupations that have a significant impact on our decision-making but are difficult to categorize in more scientific terms. They're commonly referred to as superstitions.

Mental accounting

Mental accounting can be seen in many places. We utilize it on a daily basis. It's so pervasive that we don't even realize we're doing it, but once you're aware of it, there's no getting away from it. It all started with a question that economist Richard Thaler asked himself one day in the late 1970s: 'What are people's attitudes about money?' And, in his own words, he's been asking it ever since: "For the rest of my career, I've continued to think, write, and lecture about mental accounting." It is a lens through which I view the world. It is contagious to think about mental accounting. In a nutshell, mental accounting is our proclivity to think of money as being labeled for various uses.

Sunk Costs

We began our series on behavioural finance with the storey of two basketball lovers who declined free tickets to a basketball game because the weather was too bad to travel, but who agree that if they had purchased the pricey tickets, they would have driven through the blizzard.

Traditional Finance V/S Behavioural Finance

Traditional finance began with Markowitz's (1952) portfolio selection approach, which is still employed in investing decisions today. Its work lasted until Modigliani and Miller finished their capital structure work (1958). The idea of efficient market theory of contemporary finance (Sharp; 1964, Mossin; 1966, and Fama; 1970) marks the birth of modern finance.These Efficient Market Hypotheses provide efficient machine processing information on the stock market and its efficiency, allowing for better investment decision-making for current and future earnings or gains.

Black, Scholes, and Merton (1973) introduced a new theory known as option pricing theory, which is currently widely used to evaluate options. The properties of the Utility Expected theory are similar to those of the Modern Finance theory.The study of efficient markets, or market efficiency, is a battleground between modern finance and behavioural finance. According to Statman (1999), market efficiency refers to the systematic patronage of trading on the one hand, and rational stock prices that replicate only important and useful characteristics on the other psychology, feelings, etc. "Why bother with Behavioural finance," Byrne and Utkus wrote in "Why bother with Behavioural finance." In traditional theory, investors are not perplexed by the information they are given, hence a typical finance assumption does not correspond to reality.

CONCLUSION

The advancement of cognitive psychology, along with the development of a critical perspective in economics, resulted in the formation of a new field of research, Behavioural Finance, which flourished in both academia and practice. With the help of Behavioural Portfolio Theory, which was contributed by various psychologists and economic thinkers, this study shows the beginning point for the emergence of Behavioural Finance. This paper traced the historical roots and evolution of behavioural finance in the first half of the twentieth century, focusing primarily on Behavioural Portfolio Theory, which aids in making better investment and financial decisions. The current study adds some historical roots to behavioural finance and proposes a kind of archaeology to this field, which serves to remind us of the emergence of a new theoretical field of behavioural finance, which is very complex even after its emergence conditions, and aids in understanding the cognitive emotions of investors, which aids in portfolio selection and better investment decision making studies in future time periods.

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CATEGORIZATION OF RISK FACTORS IN PROSPECTUS AND IPO INITIAL PERFORMANCE: EVIDENCE FROM INDIA

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ABSTRACT

The present paper focuses on the relationship between IPO initial day performance and disclosure of risk factors; specifically, disclosure related to the Risk Factors section of an IPO prospectus. All companies going public in India must file a DRHP/RHP with the Securities and Exchange Board of India. The Risk Elements section of the prospectus is used to identify known risks related to the IPO's business, industry, and financial performance, or to outline any factors that make the offering speculative or risky to prospective investors. This section appears to be of particular interest to investors. However, it's unclear how the risk factors disclosure part affects IPO pricing and performance. With this in mind, a sample of 131 IPOs occurred during 2013 to 2019 are analyzed. More the disclosure in prospectus less will be the information asymmetry. External risk factors in prevailing disclosure pattern have significant negative impact on initial under-pricing. Mutually exclusive risk categories are identified and regressed to know its impact on initial performance of IPO. Operating Risk category is found to havea significant positive impact on the initial returns. This paper will make a contribution to the academic disclosure literature by suggesting an approach by which to characterize a risk factor section of text in the IPO prospectus.

Keywords: *Risks, IPO, Under-pricing, Mutually Exclusive Risk Categories*

INTRODUCTION

Risk factor disclosures by issuers in their IPO prospectuses are intended to play a significant role in capital markets by bestowing the investors a clear understanding of the risks that issuer encounters. Risk is an essential element of any investment decision. Risk is regarded as a situation in which the likely outcomes of decision are unknown. It refers to the possibility of loss of income or capital as well as unavailability or variability of expected return. The expected outcome of an investment is subjective to each investor. Each investor ideally considers the different characteristics of the securities as well as various outcomes that best suits to his or her own circumstances and interests. In investments, as in the other realms of risk taking, the risk is largely in the eyes of the risk taker. Risk takers tend to be focused on the prospect of opportunities and gains as they evaluate and pursue

their risks. On the other hand, risk adverse individual is often concerned with avoiding losses. The emergence of risk in IPO market is indispensable due to the volatility of the IPO prices in the stock market *(Wasiuzzaman et al., 2018)*. Risk disclosure is a process through which a corporate entity communicates business and financial risk information to the public. IPO prospectus is the main source of information to the public which communicates company's risks as well their plan to thrive on future opportunities and uncertainties. The uncertainty veil can be lifted by simply grabbing onto few more facts and historical performance of the issuer through prospectus. Initial Public Offering Prospectus provides each potential investor all material information about the company, its principles, the investment opportunities and other risk relevant information which a rational investor would require in order to take an informed investment decision. The Risk Factors Section has the ability to affect investors' risk perceptions and enables them to make more effective risk adjustments when valuing their portfolios, keeping stock prices from deviating from intrinsic value*(Deumes, 2008)*. Moreover disclosure leads to transparency which increases the trust and faith of public in the company's management resulting in their better perception towards company's performance. *(Linsley & Shrives, 2006)*.

It has been observed theoretically and empirically that the risk factor disclosure has the potential to change a firm's risk premium and variance *(Heinle & Smith, 2017)*. More the disclosure less will be the information asymmetry between companies and investors. Investors and financial analysts find such disclosure advantageous in their investment decision. Corporate Finance theory also indicates that greater disclosure lowers the cost of capital. The decision to purchase, sell, or retain any company's stock is based on an investor's expectation for potential cash flow and return distributions of that company *(Abdel-azim & Abdelmoniem, 2015)*. The disclosure influences the amount of discount to offer price and thus affects the value of IPOs. The returns on the first day could switch on either positive or negative side but in some cases it can be fairly priced. Generally it is seen that usually IPOs have given very high returns on the first day. When the shares of any company are traded in the aftermarket at a price (typically proxy by first listing trading day closing price) which is higher than the initial offer price at which the company offers its shares to the underwriter is termed as 'under-pricing' while "overpricing" refers to the situation when the listing price is much lower than the issue price. This price performance of IPOs is considered the market performance of IPOs, which includes both short-run under-pricing and long-run underperformance.

Theoretical models such as "ex-ante uncertainty model" (*Beatty and Ritter, 1986)* record conditions under which ex-ante uncertainty and IPO under-pricing are inversely related and another model "Signalling Hypothesis" *(Allen and Faulhaber, 1989)* suggest that risk disclosures have the potential to influence the investor's risk perceptions. *Kravet and Muslu (2013)* also emphasized that risk disclosures can unveil unknown risk factors and contingencies that influence investors' risk perceptions. Initial public offerings with more informative risk factor disclosures had less ex-ante uncertainty, thus allowing the investors to better predict the secondary market valuation distribution which ultimately lead to lower IPO under-pricing (*Ding, 2013).* Hence, it is logical to assume that risks disclosure in the IPO prospectus is associated with the IPO performance. Only a few studies have focused on textual/content analysis of risk factors disclosure in IPO prospectuses and their impact on IPO initial performance, providing inspiration for our research. Moreover, most of risk disclosure are analysed in terms of the quantity of the disclosure information while neglecting the quality aspect. Our study is an attempt to fill this gap by creating quantifiable measures to

characterize the risk factors section of an IPO prospectus, and then using these measures to identify the risk categories for examining their association to IPO performance. This study takes into account both the quantity and quality of risk factor disclosure in prospectus.

LITERATURE REVIEW

The pricing and performance of initial public offerings (IPOs) has been the subject of much scholarly discussion for the last couple of decades. Various studies have been undertaken over the years to explain the pattern of IPO performance in the short run by taking into account various attributes such issue-specific, firm-specific and market-specific characteristics which includes offer price (*Certo et al., 2003*), Offer size (*Boudriga et al., 2009;Marisetty & Subrahmanyam, 2010*),Age of the issuing firm (*Muscarella and Vetsuypens, 1989, Ljungqvist& Wilhelm, 2003*), Market capitalization(**Boubaker and Mezhoud, 2011);** board characteristics (*Finkle, 1998);* underwriters and their reputation (*Dimovski, Philavanh and Brooks, 2011, Bakar & Uzaki, 2014*), ownership structure (*Wang 2005);* R&D expenditures (*Guo et al., 2008),* Earnings and book value (*Beatty, Riffe and Thompson, 2000)*; Leverage (*Deb and Marisetty, 2010)* and Market volatility (*Omran 2005; Paudyal, Saadouni and Briston, 1998*) etc. Firm-specific and industry-specific characteristics can explain a large portion of the IPO performance disparities (*Goergen et al., 2003*). Risk factors disclosure is also a significant factor which affects the IPO performance. Information disclosure can reduce the perceived risk of the investors. More disclosures by management in the IPO prospectus have been seen to results in adequate IPO pricing with reduced error (*Hanley and Hoberg, 2008).* The effects of disclosure in IPO prospectuses have been examined noticeably in recent years. Studies show that improved disclosure practices are good proxies for reducing *ex ante*-uncertainty (*Jenkinson & Ljungqvist, 2001)*. Prospectus disclosure is an important component in the informational completeness of an offering, and, further, that there is a link between disclosure and IPO initial performance and between disclosure and subsequent litigation (*Spindler, 2009).*

Some studies evidenced that prospectus information have impact on IPO pricing(*Bhabra and Pettway, 2003; Nam et al., 2008; Arnold et al., 2010; Rasidah et al., 2017; Crain et al., 2017 and Hawaldar et al., 2018)***.** Both the disclosures whether mandatory (*Shi et al., 2007; Semenenko, 2012; and Campbell et al., 2013)* **or voluntary** (*Cazavan and Jeanjean, 2007; Deumes, 2008; Kothati, 2009; Kravet and Muslu, 2011; Jeribi et al..2014; Bottazzi, 2015 and Alanazi et al., 2016)* influences the IPO performance. The stretch of IPO initial under-pricing has also been examined through different risk proxies such as 'use of proceeds' disclosure (*Leone et al., 2007; Wyatt, 2014 and McGuinness. 2019)* and 'qualitative earnings information' disclosure (*Bartov, 2011).*

Since most investors are risk averse, IPO risk and initial return have a positive relationship. Investors demand better returns for investing in riskier IPO shares between IPO risk and initial return (Hussein and Zhou 2014). Consequently, a high perceived risk of an IPO would result in a higher discount on the offer price; which eventually lead to higher under-pricing (*Hussein et al., 2019)*. Previous research seems to largely ignore the relevance of the number of risk factors available in the prospectus as a significant variable in determining the riskiness of an IPO. On a study of 420 IPO companies that went public in the United States between 1976 and 1985, **Clarkson (1994)** finds a negative and substantial association between the number of risk factors and the degree of under-pricing. Risk factors disclosed represents a good proxy for *ex-ante* uncertainty. **Arthurs and Busenitz (2006)** investigated the impact of four categories of risk factors

(management-related, product-related, legal liability-related and government regulation-related) on one-year equity performance, along with venture capital backing. Although it is very difficult to predict direct impact of these risk factors, only management-related risk factors is found to be significant predictor. **Abdou & Dicle (2007)**identified 32 risk factors from the prospectuses and categorized them into six different categories. They examined how these risk factor categories affect the IPO performance in first four weeks after initial public offering. They reported that some factors have negative while others show a significant positive impact on stock pricing. While *Wasiuzzaman et al. (2018)* recognized 16 forms of internal risks, 12 forms of external risks and 5 forms of investment risks. They observed that neither internal nor external risk factors have any significant impact while investment and overall risks disclosures have a significant positive impact on IPO initial pricing. Their results support the hypothesis of ex-ante uncertainty and the signaling model. **Santhapparaj & Murugesu (2010)**used 15 risk proxies related to firm-specific and IPO-specific risks as risk variables andfound that risk information disclosed in the prospectus is reflected in the offer price and initial market returns.

Huang et al. (2011)regressedthree independent variables in their study namely the categories of risks listed in a prospectus, the proportion of the risk factors section to the rest of the prospectus and the length of the risk factors description and interpreted that proportion of the risk factors section to the rest of the prospectus plays a significant role in effecting IPO under-pricing while length of risk factor section is negatively related to it. **Mousa et al. (2014)** also documented that legal liability and market risk as a proxy of external risk factors have negative influence on IPO investor valuation whereas influence of the internal risk factors on IPO investor valuation was not so significant. According to **Yong (2015),** low-priced IPOs are able to attract more prospective investors, resulting in a higher initial return and wide price spread.

Textual information can help the investors in better predicting the future firm performance **(Li, 2006)**. **Hanley and Hoberg (2008)** reviewed textual information of 2043 IPOs occurred during 1996 to 2005 in the US through the word counts of the entire prospectus as well as its four key sections namely Summary, Risk Factors, Use of Proceeds, and MD & A sections. They found that using the word content of a prospectus as a proxy for risk disclosure and pre-market due diligence is linked to more accurate issue price determination and less under-pricing. **Spindler (2009)**designed a unique information metric of IPO prospectus wordcounts-counting the number of words in total prospectus, summary section and risk factor section. In the same line **Arnold et al. (2010)** used word counts to describe each of the risk factors and observed that the risk factors information is significantly associated to initial as well as subsequent IPO returns. **Hanley and Hoberg (2010)** also examined the relationship between litigation risk, strategic disclosure, and under-pricing applying word content analysis on a sample of IPO prospectuses. They observed that "tenacious disclosure is a hedge against all forms of business litigations," and "issuers usetradeoff between under-pricing and strategic disclosure as a litigation shield."

RESEARCH OBJECTIVES:

The research is conducted with the following objectives:

1. To analyze the risk factor categories exhibited by Indian IPO firms.

2. To find the relationship between the existing risk factor categories and IPO Performance.

3. To find the impact of mutually exclusive identified risk categories on IPO Performance.

RESEARCH METHODOLOGY

The 131 IPO's listed from 2013 to 2019 on the mainboard of National Stock Exchange (NSE) is the sampling frame for the study. 255 individual risk factors across the 131 firms are recognized, through content analysis of Risk Factors Section of the prospectuses in the form of specific key risk sentences. If a particular form of risk is present, a value of 1 otherwise 0 is assigned. Then, for each risk factor the sum is calculated to know the number of firm disclosing the particular risk. Further the 255 risk statements are grouped into 15 sub groups of risks. These 15 groups are Regulatory Policy Risk (RPR), Litigation Risk (LR), Operational Risk (OPR), IT Risk (ITR), Economic Risk (ER), Business Risk (BR), Financial Risk (FR), Technology Innovation Risk (TIR), Competitive/ Industrial Risk (IR), Manpower Risk (MPR), Management Related Risk (MRR), Company Policy Risk (CPR), Third Party Risk (TPR), Equity Shareholder Risk (ESR) and Project Management Risk (PMR). Further the risk statement of each firm is examined through Five Point Likert Scale developed (1= Strongly Not-followed, 2= Not Followed, 3 = Neutral, 4 = Followed, 5 = Strongly Followed) and responses are recorded according to above 15 risk variables. This data is reduced to 6 factors as per factor loading in each specific group through Factor analysis techniques using SPSS Software. After data reduction six mutually exclusive risk categories are identified which are namely as 'Operating Risk' (Project Management Risk, Business Risk and Operational Risk), 'Compliance Risk' (IT Policy Risk, Company Policy Risk and Litigation Risk) Third Party Risk, Managerial Risk (Manpower Risk and Management Related Risk)'Equity Risk' (Economic Risk and Equity Shareholder Risk), 'Financial Risk' (Regulatory Policy Risk and Financial Risk)and 'Technological and Competitive Risk' (Technology and Innovation risk and Competitive/ Industrial Risk).The present form of presentation of Risk Factors in Indian Prospectus of each firm is analysed through sentences-count and words-count of each individual risk category- Internal Risk Factors, External Risk Factors, Offer-related Risk Factors and Total Risk Factors. The share prices of each firm are downloaded from NSE Website. The under-pricing for each IPO is calculated as the percentage difference between the issue price of the issued stock and closing price of security on the first trading day.Regression analysis is used to study the impact of risk factor categories on the IPO performance/Under-pricing. Thee control variables are also included in the model – Age of the firm, Issue size and Percentage change in Market Sensex (Nifty 50). The age is calculated as the logarithm of number of completedyears since the firm was first incorporated while Issue size is the logarithm of the number of shares offered multiplied by the final offer price of the IPO decided by underwriters and company.

RESEARCH HYPOTHESES

On the basis of review of literature-the ex ante uncertainty model and signaling hypothesis, the following hypotheses are formulated for the present study:

$H0_1$: The present pattern of disclosure (internal risk, external risk and offer related risk factors)does not have an impact on IPO under-pricing.

$H0_2$: The extent of disclosure in mutually exclusive risk factor category does not have an impact on IPO under-pricing.

Analysis of Risk factor Categories exhibited in Indian IPO Prospectuses

The prospectus contains 'Risk factors section' where the issuer makes disclosure about number of potential risks that the firm faces. The Risk Factors section presents a concise synopsis of risks that are explained in more detail in other parts of the offer document. Within this risk factors section of the prospectus, the risk factors are divided in three broad categories- (i) Internal Risk Factors (ii) External Risk Factors (iii) Risk Factors related to Equity Shares or Offer related Risk Factors. Quantitative disclosure of Risk Factor section is measured through word counts, character counts, sentence counts and the number of risk factor headings with detailed explanation. More the wordier the risk factor section of the prospectus more will be the disclosure and less will be the informational asymmetry as more quantity of disclosure is available to the public. The higher relative size of the Prospectus Summary leads to lower change in the offer price during the book-building process and which further leads to lower initial returns(Hanley & Hoberg, 2008). Internal risk, external risk, offer-related risk and overall total risks of each firm is measured through sentences count and words count. Percentage share to maximum disclosure in the form of sentences count and word count for each firm is calculated for measuring the extent of risk disclosure. This percentage share of sentences in each category is further regressed to see the impact of disclosure on IPO performance i.e. under-pricing. The OLS Regression equation is developed for this as following:

$$UP = \alpha + \beta(1)\ INTSEN + \beta(2)\ EXTSEN + \beta(3)\ OFFSEN + \beta(4)\ ISUSIZE + \beta(5)\ PRCHSENSX + \varepsilon \quad ....(i)$$

Analysing the Risk Factors Section of 131 IPO prospectuses, the following results are tabulated on average basis:

Table –I: Disclosure in Risk Factor Section of Prospectus

	Number of Statements	Words Count	Characters Count	Sentences Count
Internal Risk	50	14653	93678	545
External Risk	10	3005	19292	110
Offer-related Risk	8	1675	10178	62
Total/Overall Risk*	68	20207	128980	756

* Counts of Total/Overall Risk factors include both introductory language and ending prominent notes as these contain significant information.

Risk Factor section of prospectus has average 28 pages in length and ranges from 15 pages to more than 40 pages for individual companies. Risk factor statements disclosure by individual company varies between 45 to more than 100. Total disclosure in overall risk factors section is 20207 words; 128980 characters and 756 sentences on average basis. The word counts ranges from 10000 to over 34000 as per individual company. Internal risk factor statements are figured 50 on average basis containing 14653 words, 93678 characters and 545 sentences on overage basis. External Risk factors envisaged by sample firms ranges on average basis as 10 Risk factor statements, 3005 word

counts, 19292 character counts and 110 sentence counts. Individually, companies have identified couple of external risk factors to more than 20 statements. Offer-related risk factor shows on average basis 8 number of risk statements, 1675 words and 62 sentences.

The study shows descriptive statistics of 131 observations. The extent of under-pricing on the closing of first day of listing ranges in between -21.56 % to 143.06 % among 131 firms. The minimum Issue size is Rs 23 Crores (Xelpmoc Design and Tech Limited in 2015) while the maximum Issue Size was recorded for General Insurance Corporation of India IPO amounting for Rs 11175.84 Crores in year 2017. While the risk disclosure in new identified risk categories are noticed as -Operating Risks (F1) ranges from 3 to 23, Management Risk (F3) in between 1 to 10, Financial Risks (F4) limit is 7 to 25 risk statements, Equity Risks (F5) ranges from 4 to 20 and Technological and Competitive Risks (F6) in between 1 to 7 risk statements on average basis. Percentage change in Market Sensex from the Issue day to the day of closing of first listing day remained -0.24% on average basis. The level of under-pricing i.e. the average difference in IPO price on the closing of first day trading from the issue day is recorded as 15.96 % on average basis.

REGRESSION ANALYSIS

The under-pricing of IPOs measured as the percentage difference between the issue price of the issued stock and closing price of IPO on the first trading day isregressed with the risk factor disclosure in prospectus in present patternof disclosing as internal risk, external risk and offer-related risk categories. The result of the OLS regression analysis is reported as under:

Table II: OLS Regression of Under-pricing with Risk Categories in existing pattern

Model 1 Variables	Unstandarised Coefficient	t	Sig.	R- square .086
(Constant)	**76.986****	1.973	.051	Adjusted R^2
LnIssueSize	-2.092	-.873	.384	.050
SENSEX	**1.371****	2.112	.037	F
LnINTSEN	1.953	.236	.814	2.357
LnEXTSEN	**-15.046*****	-2.609	.010	Sig
LnOFFSEN	-.655	-.111	.912	.044[a]

***Specifies significance at 1% level, **specifies at 5% level and *specifies significance at 10% level

Here **Predicators**- **LnINTSEN**- Logarithm of percentage share to maximum disclosure in the form of sentences count in internal risk factors, **LnEXTSEN**- Logarithm of percentage share to maximum disclosure in the form of sentences count in external risk factors, **LnOFFSEN**- Logarithm of percentage share to maximum disclosure in the form of sentences count in the offer related risk factors, **LnIssueSize**- Logarithm of the number of shares offered multiplied by the final offer price of the IPO decided by underwriters and company, **Percentage Change in Market Sensex-** Percentage change in market sensex from the IPO Issue date to IPO listing date on stock exchange .**Dependent Variable**- Under-pricing

The table-II shows the value of R2 which is the measure the variability in the dependent variable that can be explained by the independent variables. Here the predictors accounts for 8.6 % of the variation in the Under-pricing. The ANOVA tests values depicts whether the model is significantly better at predicting the dependent variable. Here the model is significantly better at predicting the dependent variable at 5% level of significance (p =.044)

Regression Coefficients indicate the individual contribution of each independent variable to the model. If the t value associated with concerned β value is significant, then the independent variable is making significant contribution to the model. The smaller the value of sig. (and larger the value of t), the greater is the contribution of that independent variable. The table-III depicts that external risk factors (LnEXTSEN) are significantly negatively associated with the level of under-pricing at 1% level of significance (p=.010).Percentage change in market sensex shows significant positive relationship with the initial under-pricing at 5% level of significance. Other predicators reflect no relationship with the level of under-pricing in Model1. Hence hypothesis (H0$_1$) is rejected.

In the present form of disclosure of risk factors is generic in nature.Three broad categories i.e. Internal, External and Offer related specified in the prospectus contains many risk statements which are overlapping and same risks are shown under different categories by number of companies. Hence in the present study mutually exclusive risk categories are identified and regressed with the level of under- pricing, assuming the followingnull Hypothesis -

H0$_2$: The extent of disclosure in mutually exclusive risk factor category does not have an impact on IPO under-pricing.

H2: The extent of disclosure in mutually exclusive risk factor category has an impact on IPO under-pricing.

The Regression Equation is developed as:
UP= α + β (1) FAGE + β (2) ISUSIZE + β (3) PRCHSENSX + β (4) OPRRISK + β (5) COMPRISK + β (6) MNGRRISK+ β (7) EQRISK + β (8) FINRISK + β (9) TECHCMPRISK + ε

Table III: OLS Regression of Under-pricing with Mutually Exclusive Risk Categories

Model	Unstandarised Coefficient	t	Sig.	R- square
(Constant)	**51.270***	2.812	.006	.128
LnIssueSize	-3.700	-1.486	.140	
LnFirmAge	-4.010	-1.269	.207	Adjusted R^2
F1(OPRRISK)	**4.583***	1.794	.075	.063
F2(COMPRISK)	3.374	1.283	.202	
F3 (MANRRISK)	1.032	.403	.688	F
F4(EQRISK)	-.159	-.062	.951	1.977
F5(FINRISK)	1.491	.566	.572	

F6(TECHCMPRISK)	1.932	.747	.456	Model Sig.
Prchsensx	**2.873***	3.060	.003	.048[a]

a. Predictors: (Constant), LnIssueSize, LnFirmAge, Prchsensx, F1,F2,F3,F4,F5,F6, Dependent Variable: UP

***Specifies significance at 1% level, **specifies at 5% level and *specifies significance at 10% level

The table III depicts the OLS Regression of UP with mutually exclusive identified risk categories for sample IPOs. The predictors accounts for 12.8 % of the variation in the level of under-pricing. Here p is 0.048 <0.05 with F (9, 121) = 1.977, therefore the model is significant for predicting the dependent variable. Beta estimates indicate that only F1 (Operating Risk) is significant predictor of Under-pricing. While the other risk categories are having no significant association with under-pricing. The null hypothesis is rejected for this F1 risk category. The regression coefficient indicates that one percent increase in Operating Risk Factors leads, on average, to 4.58 % increase in the degree of under-pricing.Change in Market Sensex has also significant impact on the extent of under-pricing at 1% level of significance(p=.003).

The Regression Equation is:
UP= 51.270 – 3.70Ln(ISUSIZE)-4.010 Ln(FAGE) + 2.873 (PRCHSENSX) + 4.583 (OPRRISK) + 3.374(COMPRISK) + 1.032 (MNGRRISK) -.159 (EQRISK) + 1.491 (FINRISK) + 1.932 (TECHCMPRISK)

Findings and Conclusion

The present paper aims to study the impact of risk disclosures on IPO under-pricing. Total 131 IPOs occurred between year 2013 and 2019 are considered for this study. Using OLS regression, the impact of risk categories mentioned in the present pattern of disclosure in the Risk Factors section as well as new identified mutually exclusive risk categories on the initial under-pricing are analysed. The study finds that external risk factors having greater extent of disclosure in the form of more sentence shave significant negative impact on IPO initial under-pricing while other risk factors such as internal risk and offer-related risks are insignificant in influencing IPO initial performance. More the disclosure of risk factors in the form of more words and sentences less will the information asymmetry. As per signal theory, this information asymmetry may affect the perceptions of investors for investment decision either negatively or positively. If the clear and greater risk information is seen positively, the initial under-pricing will reduce. On the contrary, Risk information will enhance the initial return if it is regarded negatively. Here as per Model 1, the percentage 1% increase in external risk factor disclosure will lead to decrease in the initial under-pricing by 15.046×log (1.01).

The present form of disclosure of risk factors is generic in nature. The IPO issuers exhibits their risk factor statements into three broad categories i.e. Internal, External and Offer related. There are no standardized risk factor criteria to categorize the risk factors under above mentioned categories. While content analysis of Risk Factor section of IPO prospectus, it was found that some companies have cited some risk statements into internal risk category whereas same statement is presented by other companies under external risk category or in offer related risk category. Even the firms belonging to same sector have disclosed the same risk factors under different risk categories.

Moreover the present form of disclosure of external risks does not specify especially which specific external risk statements have significant impact on under-pricing. Hence Individual risk factors across the 131 firms are sub-categorized to absorb all the homogeneous risks into one standardised risk category and six mutually exclusive risk categories are identified using Factor Analysis. Further, examining the impact of these mutually exclusive risk categories on IPO initial under-pricing, it was found that Operating Risk Category have a significant positive impact on the percentage change in stock price from issue price of IPO to the price on the listing day of the IPO. Percentage Change in Market Sensex for the same period from date of Issue of IPO to the date of listing of IPO has also positive significant impact on the level of under-pricing. Operating risk Factor category includes risks related to project management, business risks and operational risks. Operational risk is one of the most severe concerns and challenges being faced by any firm. The complex manufacturing processes, changing global supply chain and legislations all have increased the risks of operations in the prevailing economic environment. Organizations must be adaptable, well-organized, and nimble enough to respond rapidly to unforeseen circumstances. Operational risks are the risks related to people, process and assets. As these primary areas of operational risk are so intertwined, it becomes essential for the executives to develop a plan and implement procedure for corrective and preventive actions. The firms going public disclose such risks and their risk management plans in the prospectus. It provides significant information to the investors to enable them to evaluate the risk of the IPOs. The results of this study support some prior studies like Abdouand Dicle, 2007; Murugesu and Santhapparaj , 2010; Wasiuzzaman et al., 2018, Jain and Vasudeva, 2018 and Kuswanto, 2020 but with different findings. Wasiuzzaman et al., (2018) found investment risk category is the only risk category which is significantly positively related while Jain and Vasudeva (2018) reported that all the different risk categories except management risk category have no impact on level of under-pricing. Kuswanto (2020) claimed that investment risks and general risks disclosure adversely affects market returns. The present noticed that average company revealed 21% risk factor statements on operating risks category and this category has significant positive impact on initial market return.

This study has its limitations. This study is based on a sample size of 131 companies. Enough large sampleis required to achieve better generalization of the results. We have used three control variables- Firm Age, IPO Issue Size and Percentage Change in Market Sensex which can also be increased by including quantitative measurement variables such as profitability and leverage variables for further improving the results.

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THE DEVELOPMENT OF FASHION IN THE HISTORY OF FASHION INDUSTRIES

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ABSTRACT

The names of dress and fashion are often used interchangeably. About the research of Joan Eichner and Mary Ellen Roach Higgins, this can be used to inform new and complementary. In some cases, clothing refers to physical seams or methods of dealing with physical sewing, Although fashion is a phenomenon of social life. This kind of study was conducted in countries identified as west in late century of twenties. In the beginning of sixteenth century, some of the publishers printed the books on the theme of different costumes adopted by the different parts of the world. These books on European history became popular after the eighteenth and nineteenth century. On the base of these publications, I have constructed some illustrations in the conclusion which reflects the fashion of eighties in European countries as well as in French fashion. In the twentieth century they started following the disciplines on the basis of sociology, psychology, anthropology and was a great beginning of history of art. Instead of writing something in further I would like to explain why the fashion get changes and creation of markets was done. It is prepared by me in a respective manner through the investigation regarding the topic. In the Middle Ages there was a rapid rise in the western style for example the costume of shepherded by Marie Antoinette even the styles of young American Africans. But with the passage of time, the fashion of globalization changed the western and non-western designer elements into the mix merge work. Basically, the fashion and dress are commonly inter changeable in the press in a more precise fashion. Dress that is intrinsically like something that a person modifies the body, adds to the body, or adds to or integrates the body, which is based on the developed definitions created by researchers. In this definition it includes the treatment of the body as well as tattooing, copious use, the use of paint or make-up, or even the surgery of cosmetic, the body or any part of the body with clothing of any kind. Some examples which are commonly strike to our mind are clothing, leather, fur, expensive or cheap stones, but also materials as diverse as metals (used in objects as Armor or belts), straw, letters, feathers, and wood in historical documentation. The dress which is worn in theatre type of productions can be referred as a costume and in disguise. In some ways, clothing whether it refers to the material being sewn or the treatment methods, the material being sewn, including the body. In contrast, fashion is discussed as a social phenomenon that affects the way one behaves and is a member of any community or society. The different discussions on the topic of fashion clothing of the world can be a problem but sometimes it implies fun as the colour that studies the subject, but also because of the repeated emphasis by Western scholars. One of the motivations for this approach is the most important part of the public position of the story and the fashion statement, the written state of study for those people who work and stay in west but not familiar with outside sources of their culture. One of the famous anthropologists of Canada named Sandra Nissen has pinned out that the written stuff about the medieval France keeps a great place value in the stream of cultural fashion. However, due to the largely Western focus on fashion, discussions are often primarily related to western history of

fashion. European writers and some north American writers have not introduced the single definitions of fashion process but they have identified two elements practically. One of it is when something is adopted by the large number of people, second one is the duration. Even it can be considered as the short duration of adoption by people. Fashion is always considered as the big change. In the twentieth century specially the clothing of women witnesses the proof of fashion change which soon reveal that one participates in a wide range of appetites. is, thus quickly stumbling upon the range of aspects of fashion change.

INTRODUCTION

Before examining the circumstances in which Western fashion behaviour occurs, it is instructive to recognize the fashion development. An important aspect of fashion is the approval of a small number of people for a short time of period. Where, the certain conditions will apply the allowance of a large number of people which can be preferred. The most important thing to say is the quality of the resources that allow a lot of people to choose one of the options. There is a difference between a silk scarf, a silk weave of silk, a Hanuman crochet, and a silk weaver and a weaver. Mushrooms are only available commercially and in this small number of quantities that less than a dozen scarves can be supplied, silk scarves can become a latest crushed fashion after which a large number of people use it. After the sources, an attempt will be made to abandon the achievement of fashionistas. Widespread poverty is a fashion barrier. In addition, the Jester in Desk is a Valette class structure, which is similar to luxury, copper is managed. I know that if fashion changes, I should manage. After all, there is a possibility to make any other place in the field of environmental protection available in one place, as well as in another way. It began in 1540. It ended its activities in Geneva, and also the women who had their female role. In addition, it is necessary to use other systems, such as the need to determine whether there is any measure. Protect your place from an environmental point of view. However, in earlier times men's clothing was as elaborate or even more than that of women. In any case, you need to find everything you need, and that is that you do not have more information about whether you want to apply.

Life expectation may play a role here. Life span is short and change comes slowly, a person who will not live for some time will follow that change. Societies where tradition is strong have usually developed a strict dress code in which it does not change if it can be dominant elementary fashion, but the coded elements of clothing which identify individuals and their status place in society. In ancient Rome, for example, the pedigree Jacqueline Steinem, doing her job, was a reaction to Roman citizenship. Suppose men wore Roman gowns or toga. As well as in history, in the West, domestic servants have been running for a long time. Roman Catholic priests have a lot of clothing. The clothes of the parrot are prescribed, with colours assigned to the Pope, bishops, archbishops and similar degrees or that are determined at special feasts or ceremonies.

The Relationship with the Consumption and Production of Fashion

As we know that the fashion is the essential element in the clothing, in order to supply the goods related to fashion to the consumers develop a production system, distribution and acquisition. European production system has been stable during the time period of roman empire. On the other hand, romans were very similar to factories, where women, most of them slaves, wove. The textile production system of Rome seems as it was continued till the early Middle Ages. Just After the decline of the Roman Empire it gradually came into existence.

David Herlihy confirmed that this kind of change was snatched from the weaving hands of women for the work of men. In the Middle Ages of fifteenth and sixteenth centuries weaving was a commercial occupation of men. Many of the people did not continue for the production of textile only for the domestic use. Maximum the production was used by the hands of women. Wool, hemp and linen were available in the Europe as the mushroom was more expensive and considered as the luxurious fabric. Very few people could afford it. The mushroom production was started in China, around 2650 BC Greeks and Romans was not the degree to which the mushroom attracted trade with China. In a prime case of commercial secrets, the required elements for the production of silk were brought in the empire of byzantine. At this time period in sixteenth century several priests moved in China when the silk worms were reared on the mulberry leaves on the sticks. These days also we read the manufacturing of silk into the latest literature as silk is spun from the cocoons. Cotton was also adopted as the royal fabric in the roman empire. They used to call it luxurious material. Some raw material was transported from the India in those times. In the Middle Ages it was available a relatively small amount of cotton and had an important witness in Europe when the organization of the market was not stable. It was a line of sea route in some European regions for the different for the different types of production in a specific type of fabrics. On the other hand, there was a huge production in the fabric construction, dyeing and the finishing of fabrics. Later on, international commercialization was adopted to in the manufacturing of fibre to fabric. These were transported to one area to another where it was under the demand for the selling process. Trade fare in large numbers were organised in the European countries in which fashion clothing was offered. Even they also gave some traders who narrate us as a beast and provide the opportunity for the current wearing. Garments can be purchased in several ways. They could be made at home by the housewives. In the rich families the dresses were specially made by their special tailors. These were permanent tailors of a particular family. Even they were employed and well paid in a rich family. Paintings of that time period is the proof in which it is depicted as tailors are stitching the dresses. Some tell that saint used to donate their clothes to the poor people. Writings on the fashion consumptions suggests that it has been called the "theory of the adoption of waterfall fashion". I am a prisoner for the sake of not only posing if it experiences the change in fashion, but then I come to create and market fashion. Upper class used to adopt the particular style.people of lower classes were not allowed to adopt the same. A slightly lower-class person tries to discipline the upper class who achieves this method at a higher level of apprehension. You can move on to the lower rungs of the social ladder and so on, unless the elite notice it, people rarely see it and the result is the same. Adoption of a new style is an attractive part which results in good change. Under normal circumstances, a small trader can find an available market and provide new information. Statue laws, which are laws that regulate spending on luxury goods, including clothing or clothing items, seem to support this principle, as they limit the types of clothing based on rank or position.According to many historians have said that these laws will be ignored and that very few can be enforced. As fashion changes, the focus is on elite clothing. In the discussion of colour, he writes about the twentieth and twentieth seconds. Anyhow, for the first time, this is true of the origins of the fashion.

Fashion Affecting the Historical Change

Rebirth in Europe (1400-1600), the changes in fashion were smooth. There were many differences in the regions, but the national style could be adopted by people and many others.

Slowly with the passage of time pointed shoes that Roderick Vitalis was famous in twelfth century and later on it was faded in the following centuries. It happened in the Polish city of Krakow, from Poland, with fireworks going off. Sumatrans have enlisted their help in European Nashi families. So far, if I was born in Italy in the 16th century, the French queen, Catalan DC joined the French. The factor which is important in promoting the dissemination of informational fashion was the introduced in late 1400's.in 1643 louis eternal was selected as the France king who was died in 1715. Emphasis was placed not only on the length of the year but also on political relaxation, so-called excitement and celebration of the arts, and at the centre of La France is the European landscape. As a result, Paris became known as the centre of fashion. During the fall of monarchy in the French revolution, the French courts maintained their lead in fashion. hand-painted, printed and departed, the Fashion Guest 1700 is a minimalist treat of French styles. The French style short dress which was latest fashion is run by Google.

France has been a centre of innovation in fashion since the French Revolution and the end of the 21st century. European efforts to trade with the Middle East (India, China and Japan) have had limited success when Portuguese sea routes did not reach India and Japan. The Dutch East India Company had very limited trade agreements with Japan from the early 1600s, and did not have full access to Japan until the end of the 20th century. Trade efforts with India and China have been more successful. Cinematic silk and cinematic decorative silk fabrics were not very popular in the 18th century. High quality white cotton needles from India have been modified for women's and children's clothing. Cotton fabrics imported from India, dyed and printed have become a fashion craze. These cotton garments were because cotton was not easily available outside India. The southern part of the British colonies in North America was ideal for growing cotton.

The settlers planted cotton plants to work in cotton production and established the African slave trade in North America. The demand for fabric increased as more and more men and fashionistas tried to wear fashionable clothes. Some European countries have not banned the import of Asian textiles in an effort to protect the national parrot textile industry. At the same time, innovation in textile manufacturing technology has been enthusiastically adopted in order to promote European textiles with foreign products. This warm embrace of new ways of spinning and knitting fabrics using mechanical energy instead of waterfall energy has made textile production one of the first industries to see and be seen from the Industrial Revolution. Cotton prices fell as more fabric furniture became available. For much of the nineteenth and twentieth centuries, many believed that the desire to be fashionable was feminine. The art of the past that made men look elaborate and elegant in men's clothing, or if it is assumed that modern men were not as ironic as the men of the past. I see that in the nineteenth and twentieth century's, men's clothing was simpler and stricter than in ordinary centuries. While clothing and other historians have focused on the question of why men's clothing has changed so dramatically, they have sought to see the answer in the political realms of the Western world and in some practical realities. A political event listed as a related factor in the French Revolution and its goal of equality. There is no longer any dress between different classes of clothes. The simplicity of the dark colour is different from a good uniform for men. In addition, due to the Industrial Revolution and the increase in suits designed by construction machinery, as well as the need for rich men to go to work in the office every day, dark colours were more practical. Since the beginning of last December, he has stood out in men's fashion and should have been subtle. Upper middle class men's suits with great detail, designed by the best London

tailor. When it comes to pride and quality, London was for men to wear which was for women in Paris. Men were more comfortable choosing recreational clothing. And in the 60's and later, a major emphasis on its high fashion style, more imaginative designs and colours returned to men's clothing. The line's famous designer has designed a line of menswear and displayed it at fashion shows. The fashion aspect of men's clothing has become clear again

Change in the Functioning of the Fashion Process

Due to the relatively reasonable level of fashion behaviour in the Middle Ages, many studies were done that did not really begin in the late 18th century. It would be a valid argument if fashion was defined as a priority by all individuals in a society, while given for a short period of time, indicating that fashion clothing was too much in the past. Clothing historians note that the period in the nineteenth century during which the same shape lasted from about twenty years to 1890 was likely to be about ten years or less after that period. The pace of fashion continued to accelerate. Charles Worth, an Englishman, went to Paris in 1845, as there were more opportunities for anyone who wanted to work. Wearing these clothes during the conversation, they were praised; Worth soon unveiled her rich outfit and worked as a fashionable woman. Seen by Queen Eugenie and, using advertising technologies and innovative commercials, attracted customers from all over the world. Reputation is considered the first fashion designer. Her children joined the company in 1868. Chambers Syndicate de la Haute Couture, a well-known organization. The Parisian style, the organization responsible for the House Couture Show in Paris, continues to operate in the twentieth century. However, the enemy of Paris if it is increasingly seen. "The Portent Centre for Jewellery Fashion, a high fashion organization, has set up an institute to process the introduction of a specific system that was their focal point in fashion. The clothes were sold to wealthy customers, but they were also displayed, illustrated, and professional or amateur seamstresses tried to reproduce the new design. If the technology of perceiving and communicating the image of modern mode is evolving, the idea behind presenting a fashion show gathered by potential customers and the press continued in the 21st second. The equivalent centre of men's house couture developed in England in a part of London called Seville Row. This street was the home of a stylist, Robert Baker, in the early 1600's. But the area did not immediately become a major trading centre. It debuted in early December, when George "Beau" Bromoil became a leader in men's fashion. His impeccable taste helped make British tailoring famous in Europe. Anger for British styles or Anglomania has spread across the continent. I enter the middle of the century, London and Seville Row were dressed in a place where rich men wanted to dress their parrots. The women who made her clothes for the parrot families bought sewing supplies and fabrics from dry merchants. Seamstresses or tailors who make clothes for individuals and families took orders and sold the finished products to customer parrots. Some specialty shops sell products and items such as shoes or hats. Further, it was possible for Centurions to obtain used clothing from merchants when second-hand clothing and some clothing were not available when the hood was in possession. However, in the last second century, it has drastically separated commercial goods from the garments they manufactured, and, since the mid-1800s, with the rise of department stores, a new type of commercial commodity Got importance. Many department stores have confirmed the location of this parrot's cousin. Paris's Big Bone March O Magazine brings a little bit of hint like a big sign building with an organized business where it distributes and sells a variety of businesses. At the turn of the century, these institutions were located in cities and towns around the world. Ready-to-wear clothes were available to men earlier than women. Some readymade garments were found in department stores.

Conclusion

As we know that fashion history keeps much importance in the European literature. Fashion has been moving forward in the development of fashion and people had a warm embrace towards the development of fashion in the history of fashion industries. After through all the research work on the history of fashion I have illustrated some inspirational designs on the selected topic. During the time period of 18th and 19th century fashion took a broad change into the interchanging system. I have given the references of industrialisation in the Rome and French fashion also. Fabric they used to wear were made up of natural fibres like cotton and silk. Cotton can be preferred as vegetable and silk as animal fibre. This is the illustration which gives the look of a full flared lower portion of the dress in which the cotton material type fabric is used. This kind of flared silhouette can be constructed through the help of cage adjusted inside of it. Pure cotton laces and trims were used on them and special hired tailors could stitch it.

LOWER PORTION OF FEMALE COSTUME IN THE END OF 17TH CENTURY

In the end of seventeenth century people started following to adopt something new. Class consciousness was very much preferred besides the differentiation of rich and poor people. Women of rich and wealthy families used to wear a head accessory like hat fully decorated with the roses made up of silk as well as feathers also. It was like to reflect he good or high status in the society.Complete picture of that kind of accessory I have shown below which is illustrated by me.

HEAD ACCESSORY 'A HAT' WELL DECORATED WITH SILK FLOWERS AND FEATHERS IN 18TH CENTURY

There are a number of books in which we study a lot about the history of fashion in europeon and the french revolution. In the fashion of middle ages we observe that women of high class used to get their dresses to be stitched from special kind of tailor those who were employed by them. I have illustrated the costume of a women in which she is wearing a blue colour silk dress which is straight from the front and maximum of the fabric is gathered at the back and silk bows are attached at the back to add more beautification into the dress. In those time periods accessories as afashion stylist were like umbrella or the fan which are well depicted in these illustrations.

INSPIRATIONAL DRESS FROM THE FRENCH REVOLUTION (1850) INSPIRATIONAL COSTUME FROM THE BRITISH FASHION HISTORY (1890)

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INDUCTION OF AUTOMATED LOAN APPROVAL MECHANISM BY USING AI: A CONCEPTUAL ENDEAVOR TO REDUCE OCCUPATIONAL STRESS IN INDIAN BANKING SECTOR

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ABSTRACT

Artificial Intelligence (AI) is a rapidly evolving technology around the globe. One of the very first industries to adopt artificial intelligence is banking. Machine intelligence is the definition of artificial intelligence. If, we look at the banking sector from the view of working extents, we can find, the main work of the Bank is to do the landing of money and to keep a strict eye on fixing criteria for loan eligibility, paper formalities, loan disbursement, repayment planning, actual payment collection etc. Which consumes huge amount of manpower, who help the Banks to do every work individually with a great effort but despite that due to many reason the repayment cycle is broken and so the entire Banking process becomes faulty.

In this present paper, the researcher conceptualizes to establish software based automated loan approval mechanism, which uses a complete set of Artificial Intelligence and helps the Bank to go through the entire process enabling the bank to identify ideally eligible loan seeker, with complete set of legitimate documents. Such loan seeker should have a good repayment case history enabling the bank to take a right decision and to accelerate the loan disbursement. Besides this, the software may keep a strict eye on repayment cycle, which automatically rewards the ideal payment master, and reject the bad application.

Key Words: *Occupational Stress, Artificial Intelligence, Loan Approval, Loan Automation Banking Sector, Mental health.*

ARTIFICIAL INTELLIGENCE
INTRODUCTION

Machine intelligence (AI), also referred to as "computer technology," is intelligence exhibited by machines rather than people. Artificial intelligence (AI) is a concept that describes robots that are linked to the human mind, such as "critical thinking" and " learning." Artificial intelligence refers to a machine's or software's ability to learn and apply content and resources by mimicking natural behavior. Artificial Intelligence is when a machine can reason itself and mimics a human consciousness. The potential of small and financial service providers to compete with bigger corporations has been altered by artificial intelligence and advanced analytics-driven decision making. Big data, when combined with statistical analysis needs and machine learning algorithms,

can now find patterns in an organization's data that would otherwise be impossible to detect with standard analytical methods. Accenture defines AI in the banking industry as "a computer system that can detect, interpret, act, and learn." "A mechanism that can observe its surroundings, evaluate and interpret the data it receives, act on that knowledge, and also learn from its failures." Furthermore, if allowing machines to interface more naturally with their surroundings, individuals, and data, technology can be used to extend the life of machines. Also people and machines have capacities well beyond what they can do on their own."

EVOLUTION OF ARTIFICIAL INTELLIGENCE

Despite the fact that we have recently seen AI in action, the beginnings of AI can be traced back to the 1950s, when Alan published a research paper on the prospects for actual intelligence in machines. Artificial Intelligence as a concept was only formed in the late 1990s, but no case or Artificial Intelligence approach was ever put to the test. Following the adoption of Machine Learning and Artificial Intelligence for enterprise systems by large internet companies such as Google, Face book, Microsoft and IBM the speed of Artificial Intelligence only accelerated after 2011.

ADOPTION OF AI IN BANKING SECTOR

Presently, AI implementations include anything from data mining to algorithm monitoring, facial identification, and optical character recognition. Advertising and marketing, accountancy, insurance, the internet, transportation, aerospace, agriculture, and biology are just a few of the industries where AI is now being used. In 1990, emerging innovations centered on Artificial intelligence study aimed at improving natural language, facial recognition, deep learning, vocal and emotion recognition. Several startups then implemented it in order to increase market interest. The way money is handled in the financial sector is changing as a result of financial technology. Emotion recognition, audience data, and analytics will increase financial industry efficiency, as well as customer service, support, and recruitment.

FUTURE ASPECTS

Artificial intelligence (AI) has revolutionized the financial industry and banking sector, but it has also impacted a variety of other industries. Industry features include robotic (automat) anesthetic dispersal for routine care, which aims to decrease costs, rising treatment support, and digital counseling to the advent of self-driving automobiles, to name a few. All of this would enable businesses to automate boring and time-consuming tasks like form filling and back-end testing.

NEED OF AI IN THE BANKING SECTOR
- o   Enhancing transparency in Banking Sector.
- o   To reduce the occupational stress of employees and increases the productivity.
- o   Propelled in the orientation of a procedure-based operation.
- o   Self Service must be implemented in branches.
- o   Improved Banking Operations.

REVIEW OF LITERATURE

A loan is a sum of money granted to an individual or an institution on the condition that it be repaid over a set period of time, plus interest, as compensation for the use of the money. Credits finance,

and mortgages are examples of several sorts of loans. Loans can be obtained from a variety of sources, including banks, credit unions, pawnbrokers, and savings organizations, as well as trust firms. For both the lender and the borrower, the manual process of requesting and issuing loans is unpleasant, uncomfortable, and time consuming. A lender with geographically spread branch offices needs to standardize and oversee lending procedures and processes in a more effective and efficient way. Automation is suggested by the business goal of offering an effective lending process using technology as an enabler to give the company a competitive advantage within the sector **(Bank System and Technology, 2013).** There is a pressing need to automate as much of the loan processing process as feasible. A loan automation system allows loans to be processed from proposal to formal deadline without requiring both the customer and the lender to be present physically (Christeson, 2009; WAUSAU, 2010). This study looks at the automation era and how business is changing as a result of robotics and machine intelligence. Working with AI entails selecting A and B carefully and providing the essential data to aid the AI in finding the AB association. Choosing A and B with innovation has already revolutionised a number of industries. It has the potential to transform yet another industry (Andrew Ng, 2016). The four largest commercial Indian Banking sector study the regions where Robot Intelligence and AI applications are being used in banks in India's major commercial banks. Traditional banking is evolving, and banks are rapidly incorporating innovative technology such as artificial intelligence (AI), smart contract, and cloud services into their operations. Banks, on the other hand, are still in the early stages of the Fourth industrial revolution, and the personal touch still seems to be essential (Jewandah S, 2018).

OBJECTIVES

1. Identification of those areas which may be automated.

2. Preparing sequence of basic documentation required from the loan seeker.

3. Preparing the fundamental requirements to know the client and his repayment history, if any.

4. Making the disbursement process easy with a complete repayment track record of the customer.

5. Reducing manpower consumption engaged in primary paperwork and physical investigation.

6. Enhancing the efficiency of the bank by reducing time in approval process, reducing any possibility of corruption or favoritism.

7. Enhancing transparency in Banking Sector.

AUTOMATED LOAN APPROVAL MECHANISM BY USING AI

In today's commercial lending sector, many software technologies meet the loan generation and credit illustrator of conventional and non- conventional lenders. Financial firms are increasingly aware of the need to strengthen their processes in a variety of ways in order to maximize efficiency, decision speed, and production, as well as the customer service.

Why are so many banks today struggling to achieve these objectives?

In today's digital economy, many lenders still use manually and document based loan approval processes, which seem to be out of date. As a result, they have longer assessment times than many

customers wanted, and also an institutional data management issue that raises opacity both for users and business examiners and add to bankers' burden.Consumer loans come in a range of shapes and sizes, as well as different degree of complexity. As an evidence of todays modern challenge for lenders, consider worksheets, which are one of the most commonly used hand - operated underwriting procedures. Databases are one of the single best "go to" application models currently accessible. It's unlikely, though, that its founders created their programme with dependent clauses in mind.Using spreadsheets to investigate credits in any manner can be difficult. Financial data entry requires time, and inconsistencies can develop over time. Information entry into a sheet is sometimes instantly attempted to enter into a lender's other complex services, result in redundancies and storing of the same data.In terms of data storage, provenance, retrieve, and stock insight, this methodology has serious flaws.

Source: https://www.moodysanalytics.com/articles/2018
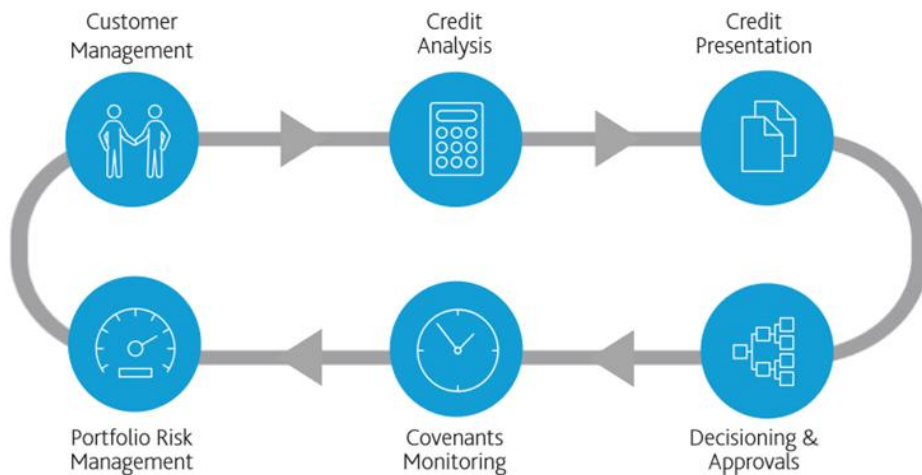
A typical business loan process is depicted in Figure 1. Every banker who reads this essay will recognize the stages and be able to envisage each step in their own business. Consider the amount of people participating in each key step, where process bottlenecks occur, which phases are the most difficult, and how long a loan application normally takes to move between stages.

AI HELPS IN SUSTAINABILITY OF BANK EMPLOYEES

From the front end to the back end, AI has the ability to improve every aspect of a bank. There are numerous approaches to analyzing how AI may impact a bank's operations. We consider the benefits to customers as well as the hazards to both the consumer and the bank. Customer-facing AI can be one-way (for example, pushing offerings) or two-way. Customers benefit from greater advice, better deals, and time savings. There are hazards associated with exposing AI to clients, such as public ridicule. Report generation, screening and credit decisioning, and risk and compliance monitoring are all tasks of the middle office. From a consumer standpoint, the dangers of middle office AI are low as long as outcomes (such as false positives) aren't harmed. Human supervision is

essential for all of these AI operations. AI can be used in back office tasks to discover abnormalities and exceptions.

CONCLUSION

Machine Learning (AI) is opening the way for a major shift in the financial sector. In the banking industry, AI is often used in areas such as banking, organizational efficiency, customer assistance, and statistics. In many aspects, Loan Automation Application Software would improve a lending institution's service for the customer's loan operations more effective and transparent. Banks would be no longer merely geographical branches for AI; it has evolved into a new universe of modern banks. Modern banks are benefiting from new banking services that are allowing them to grow and flourish. Technology allows for greater accessibility of the financial market, as well as better economic viability and the ability to conduct smaller purchases. The use of technology effectively has a cumulative effect on bank survival and prosperity. As a result of the advent of artificial intelligence, more clients are attracted, and banks are able to expand. By enabling effortless, clock service client interaction; banks may use Ai to enhance the customer service. AI is growing rapidly in investment banks back and middle offices, as well as every other money-related regulatory oversight. Artificial intelligence is embedded in the bank's operating procedures, and it needs to progress and adapt over duration without required considerable manual input, reducing staff stress. Banks will be able to best leverage human and machine skills to generate operational and cost efficiency. All of these advantages are no longer a daft idea for banks to realize. Leaders in the banking industry have already taken steps to gain these benefits by implementing AI.

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PROFITABILITY EVALUATION OF SARVA HARYANA GRAMIN BANK IN HARYANA

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ABSTRACT

Regional rural banks were established in 1975 on the recommendation of the Narasimhan working Committee. The major objective of RRBs is to allocate rural credit to the rural section of society. In March 2011, after amalgamation total number of was declined to 82. During the year 2012-2013, 31 RRBs amalgamated into 13 RRBs as a result total no of RRBs in March 2013 was 64. However, currently, there are 43 RRBs in India. In Haryana, Sarva Haryana Gramin Bank came into existence on 29 Nov. 2013 with the amalgamation of Haryana Gramin bank and Gurgaon Gramin Bank. From the total capital of RRBs 50% is subscribed by the Central government, 15% by the State government, and 35% by the Sponsor banks. SHGB bank is sponsored by PNB. This study covers the period from 2016-2017 to 2020-2021. In this research data is collected through the annual reports of Sarva Haryana Gramin Bank. At present, Sarva Haryana Gramin bank has a network of 654 branches in 22 districts with 10 regional offices in Haryana. This research paper helps to look over the profitability performance of the Sarva Haryana Gramin Bank.

Keywords: Regional Rural Banks, Performance, Profitability, Rural sector, Interest

INTRODUCTION

Banking organization plays a crucial role in the economic evolution of every country and it is the foremost inducement of the economic growth of the nation. The progress of every country is usually maintained by the banking institution. RRBs were established in 1975 to render banking services to the rural section of society and to fulfill the financial need of rural individuals. At present, there is one RRB in Haryana that is Sarva Haryana Gramin Bank. This bank came into existence in 2013 after the merger of two RRBs of Haryana namely Haryana Gramin bank and Gurgaon Gramin Bank. At present there are 654 branches of Sarva Haryana Gramin bank with 10 regional offices in different districts of Haryana and this bank is sponsored by PNB. The main target of this bank is to deploy the savings of the rural people and use the same resources for the productive purpose of the same region. This bank mainly provides credit facilities to small farmers, small artisans, agriculturalists, and marginal traders.

REVIEW OF LITERATURE

Baligatti and Danappanavar (2016) analyzed the overall performance of RRBs by using numerous factors such as number of state-wise branches, total deposits, credit deposit ratio, profitability analysis, and lending services. This study found that there were a high expansion in the numbers of branches of RRBs but total deposits and advances were reduced.

Pranitha and Sneha (2018) evaluated the performance of Andhra Pragathi Grameena bank of Andhra Pradesh by using different parameters such as number of branches, borrowings, number of the district covered, total deposits, loan and advance, and NPAs. This study revealed that the value of NPAs and borrowings were decreased and the number of branches, loans, and advances, were expanded.

Prasad and Prasad (2016) evaluated the performance of Telangana Grameena bank with the help of different factors such as different branches, deposits, loans, and advance, profit position, and NPAs. It was found that the performance of this bank is good overall. This study suggested that bank must expand their branches and should give e-banking services to their customers.

Rehman (2020) evaluated the various procedures followed by employees to increase the performance of RRBs. This study was done in Uttar Pradesh. The different statistical tools used in this were chi-square and frequency distribution. It was found that the performance of employees of these banks was good as they encourage the people for mobilization of the fund as well as officers also help to increase the credit services in the backward region and from bank officials point growth of the bank was good.

RESEARCH METHODOLOGY

This research is based on secondary data and this data was collected with the annual report of Sarva Haryana Gramin Bank this study covers the period from 2015-2016 to 2020-2021. To examine and interpreting the profitability position of bank different statistical tools such as arithmetic mean, ratio analysis, and the growth rate has been used.

OBJECTIVES OF STUDY

1. To evaluate the profitability performance of the Sarva Haryana Gramin Bank from 2015-2016 to 2020-2021.
2. To provide valuable suggestions on the basis of the findings of this research .

PROFITABILITY ANALYSIS

The profit helps to regulate the financial and liquidity position of every organization. In this research different ratios were considered to assess the profitability performance of the Sarva Haryana Gramin Bank.

1.	Operating Profit to Total Assets
2.	Net Profit to Total Assets
3.	Interest Income to Total Assets
4.	Other Income to Total Assets
5.	Total Income to Total Assets
6.	Interest Spread Income to Total Assets
7.	Net Profit to Total Advances
8.	Interest Spread to Total Income
9.	Interest Spread to Operating Profit
10.	Operating Profit to Net Profit

Operating Profit to Total Assets

TABLE: 1 OPERATING PROFIT TO TOTAL ASSETS (AMOUNT IN THOUSANDS)

YEAR	OPERATING PROFIT	TOTAL ASSETS	OPERATING PROFIT/ TOTAL ASSETS (%)
2016-2017	2861326	145507594	1.96
2017-2018	3774501	163699649	2.3
2018-2019	2944969	179459452	1.64
2019-2020	1350438	193889862	0.69
2020-2021	3284233	217201871	1.51

Sources: Compiled through annual report of SHGB

The above table 1 reveals that the ratio between operating profit to total assets has fluctuating trend. In 2016-17 the ratio was 1.96% and in 2020-21 it was 1.51%.

Net Profit to Total Assets

TABLE: 2 NET PROFIT TO TOTAL ASSETS (AMOUNT IN THOUSANDS)

YEAR	NET PROFIT	TOTAL ASSETS	NET PROFIT/ TOTAL ASSETS (%)
2016-2017	1531527	145507594	1.05
2017-2018	1825423	163699649	1.12
2018-2019	(830291)	179459452	-0.46
2019-2020	30241	193889862	0.01
2020-2021	1830160	217201871	0.84

Sources: Compiled through annual report of SHGB

The given table 2 shows that the ratio of net profit to total assests was decreased from 1.05% in 2016-2017 to 0.84% in 2020-21.

Interest Income to Total Assets

TABLE: 3 INTEREST INCOME TO TOTAL ASSETS (AMOUNT IN THOUSANDS)

YEAR	INTEREST INCOME	TOTAL ASSETS	INTEREST INCOME/ TOTAL ASSETS (%)
2016-2017	11518181	145507594	7.92
2017-2018	11992902	163699649	7.33
2018-2019	13018944	179459452	7.25
2019-2020	14373677	193889862	7.41
2020-2021	15725561	217201871	7.24

Sources: Compiled through annual report of SHGB

From the above table 3 it can be concluded that the ratio between interest income to total assets was 7.92% in 2016-2017 and 7.24% in 2020-21.

Other Income to Total Assets

TABLE: 4 OTHER INCOME TO TOTAL ASSETS (AMOUNT IN THOUSANDS)

YEAR	OTHER INCOME	TOTAL ASSETS	OTHER INCOME/ TOTAL ASSETS (%)
2016-2017	934347	145507594	0.64
2017-2018	1801600	163699649	1.10
2018-2019	1260508	179459452	0.70
2019-2020	1535540	193889862	0.79
2020-2021	2086637	217201871	0.96

Sources: Compiled through annual report of SHGB

From the given table 4 it was observed that the ratio between other income to total assets was 0.64% in 2016-17 and 0.96% in 2020-21 and other income of SHGB was increased from 934347 in 2016-17 to 2086637 in 2020-21.

Total Income to Total Assets

TABLE: 5 TOTAL INCOME TO TOTAL ASSETS (AMOUNT IN THOUSANDS)

YEAR	TOTAL INCOME	TOTAL ASSETS	TOTAL INCOME/ TOTAL ASSETS (%)
2016-2017	12452527	145507594	8.56
2017-2018	13794502	163699649	8.43
2018-2019	14279453	179459452	7.9
2019-2020	15909218	193889862	8.2
2020-2021	17812198	217201871	8.2

Sources: Compiled through annual report of SHGB

The above table 5 shows the total income of SHGB was expanded from 12452527 in 2016-17 to 17812198 in 2020-21. Ratio of total income to total asset was decreased from 8.56% in 2016-17 to 8.2% in 2020-21.

Interest Spread Income to Total Assets

TABLE: 6 INTEREST SPREAD INCOME TO TOTAL ASSETS (AMOUNT IN THOUSANDS)

YEAR	INTEREST SPREAD	TOTAL ASSETS	INTEREST SPREAD/ TOTAL ASSETS (%)
2016-2017	4783537	145507594	3.29
2017-2018	5004353	163699649	3.06
2018-2019	5301456	179459452	2.9
2019-2020	7700746	193889862	3.9
2020-2021	5695660	217201871	2.6

Sources: Compiled through annual report of SHGB

The above table 6 highlights that the ratio between interest spread to total assets was declined from 3.29% in 2016-17 to 2.6% in 2020-21.

Net Profit to Total Advances

TABLE: 7 NET PROFIT TO TOTAL ADVANCES (AMOUNT IN THOUSANDS)

YEAR	NET PROFIT	ADVANCES	NET PROFIT/TOTAL ADVANCES (%)
2016-2017	1531527	74323450	2.06
2017-2018	1825423	84936750	2.15
2018-2019	(830291)	91495235	-0.90
2019-2020	30241	95745265	0.03
2020-2021	1830160	98387217	1.86

Sources: Compiled through annual report of SHGB

The given table 7 shows that the net profit was increased from 1531527 in 2016-17 to 1830160 in 2020-21 and the ratio between net profit to total advances was 2.06% in 2016-17 and 1.86% in 2020-21.

Interest Spread to Total Income

TABLE: 8 INTEREST SPREAD TO TOTAL INCOME (AMOUNT IN THOUSANDS)

YEAR	INTEREST SPREAD	TOTAL INCOME	INTEREST SPREAD/ TOTAL INCOME (%)
2016-2017	4783537	12452527	38.4
2017-2018	5004353	13794502	36.2
2018-2019	5301456	14279453	37.1
2019-2020	7700746	15909218	48.4
2020-2021	5695660	17812198	31.97

Sources: Compiled through annual report of SHGB

The above table 8 concluded that total income of SHGB was increased from 12452527 in 2016-17 to 17812198 in 2020-21. The ratio about interest spread to total income was 38.4% in 2016-17 and 31.97% in 2020-21.

Interest Spread to Operating Profit

TABLE:9 INTEREST SPREAD TO OPERATING PROFIT(AMOUNT IN THOUSANDS)

YEAR	INTEREST SPREAD	OPERATING PROFIT	INTEREST SPREAD/ OPERATING PROFIT (%)
2016-2017	4783537	2861326	167.1
2017-2018	5004353	3774501	132.5
2018-2019	5301456	2944969	180.0
2019-2020	7700746	1350438	570.2
2020-2021	5695660	3284233	173.4

Sources: Compiled through annual report of SHGB

The above table 9 concluded that ratio of interest spread to operating profit was differ in every year. In 2016-17 ratio was 167.1% and in 2020-21 ratio was 173.4%.

Operating Profit to Net Profit

TABLE: 10 OPERATING PROFIT TO NET PROFIT (AMOUNT IN THOUSANDS)

YEAR	OPERATING PROFIT	NET PROFIT	OPERATING PROFIT/ NET PROFIT (%)
2016-2017	2861326	1531527	186.8
2017-2018	3774501	1825423	206.7
2018-2019	2944969	(830291)	-354.6
2019-2020	1350438	30241	4465.5
2020-2021	3284233	1830160	179.4

Sources: Compiled through annual report of SHGB

Above table 10 indicate that operating profit has been expanded from 2861326 in 2016-17 to 3284233 in 2020-21. The ratio about operating profit to net profit was 186.8% during 2016-17 and 179.4% during 2020-21.

SUGGESTIONS

➢ The bank should improve their standard services and also introduced modern technology.

➢ To face competition banks should make some efforts to increases the share capital.

➢ SHGB should take some measures to increases the profit position of the bank.

➢ To gain the confidence of customers' internet banking services should be introduced by the bank.

CONCLUSION

This study finds the profitability evaluation of SHGB in Haryana. For this different economic variables are used which affect the profitability of SHGB. It was observed that the bank should make efforts to increase its profitability position and should enhance its financial achievement that ultimately lifts the profitability position of Sarva Haryana Gramin Bank in Haryana.

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Sarva Haryana Gramin Bank annual reports from the year 2016-2017 to 2020-2021

IMPACTS ON IMPLEMENTATION OF INNOVATIVE STRATEGIES FOR MARKETING OF FISHERIES IN ANDAMAN AND NICOBAR ISLANDS

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ABSTRACT

There is an infrequency of research in the area of impacts on implementation of innovative strategies for marketing of fisheries in the region of (A&N) Andaman and Nicobar Islands, Although the administrative bodies of A&N island included the fishers' dimensions in their marketing strategies, there are still challenges to know its impacts. The author attempts to fill the important gap between the implemented strategy and its impacts by using a marketing growth strategy model to determine how these strategies impacts the firm and general public of the union territory. The major purpose of this study is to spot out the possible implemented marketing strategy that can boost support the sustainability of the fisheries involved, it includes implementation of innovative strategy, organizing the fish vendors and adopting environmentally friendly practices. There is also a need to know how whether these strategies make easier for the buyers to access the catching of fish, on the other side this provides an opportunity for the fishers to increase their capability in effective marketing of fish and stimulating the economic growth and development of the islands. The goal of this study is to develop and understanding of best marketing strategy practices by the firm in order to add value to the market performance of the fishers. This paper relies on information collected through secondary sources and publicly available data. The dynamic advance of the marketing strategies involved in the market; globalization increases the export activities for the driverless of fisheries in this island. As a result of this study the author determined that there are several internally and externally factors impacted which influencing the application of the marketing strategies. The Fishing sector of A&N islands has imprudent appearance to constitute more employment opportunities and has designing character in economic development.

KEYWORDS: Marketing, Innovation, Strategy, Impacts, model, Fisheries

INTRODUCTION:

Pravin (30 January 2019) highlighted about **Andaman and Nicobar Islands (A&NI)**is a union territory of India comprising of 572 islands, of which 38 are owned, at the crossing junction of the Bay of Bengal . The Union territory is about 150 km (93 mi) north of Aceh in Indonesia and is abstracted from Thailand and Myanmar by the Andaman Sea. The territory constitute two island groups are the Andaman Islands (partly) and the Nicobar Islands, which is ideally separated by the 150 km wide Ten Degree Channel (on the 10°N parallel), with the Andaman islands latitudeis

towards the north direction and the Nicobar islands to the south (or by 179 km). The union territory's capital is the Port Blair city. The Andaman and Nicobar Sea lies to the east and west of the Bay of Bengal. The island chains confines are reflection tobe a submerged development of the Arakan Mountains.. The total land area of the islands is approximately 8,249 km^2 (3,185 sq mi). The (A&NI) is divided into three districts such as the Nicobar District with Car Nicobar as its capital, the North and Middle Andaman district with Mayabunderas its capital and portblair as the capital of the south Andaman.

The Union Territory of Andaman and Nicobar Islands have enormous collection and the anthology of the distinct natural recourses. The fishing industry a dominant and a considerable one which backing and also supports a major extensive quantity and portion of the economy of Andaman and Nicobar Islands. The union territory has a coastline of 1,912 Km and the Continental Shelf area of around 35,000 Sq.Km. The Exclusive Economic Zone (EEZ) all over these islands is about 0.6 million Sq.Km. constructing a 28% of the total EEZ area of the country. Fishing as a commercial activity is of a relatively recent origin in the Andaman and Nicobar Islands. Even though there was no traditional fishing community in the Islands, the fishers from West Bengal, Andhra Pradesh, Kerala and Tamil Nadu have come to these islands each of one through settlement schemes of the Government, or voluntarily. Keeping the perspective of the potentiality and scope for development, Fisheries is considered as a core sector for the overall comprehensive development of the Islands. But in the current scenario this fishing activity became an excellent traditional one from which each and every community are highly participating and involving in the fisheries activities. Fish is one of the terribly perishable and short-lived commodities and it involves and occupies a very important place in the socio-economic development of the country. Sachinandan Dutta, Kunal Chakraborty & Sugata Hazra(2016) highlighted in their study that the fishery sector contributes to the live lihood of a large section of economically underprivileged population in India, while the demand of fish and fishery products is steadily growing and is fairly uniform across the country, the supply of fish is highly seasonal and it comes from diverse production environment, leading to price fluctuations across regions and seasons, and even within the day, which is exploited by the middlemen, resulting in reduced welfare of fishermen. (Ganesh Kumar et al. 2010) had analyzed the price variations among the fish species across states and had identified infrastructural bottlenecks in efficient marketing system of India.

Mariam N. Kiingi (2014) in his study he stated that Marketing is broadly treated as the process by which companies create value for customers and build strong customer relations in order to capture value from customers in return. Michael.k. mutambuki (2011) examined those strategies serve as the fundamental underpinning of marketing plans designing to fill market needs and reach marketing objectives and often integrate an organization's marketing goals, policies and tactics into a cohesive whole. A market strategy associates the set of marketing mix variables of the companiesas well as the arrangements for their application and identifies the firm's marketing goals, objectives and eradicates how these will be achieved, ideally within a stated time frame. The strategy determines purposefully the choice of target market segments, market positioning, and the allocation of resources along each marketing mix factor. This strategy is the most efficient one when an integral component of the overall firm strategy is being undertaking, defining that how far the organization will successfully engage customers, prospects and competitors in the market arena. The strategies for marketing are formulated to point at the strategic guidance for the marketing department will

take for the considered planning period. The strategy constitutes a clear objective as well as the fundamental goals and a focus in line with the company's corporate goals. A marketing strategy is a process of development of the long-term goals that can allow an organization to concentrate in order to establish its limited resources on the greatest opportunities to increase sale and achieve suitable competitive advantages to develop and exploit firm's management.(Teh et al. 2009) determined that Subsistence fishing is done mainly to supply one's own household food requirements, with infrequent sale of fish and only when the catch is in surplus. It is to be noted that the Artisanal fishing, on the other hand, it is carried out primarily for sale, with a small proportion of the catch kept for the household's consumption.

OBJECTIVES OF THE STUDY

- To study the impacts of implementation of the innovative strategies in order to marketing of fisheries in A&N Islands
- To develop strategies for improving Fisheries in the area of marketing in Andaman & Nicobar Islands To determine the influencing factors in application of strategies for marketing offish

RESEARCHMETHODOLOGY

This descriptive study adopts conceptual approach to find out the impacts of implementation innovative strategies for marketing of fish in Andaman & Nicobar Islands.

Source of Data Collection

In this study the data has been collected from various secondary sources, from journals, articles in newsletters, working papers etc.

INNOVATIVE MARKETING STRATEGIES: INTERMEDIARIES IN FISHERIES

In order to bear up the extensively spread the fisheries in the Andaman Islands, there are several associated hands which do not pretend to be centrally inhibited. Women, in their roles as fishers and sellers, are now consider or regard in a specified way and esteemed for in most socio-economic surveys. In these islands, the participative roles of women in fisheries differ with respect to the community they belong to; women from the Telugu-speaking community actively help with the cleaning of fish and their sale. In the Bengali community of Guptapara village, in south Andaman and the other villages of south Andaman women are involved in fishing related activities.

In few islands of Andaman & Nicobar, fishing is drifting out by aborigines with bow and arrows and by the Nicobaric tribes with a weapon with a pointed tip as spears. Consequently, the advancement and expansion of fisheries in these islands has been belated. The crafts and gears used by the fishermen are of the conventional type and of limited and confined amplitude of the scope, Because of these, the fisheries are thus mostly cramped to limited areas. The fortitude for huge sea fishing, prior to exploratory and multi-day fishing, fishing for coastal tunas, oceanic tunas and other straddling stocks are not achievable with the defined capacity of the craft and gear. Furthermore, there were lots of affecting factors which is the major obstacles for betterment of the fisheries sector that is., inadequacy of infrastructure for landing and adequate of modem, storage, processing and transportation of fish and fishery products, remoteness of the islands from the main land, limitations in marketing, application of innovative marketing strategy and trade, both for regional as well as to

increase the consumption on the mainland, lack of information and updating and communication facilities, lack of adequate data on the stock size, availability and accessibility coupled with lack of an adequate fisheries development and an effective action plan have been contributed to the inadequate and unorganized development of fisheries in the A&N Islands.

For these a roadmap for the Development of Fisheries in Andaman and Nicobar Islands (ANDFISH 2005) and the effective marketing strategy for the improvement and expansion of fishery has been prepared for comprehensive fisheries development of the islands. Rivers, from a very long time, are said to be the aid and salvation for the life of living beings, as all types of progress, in few manners and or the other are related to them. They have disported a crucial appearance in the development of human civilization since they provide basic necessities of life, water and food, on which build upon the endurance of living-beings.

Implementation of the effective marketing strategy which is exhaustive term that consists all the cooperation elaborate from the point of production to the distribution of fish to the consumer in an effective manner. In order to implement the marketing strategy and the action plan for the continuous improvement of the market system, the market system comprises wholesale market, retail market, and fish retail markets the increase in quantity of the production as well as advancement of fishery sector in terms of economy and infrastructure is profoundly dependent on an efficient fish marketing system.

But in the present status, with the help of various and innovative marketing strategies in fisheries sector it playsavital role in the development of fisheries and these llingactivities that is, direct selling with the help of social media marketing. The fish captures sell the fish directly to the customers by just receiving an order in WhatsApp, because nowadays consumers are highly demanded for fish as they are well known about the health benefits of fisheries.

Modern strategy for marketing of fisheries in the islands

Modern fish market at Mohanpura and Junglighat market in Port Blaircity of Andaman, in this modern fish market, an innovative marketing strategy has been applied in order to overcome and satisfy the needs and wants of the customer., a double storied fish market with better facilities has been to flip open for the boon of the fisher men and the general public. Around 9-ton capacity rain harvesting tank has been created in the newly constructed fish market, keeping in mind the water scarcity being faced during summer season to maintain a clean and healthful life. In this fish market it has a better dry and wet waste disposal mechanism which turns waste into manure. Alike such kind of facility is available in very few fish markets of our Country. The administration of these island to concentrate more on new technology and deep-sea fishing to harness fishery potential available in Andaman waters, additionally to open the modern fish markets in Inter Islands where fish is available in abundance., to enhance the application of new marketing strategy.

The fisher man has been constructed big boats with the help of Govt. This will help the fishermen for harvesting Tuna fish which is more sustainable. The Modern Fish Market at Mohanpura has implemented the innovative marketing strategy for fish to make a loyalty towards the fisheries industry and to maintain a hygiene practices, a double storied hygienic fish market constructed and

is having 36 stalls for vendors, chill room, office room and electronic weighing machine area in the ground floor for the convenience of the vendors and a meeting hall, office room, hall for storage of ice box and toilet facilities on the first floor. The innovative infrastructure facility has been create data cost of Rs.175 lakhs of which some of the source fund has been administered by the National Fisheries Development Board, Hyderabad(GoI).

Modern Fish Market also at Junglighat of Port Blaircity has been constructed to promote the fisheries activities keeping in mind the need for sanitation and a hygienic environment for the fisher folk community to sell their produce, Under this Modern Fish Market it is having a cold storage room where fishermen can store fish up to 5-7 tons, proper tiled sitting arrangement for individual vendors, lighting and fans, electronic weighing scale and a solid and liquid waste disposal machine for conversion of fish waste into manure. Upon the fishermen the government make best use of the facilities made available to them and also to ensure its upkeep, so that the market can be an example of cleanliness which is new strategy implementation for the growth and promotive for the fisheries, and also the PBMC to monitor the sanitation & maintenance and generate revenue from the fish wastes which will be converted into manure, these Modern Fish Market at Junglighat area has set a benchmark for all the fish markets.

Further, the Administration of A&N has been intended to implement new more strategical planning for the marketing growth of fish for these they proposed as well as initiated major projects for the formulation and to have a framework of infrastructure facilities to increase fish production in the Islands and to advertise the livelihood of the fishing community. To explore fishing potential of the area, major Fish Landing Centres (FLCs) are being established in different Islands with a view to consider and provide basic infrastructure for facilitating organized fishing / fish landing, for that a well settled master plan was prepared by the Ministry of Agriculture, Govt. of India during 2006 for Development of Fish Landing Centres at 19 locations in A&N Islands. So far, constructions of 12 Fish Landing Centres have been completed out of 19 Fish Landing Centres. Out of these, 8 Fish landing centres have been inaugurated and is being actually appropriate by the fishermen. The fish landing centres establish into application of the operation which are located at Junglighat, Guptapara, Rangat, Mayabunder, Diglipur, Yerrata, ShaheedDweep and Tee-Top and CarNicobar.

Apart from this, 4 Fish Landing Centres at Wandoor, Panighat, Kadamtala, Hut Bay (Little Andaman) has been completed to produce huge amount of fishery in the A&N region. The construction work of 5 FLCs at Swaraj Dweep, Betapur, Teressa, Katchal and Campbell Bay are in progress while the architecture work for 2 FLCs one each at V K Pur, Little Andaman and Kamorta will be going to start promptly. This construction of Fish Landing Centers would not only benefit for to enhance the existing environmental situation and to sharpen of the areas, but also improvement of the the quality life of the local population, particularly the impoverished fisher folks. After the successful completion of the Fish Landing Centers, the fisher can land their fish catch in organized manner, sorting & packing of the fishes in hygienic conditions, safe berthing of fishing boats and undertake repairing & construction of fishing boats for the continuity in marketing distribution channel and also it will boost huge fish catch, easy transportation and to build up the recurrence and frequency of fishing fleet of the fishing boats. Furthermore, the design and the development of an Innovative Mobile Fish Vending Unit for Retailers to maintain the hygienic practices and to the expansion of the production to come up more under the sector which will

provides a wider scope for the employment opportunities especially to the women and the poor communities.

IMPACTS OF THE IMPLEMENTED MARKETING STRATEGIES:

➢ Marketing of Fisheries has the generable potential to become a major Industry in these Islands. These Islands have 30% Exclusive Economic Zone which provides ample scope to become a major Fishing Industry of our Country. There is ample scope for export of fish from the Islands to make up the international trade and also it will generate a boon for the island's economy.

➢ Fish Market at Mohanpura in Port Blair city today is another landmark event for the Department of Fisheries. A&N Islands is making more potential steadfast progress in implementing the new marketing strategies for fisheries sectors which will lead to creation more employment opportunities and increase inpercapitain come of the people of these Islands, further this will be urging the Islanders to encircle the self-employment and make use of the opportunities as a favorable combination of circumstances and not be exclusively flagging on Govt. jobs, also the administration stressed on the need for facilitating fishermen with high-tech fishing equipment's and stated that fishermen should also be encouraged for the marketing activities and on the other hand to harvest sea weed and sea cucumbers which are available in plenty. Furthermore, they stressed the need for establishing a professional course pertaining to fisheries activities in the Islands for the benefits of the fisher folks which a great strategy and an opportunity for the upcoming generation to promote the fishery sector

➢ These strategies of marketing the fisheries result a positive impact on the environment i.e., the best environmentally friendly practices taking over by the fishers to safeguard the society from the harm which is a major factor that the administration of the islands considers and includes about the various other upcoming projects in fisheries sector in other parts of Isles and development of Ferrargunj Tehsil as Adarsh Gram in south Andaman region which is a great boon to the society. Speaking about the sector, the highlighted components are of the Modern Fish Market viz. 62 individual sitting capacity for fish vendors, electronic weighing machine, cold storage facility for storing unsold fish, bio decompose unit for conversion of fish wastes to manure, which will keep the environment free from the pollution.

The Strategy Framework
The Growth Strategy Model:
The Ansoff Model is a matrix that helps marketing leaders identify business growth opportunities for their marketing strategies in a challenging market (Annmarie Hanlon,2021).

Breakdown of the Ansoff Matrix Strategy
There are 4 quadrants in the matrix, and as a company, they can choose fromany of the quadrants, the strategy that maximizes their market potential. So, let us breakdown this Ansoff's Matrix Strategy by taking a look at all the components of the framework. The picture below gives a nice summary of the strategies (josh,2020).

	Existing products	new products	
Existing products	**Market Penetration strategies** Increases in the production by constructing various Fish Landing centres (FLCs) for the effective marketing distribution channel to reach the huge number of customers. Enhancement of the distribution. The administration explores the new, innovative means of distribution and also explore new channels of distribution for the fisheries by updating the communication system and the availing the adequate transportation for improving accessibility	**Product development strategies** Launching new products. The administration of A&N is being focus new fishing tourism activities to attract the upcoming tourists of the island, and also the introduction, modifications and improvements in the existing fisheries products to offer consumers new arieties, this will lead to increased sales and consumption of the product	**INCREASING RISK**
Newproducts	**Market development strategies** **Research** and development the R&D of the administration is being focusing on the identification of the consumer behaviors by installation of new modern markets and how they differ from the consumer behavior patterns in existing markets, this will also lead to the expansion of the local fisheries to different cities, within the same geographic region and the international expansion.	**Diversification strategies** In order to survive in the competitor world, diversification of the business plays apivotal role in the successful of the business for this, the various Fisheries company merge with the other companies to explore the conglomeratic growth and to improve the export activities for the economic growth of theislands.	

INCREASING RISK

CONCLUSIONS:

The Exclusive Economic Zone (EEZ) all over the islands is about 0.6 million Sq.Km. constructing a 28% of the total EEZ area of the country in which fishing as a commercial activity of Andaman and Nicobar Islands. The focus of this study has been to summarize and explain about the core impacts from the specific reference of the marketing of fisheries by the effective strategy implementation. As a result, Fishing sector of A&N islands has imprudent appearance to constitute more employment opportunities and has designing character in economic development by installation of modern markets of fish in the Portblair city. The improvement in fish marketing system and

distribution would not only reduce the demand-supply gap of fishes across the region, but would also contribute to food and nutritional security to the islanders as well to the country. More number of modern retail outlets have to be promoted vigorously through public-private partnership in every major capital city of the north and middle Andaman region so that fish consumption becomes an easier

propositionindaystocome,Thoughthereareanumberoforganizations,innovativestrategyimplementation and policies related to promotion of fish marketing in this islands there is a need to formulate a uniform marketing strategy policy for fishers so that it becomes easier especially in operation and regulation One of the factors constitute internal and external environment for such contribution is the availability and the upcoming of more infrastructure facilities for Fish landing centers to produce large number of fisheries to the nation. Ansoff's Growth Strategy model can be a useful model that has been used for the application of various innovative marketing strategies for developing and understanding the broader context and also to the sustainability of the sector throughout the nationwide.

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AN ANALYTIC APPROACH TO TEST DATA MINING TECHNIQUES

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ABSTRACT

In recent years, the rapid growth of the WWW has been accompanied by the explosion of online information. There are more than hundreds of bilions of web pages and the number is still increasing. The ongoing improvement in communications have transformed our society into one that is mainly depends upon information. The accumulation of the collected information, daily in databases and the extraction is not an easy task. How to make the overwhelming amount of information accessible to users is an important task. Predictive analysis (ML) provides the technical basis of data mining by extracting information and knowledge from Database. Supervised and unsupervised learning are the primary sub fields of ML. clustering is the one of the major tool of unsupervised Learning. The major are algorithms used for clustering, are covered in this study with a brief description of each . The most common version of the algorithms is selected to represent the entire family. The burgeoning amount of textual data in distributed sources combined with the obstacles involved in creating and maintaining central repositories motivates the need for effective distributed information extraction and mining techniques. This is the constructive research approach to test the various clustering algorithms by using the classical data mining programs.

Key-Words   *Machine learning, Data mining, Clustering algorithms, K-Means, C-Means Fuzzy , Single-Link*

Introduction

Two important and active areas of current research are data mining and the World Wide Web. A natural combination of these two areas, sometimes referred to as Web mining, has been the core of several recent research projects and papers. As with any emerging research area there is no established vocabulary, leading to confusion when comparing research efforts. The name Web Mining has been used in two distinct ways. The first, which we call the Content Mining, is the process of extracting information/knowledge or resource from millions of sources across the World Wide Web. The second, which we call Web usage mining, is the process of mining Web access logs or other user information, like user browsing and access patterns on one or more Web localities. Under this article we described the usage of Web mining , overview of the various research issues,

techniques, and development efforts in Web content mining and Web usage mining . The main focus is on the proposed techniques, issues associated with Web usage mining as an growing research area. To test the dataset of clustering algorithm, data mining is applied in a case study. Because the implementations of clustering algorithms are usually dependent on dataset, there is no generally applicable readymade software. However, various programs for classical data mining exist. The aim of the case study is to test the various clustering algorithm by using the classical data mining programs.

Learning

In order to clarify how clustering fits into the broader framework, In supervised learning, the algorithm is provided with both the cases (data points) and the labels that represent the concept to be learned for each case. The goal is then; learn the concept in the sense that when a new, unseen case comes to be classified, the algorithm should predict a label for this case. Under this paradigm, there is the possibility of over fitting or "cheating" by memorizing all the labels for each case, rather than learning general predictive relationships between attribute values and labels. In order to avoid over fitting, these algorithms try to achieve a balance between fitting the training data and good generalization, this is usually referred as the Bias/Variance dilemma. The outcome of this class of algorithms is usually evaluated on a disjoint set of examples from the training set, called the testing set. Methods range from traditional statistics approaches, neural networks and, lately, Support vector machines [2]. On the other hand, in unsupervised learning the algorithm is provided with just the data points and no labels, the task is to find a suitable representation of the underlying distribution of the data. One major approach to unsupervised learning is data clustering, which will be the focus of this paper. Both supervised and unsupervised learning have been combined in what some people called semi-supervised learning [3],[4]. The unsupervised part is usually applied first to the data in order to make some assumptions about the distribution of the data, and then these assumptions are reinforced using a supervised approach.

Formulation of Clustering problem

There are so many ways to formulate and express the clustering problem; with consequence of its interpretations and obtained outcomes is strongly depends upon the way, clustering problem was originally articulated. For example, the detected clusters or groups that may be exclusive, so that each and every instance may belongs to only one group. Or, may be overlapped, means that instance may fall into several/one clusters. Or their belongingness may depends upon a certain assigned Probability. It may be probabilistic, or may be hierarchical. The Division of the instances into groups at a higher level that may be further refined at lower levels. Furthermore, different formulations always leads to different algorithms to solve.

Techniques in cluster analysis and their comparison

- **K- means**: is prototype-based, Partitional clustering techniques that find user specified number of clusters (K).

- **Agglomerative Hierarchical Clustering**: refers to a collection of closely related clustering techniques that produce a hierarchical clustering by starting with each point as a singleton cluster and then repeatedly merging the two closest clusters until a single, all encompassing cluster remains.

- **DBSCAN:** is a density based clustering algorithm that produces a Partitional clustering in which the number of cluster is automatically determined by the algo. Points in low density regions are classified as noise and omitted. DBSCAN doesn't produce a complete clustering.

- **C-means fuzzy :** based on probability, fuzziness measures. Means this measures the degree of occurrence of an event. Instead of determining whether or not an event occurs. The traditional notion of probability to be extended with the   as per proponents of fuzziness.   The Deferent aspects of the human experience can be characterized more electively as consequence of probability.

Table 1: complexity comparison of some methods

Algorithms Keys Points	K- means	C-means	DBSCAN	Agglomerative Hierarchical Clustering
Algorithm Type	Parametric Reconstructive Models	Parametric (Generative / Probability-based Model)	Non Parametric	Non Parametric
Space requirement	O ((M+K)N), where M is the number of points and N is the number of attributes.	O(nC) where n is the number of links and C means number of link clusters	O(m) because it is only necessary to keep a small amount of data for each point	$O(m^2)$. It severely limits the size of data sets that can be processed.
Time requirement	O(i∗K∗m∗n), where i is the no. of iterations required for the convergence	Very less	O(n *) time to find the points, where the n is the number of points. In the worst case, this requirement is $O(n^2)$.	The time is required to computes the proximity matrix is $O(m^2)$, the overall time required is $O(m^2 logm)$. The time requirement mainly limits the size of data sets that can be processed.
Strengths	can be used for a wide variety of data types. It is also quite efficient**,** even though multiple runs are often performed. Some variants of K-means	This algorithm minimizes intra-cluster variance as well	it is relatively resistant to noise and can handle clusters of arbitrary shapes and sizes. Thus, DBSCAN can	This is typically used because the underlying application example creation of taxonomy requires hierarchy. Also

	like bisecting K-means are even more efficient and are less susceptible to initialization problems.		finds many clusters that could not be found using K-means.	there have been some studies that suggest that these algorithms can produce better results.
Weaknesses	It can't handle non-globular clusters or clusters of different sizes and densities	With lower value of β we get the better result but at the expense of more number of iteration.	has trouble when the clusters have widely varying densities. It also has trouble with high dimensional data because density is more difficult to define for such data.	are expensive in terms of there computational and storage requirements. The fact that all merging are final, can also cause trouble for noisy,HD data, such as document data.

Analyitical Analysis

The uncertain issue is to measure the performance of a given algorithm, for more simplicity I chosen one of the suggested in [11], that they call Training set correctness, which is measured by the ratio of the sum of the number of examples of the majority class in each cluster to the total number of points in the dataset. Training set correctness achieved using supervised approaches (SVM) is reported to have an idea of the performance.

The Algorithms tested

I tried to find an implementation of clustering to test on. I ended with three implementations

K-means Implementation (kmeans.m)

Is a version of the k-median algorithm. And it was done by Paul Bradley, student of UW computer Sciences departmentn and he found that. it will calculate them the initial clusters , using the bins idea, if not provided. This code can be found in /afs/cs.wisc.edu/u/g/f/gfung/public/k median. The inputs for algorithm is a matrix(mandatory input) whose rows are the data points to be clustered, number of clusters to be found K, and initials clusters(optional input.)

C-Means Fuzzy implementation (fcm.m)

It is part of the Fuzzy logic toolbox (MATLAB). I downloaded (trial version) from www.mathworks.com/products/fuzzylogic/tryit.shtml. Initial clusters are also optional in this algorithm. Initial fuzzy partition matrix is calculated by algorithm from the given data. The mandatory inputs are: a matrix whose rows are the data points to be clustered, number of clusters to be found K, and an optional vector containing variations of the stopping criteria.

Implementation single link hierarchical (clusterdata.m)

It is part statistic toolbox of MATLAB .The mandatory inputs are: a matrix whose rows are the data points to be clustered, number of clusters to be found K. and user is also t free to choose the distance between cluster.

The main thing that I would like to clarify that is the results shown in this paper, depends on their effective implementation. The resultant numbers can vary significantly versions to version implementation of algorithm. These experiments can only provide rough idea to the reader and we can just know general behavior of each method.

How Initial points are selected?

To check the local behavior of an algorithm, different sets of initial cluster are used. There are many methods to calculate the initial set of clusters.

Corner: Since all the values are scaled to be in [-1to 1] range, and set of all clusters must be close to the vertices (-1,.....,1). Usually this is a "bad" set of initial points. It can be considered an outlier if it lies on the boundary.

Bins: In this method the space is divided into bins and then points are selected randomly from the bin, in this way initial points are distribute and covering the entire dataset.

Centroid: chose all the starting clusters close to the mass centroid. Each cluster center is calculated by adding a small random perturbation to the centroid of the dataset.

Spread: Similar to the bins ,The cluster centers are distributed randomly and trying to cover the entire space.

PCA: The clustering procedure is applied to this one-dimensional set. After the points are projected in the space of principal component. Cluster centers are calculated afterward. then, depending on the obtained clusters in the one-dimensional space. K-means algorithm is applied to the obtained projected lower dimensional data.

Datasets used in the testing

Finding a good similarity function depends strongly on the dataset and it is not an easy task to define a "good" one. Because Most of the algorithms tested have versions to handle categorical data, but in such cases a good similarity or distance function has to be provided.. Dataset in which attributes are numerical values, the numerical test were performed for the simplicity.

Results on the Checkerboard Dataset

The first dataset used was a variation of the well-known checkerboard [14, 15] consisting of 486 black taken randomly from inside the corresponding 8 black squares from a 16-squares checkerboard. The points are naturally grouped into 8 clusters (one from each black square). Although this problem is not a difficult one, this example was picked in order to demonstrate visually how the methods work, and also to give an idea of the performance of the different

algorithms, starting from different cluster centers. Figures 1 to 7, show a graphical representation of the dataset, the initial clusters and the obtained final cluster centers.
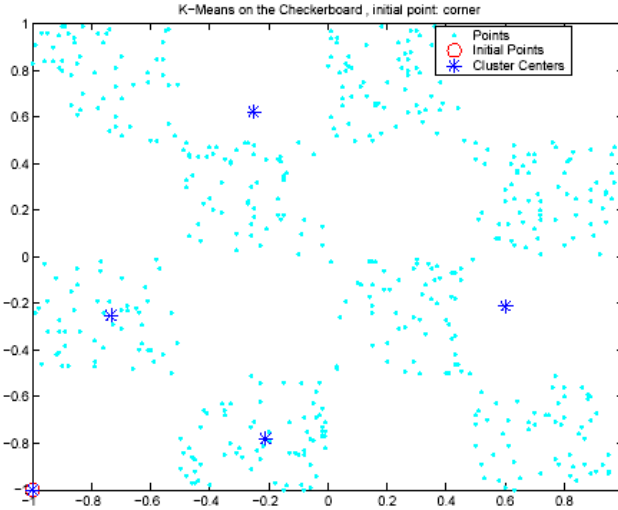

Figure 1: Poor final set of cluster centers is obtained. When K-means algorithm applied to dataset, and initial clusters are taken from the corner.
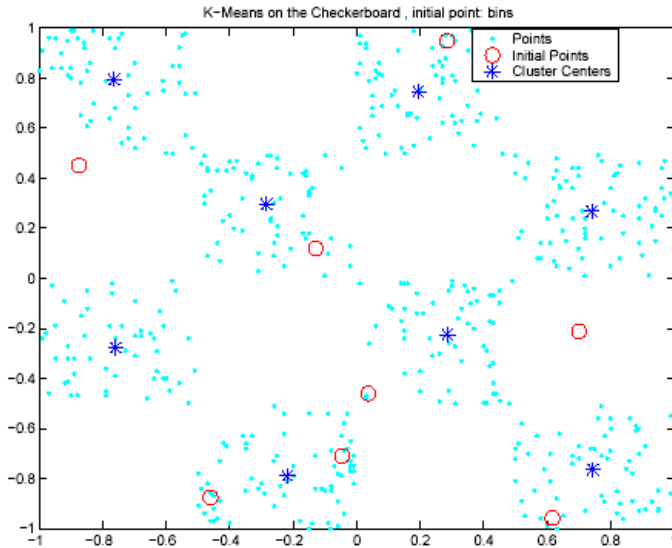

**Figure 2:** A good set of resultant clusters are obtained. When K-means algorithm applied to the checkerboard dataset, and bin heuristic method was used to obtain the initial set of clusters.
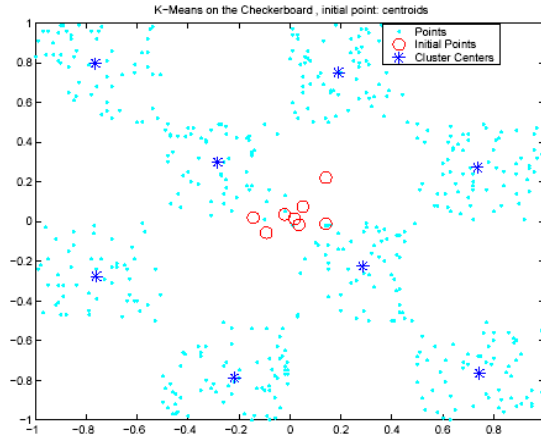
Figure 3: The obtained resultant set of clusters are "good" When K-means algorithm is applied to the checkerboard dataset and centroid method was used for the calculation of initial clusters.
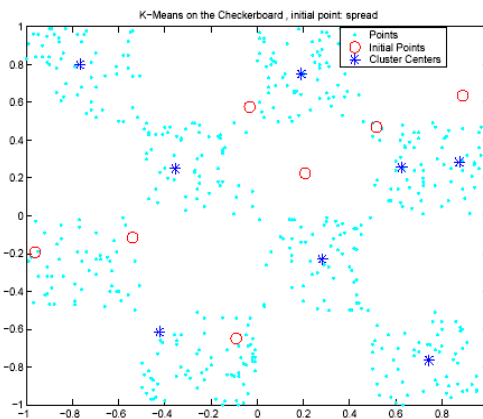
Figure 4: A medium quality set of final clusters is obtained. When K-means algorithm applied to the checkerboard dataset,. And initial clusters are calculated by spreading initial cluster centers among the whole data space.
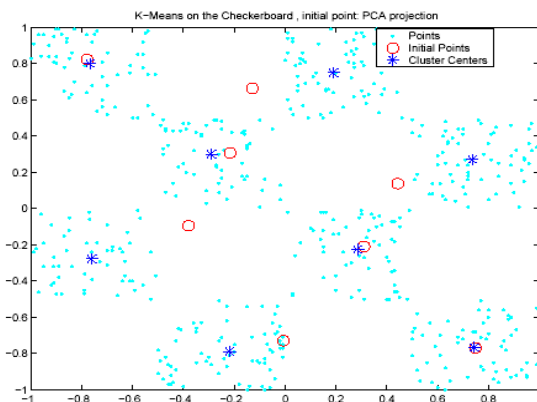
Figure 5: A good final set of cluster centers is obtained. When K-means algorithm applied to the checkerboard dataset, and the PCA algorithm was used to calculate by the initial clusters .
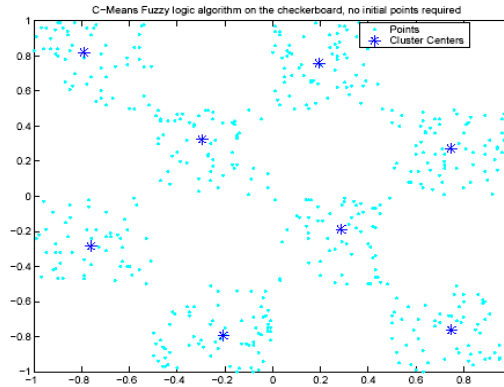
Figure 6: A good final set of cluster centers is obtained. When C-means Fuzzy clustering algorithm applied to dataset, and initial clusters are not required in this algorithm.
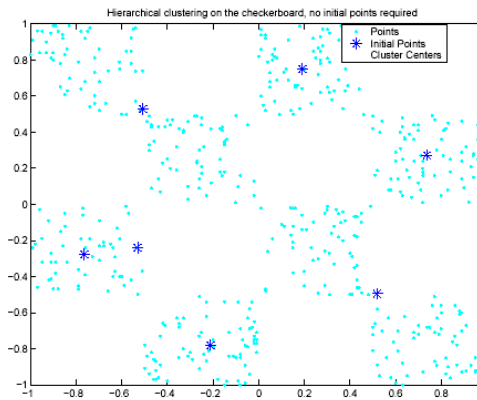
Figure 7: Initial clusters are not required by the algorithm. The resultant clusters are of Medium Quality . When The single linkage algorithm applied to the dataset,

Table 2: Comparisons of performance of K-Means, C-Means Fuzzy and Single-Link for the checkerboard dataset, correctness percentages and times are reported.

Method ⟶	K-Means	C-M Fuzzy	S -Link
Initial point ↓	Correct % of Time (Sec.)	Correct % of Time (Sec.)	Correct % of Time (Sec.)
Corner	52.26 3.06	98.76* 0.45*	76.13* 9.59*
Bins	99.79 1.17	- -	- -
Centroid	99.79 2.79	- -	- -
Spread	87.44 2.34	- -	- -
PCA	99.38 0.71	- -	- -

- As was expected the K-means algorithm was strongly sensitive to initial points, the quality of the obtained final clusters depends upon the given initial set of clusters. Bins and centroid provided the best initials clusters for this algorithm. This algorithm was generally, the second slower one.

- The outcome obtained from the single-link hierarchical clustering algorithm was worst . Even in the small datasets the final cluster was of poor-medium quality. Due to memory constraints it fails in two cases, when tried to store the entire matrix of similarities of points. Although I think a poor quality implementation of this algorithm may lead to the poor performance .

- C-Means algorithm was not the faster but it was not the slower either, so the performance speed was acceptable. In all datasets the correctness obtained was comparable to the best ones achieved. This algorithm performed really well, , so the performance speed is acceptable.

- An thought-provoking thing is that the PCA technique really gives good initial points on the checkerboard, probably due to the unnatural and strong defined structure of the checkerboard dataset it not gives as good results the rest of the datasets.

Conclusions

An ideal scenario would be required to choose a proper clustering algorithm to apply. For a given dataset, selection of a clustering algorithm, however, a very difficult task. Although, to finding the most relevant approaches for a given dataset is also a harder task. Generally most of the algorithms assume some implicit structure in the dataset. The issue is that usually we have a little bit or no information about the initial structure, which is, ambiguous, that we want to uncover.

The process of trial and error is the best way. When the previous information about the data/clusters is unknown, is one of the worst case. Usually, there are many elements that are known, and they can be helpful in the selection process of an algorithm. Nature of the desired   data/cluster, is one of the most important element. Another important thing is the kind of tools and input that are essential for an algorithm. For example, some algorithms use categorical inputs, some require a definition of a distance or measures of similarity for the data and for some numerical inputs are required.

Dataset size is also important and should be kept in mind, because To achieve the convergence, multiplicity in data scanning is the major requirement of most clustering algorithm. BIRCH [13] and CLARANS [18] are the examples of framework .i.e. more scalable clustering.

Correctly choosing the initial set of clusters is also One of the additional issue of an algorithm selection process . As was shown in the numerical results, an adequate choice of clusters can strongly influence both the quality of and the time required to obtain a solution. Also important is that some clustering methods, such as hierarchical clustering, need a distance matrix which contains all the distances between every pair of elements in the data set.

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FINANCIAL INSTRUMENTS AND THEIR IMPACT ON THE GROWTH OF INVESTMENT AND TO SOLVE INVESTORS DILEMMA–ASTUDY ON THE INDIAN MARKET

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Abstract:
Purpose: The purpose of this study was to investigate the link between financial instruments and investment growth.

Design/Methodology/Approach: 200 clients from banks and businesses participated in the distribution of questionnaires in Haryana and UP. The data collected was analyzed using SPSS-SEM.

Results:
The obtained results indicated that, despite the moderate improvement made in a very short period for all variables computed in the article, the Indian stock market remains largely undeveloped, small, and inefficient. Its market capitalization to GDP ratio is relatively low, and investors do not have access to long-term capital. Furthermore, the market continues to have very low liquidity, and investors continue to have a limited choice of financial products and experience liquidity issues.

A country's economic development is dependent on the savings made by its households, individuals, or corporate houses, who channel their savings into some productive avenues, i.e., in an economy, there is a regular flow of funds from investors (savers) to fund users, resulting in the creation of wealth.

Keywords: investment, financial instruments, Gross Domestic Product (GDP), Indian stock market, Investors, mutual funds, returns, risk, taxation.

Introduction

In the stimulation and growth of domestic investment, market- or stock market-oriented financial systems are more effective. In particular, the various financial instruments influence investment development by reducing investment finance constraints, so that better-functioning financial systems enable companies to invest more in response to increased demand for output. Thus, advanced financial systems are linked to increased reaction to domestic investment in order to increase per capita GDP overall. The study is based on the accelerator hypothesis that provides a positive link between production increases and investment changes Abdussalam, Z. (2014).

There are several advantages to financial instruments, including a transparent exchange pricing procedure and a range of trade tools which enable potential investors to invest capital in order to generate consistent profit, in line with physical security requirements, or financial independence.

The Indian financial system promotes savings for investors and can provide them through financial instruments for their most effective and productive use. These are the financial instruments used by business companies to raise cash.

Over the last decade, the business system has created new financial markets and investment options in several countries around the globe.

Investments in financial assets include:

    a.   Securitized investments such as stocks, bonds, debentures, government securities, mutual funds, and so on.

    b.   Non-securitized investments include bank deposits, post office deposits, insurance, provident funds, and so on.

They may also be divided into two types:

    a.   Money market instruments such as treasury bills, commercial papers, commercial bills, and so on, which are for the short term,

    b.   Capital market instruments such as equities, bonds, and so on, which are for the long term.

Investors are all available to generate profits and overcome inflation. Each investment option, however, has benefits and inconveniences. So a sensitive investor attempts to weigh up its advantages and disadvantages before investing in them.

Objectives of the Study

The main objective of this paper is to investigate the financial instruments and their impact on investment growth – an Indian market study. The following are the specific aims: An effort to describe the role of the Indian financial market in support of the growth and investment cycle through the global financial market and the role it is expected to play.

2) Identify the various factors affecting investment decisions and propose the investor's best instruments for his needs.

The Study's Justification

Financial stock market investments are essential in India. This can be linked to increasing real investment in the country and the need to adhere to services and economic growth This study fills a knowledge gap with real investment. This goal, especially as regards investment and economic growth, can be achieved. In addition, diversifying financial instruments reduces the burden on the parties and prevents the stronger party from potentially misusing the weaker party (Langlois, R. N. (2017).) This type of investment fulfills objectives of economic growth and promotes social and economic development in a wide range of sectors.

REVIEW OF LITERATURE

- This studies have shown that they strongly support the view that the financial development of the region has a positive impact on several aspects of actual economic activity (Ndikumana, 2000; Rajan and Zingales, 1998; Demirgu and Maksimovic in 1996).

Potter (1971) lists a number of variables that influence the perceptions of investors regarding their investment choices such as dividends, growth, saving goals investment, rapid earnings and professional investment management.

Murthy, Saha, and Asish (1994) They discovered that elements such as return, safety, liquidity, and capital appreciation play an essential part in investing decisions in their study.

The SEBI – NCAER Survey (2000) was conducted, and some of the survey's results are as follows: The mode of investing varies according to the investor's risk tolerance. Bank deposits are appealing to the majority of investors, whereas MFs have yet to become profitable for small investors.

K. Kamweshwari (2013) According to the results of her poll in Vishakhapatnam, 75% of investors favour growth funds, 13% prefer balanced funds, and 11% prefer income funds.

Global bodies such as the Food and Agriculture Organization, the World Bank, and the Group of Twenty have paid attention to the side effects of these types of investments in the agri-food sector and the economy, ranging from increased volatility in food prices to vulnerable land rights for farmers, in order to identify appropriate international governance responses (Clapp & Isakson, 2018).

T. R. Rajeswari and V. E. R. Moorthy (2005) According to the findings, the most popular investment instrument is a bank deposit. Mutual funds and stocks were ranked fourth and sixth, respectively. According to the poll, the majority of investors invest on their own or are persuaded by family, friends, or newspaper articles.

In his survey, Mehta, P.U. (2012) discovered that the most popular channels of investing include savings accounts, insurance, gold, mutual funds, PPF, and GPF. He also discovered that variables such as tax exemption, flexibility, market trend, dependability, and affordability, in addition to the typical risk and return as a factor, play a role.

- The stock markets provide a superior platform for consumers compared with the typical banking investments. If people do well, people can invest and get a lot of money. Equity investments are more lucrative than bank savings and bonds, according to Khan et al. (2018). In the stock market, bonds play an equally important role. Significantly less risk than bank loans is associated with bonds. Until the company declares bankruptcy, it agrees to pay the interest and credit institution. If the financial situation of the company becomes worse, a fall in the stock value and the cessation of dividend payments shall affect the investor.

In his theory, Thomas and John. (2014) discovered that short-term investors want the protection of their money, whereas medium-term investors seek tax benefits.

Theory of Economic Growth
According to the current theory of economic growth, capital, human capital and technology are all components which contribute to economic growth. Although often ignored, property-referencing institutions can influence economic performance through reductions in the cost of transactions and uncertainty during exchange operations. Thus, without an institutional theory, a growth theory is incomplete. In order to improve the efficiency of the resource allocation rule, on the one hand institutions encourage people to expand capital investment, accelerating the process of technological progress. The key assumption on what is most important.

Investment Growth
Any stock of a company which is expected to grow at a much higher rate than average growth rate in the market is a growth stock. Such shares do not pay dividends many times. The reason is that companies that issue stocks of growth typically try to reinvest any income to enhance growth in the short run. When investors buy in growth shares, they expect capital gains to be beneficial in the future by selling their equities.

In terms of sales and earnings, growing inventories are projected to be above market performance. Growth companies often look expensive and have a high P/E ratio, but such assessments can be low if the company develops quickly,

The inventories of growth have a number of common features. For example, growth firms usually have separate product lines. They could have patents or technology that puts them in front of their competitors in their industry. They reinvest profits in the development of even newer technologies and patents to ensure their long-term success, to continue to be ahead of competition.
Often because of their innovation patterns, they have a dedicated customer base or significant market share in their sector. For example, a company that develops and provides a new service can develop its own market share as a result of the acquisition of market share.

The aim is however always the same and growing investors are continually searching out the growth and offering the possibility for a better return on individual stocks or equity-based investments such as mutual funds and ETFs. Investments must be in line with short and long-term financial goals, risk tolerance, and a variety of other considerations. However, there are fundamental techniques, principles, and strategies that investors can employ to suit any investment strategy; thus, high-quality integrative institutions and (adoption of) productive regulatory measures are required to stimulate and sustain competitive, growth-oriented, and investment-oriented capitalism(Acemoglu&Robinson,2012;Baumoletal.,2007;Bloometal.,2018).

Financial Instruments
There are several opportunities to build wealth in Indian stock markets. Many investors put their money on the market to generate wealth over the long term. You can keep investing for a few months to a few years. Others with shorter-term goals could trade instruments for quick profit generation. For example, intraday traders focus on the extremely short term and conclude their

transactions with one day of trading. In the Indian stock exchange, the majority of traders and investors deal in stocks. Stocks can, however, only be traded in the Indian markets as a form of financial instrument.

VARIOUS FINANCIAL INSTRUMENTS AVAILABLE:
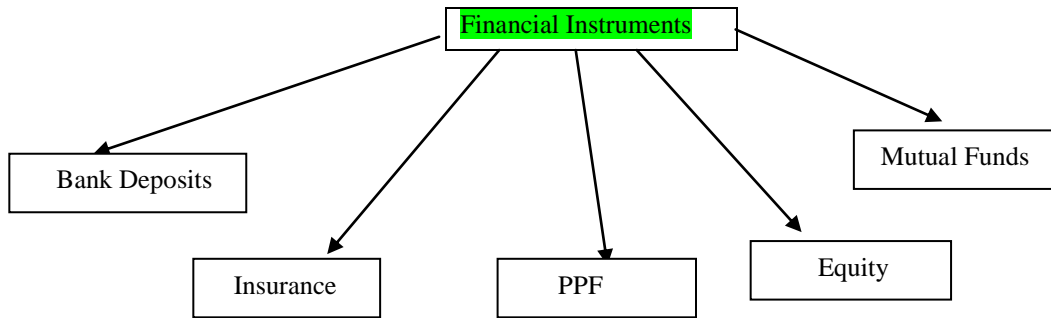
BANK DEPOSITS -Many investors are happy to put their money simply as fixed deposits or save accounts in banks. The money held in a bank is secure and earns interest on fixed deposits at 6-7% per year and savings accounts at a rate of 3-4% per year. You can take money from your account, which results in high cash flow.

INSURANCE- It is a type of risk management that protects against uncertainty or emergency risks. In exchange for certain insurance premiums, the insured is paid in a promised and known amount in the event of a disaster. But today, in many people, insurance is also a tool for investing, which offers a return of 3-4 percent (with an average of 10 years, which leads to negative real interest) and is very illiquid in nature.

PUBLIC PROVIDENT FUND-In India, the Ministry of Finance set up a tax-saving mechanism in 1968. The objective of the scheme is to mobilize small deposits and provide fair returns and income tax benefits. The plan is completely risk-free because the central government fully guarantees it. The investor can earn a maximum of 7-8 percent annually, but the money is closed down for 15 years. Returns are tax-free as well.

EQUITY/STOCK MARKET- A corporate share symbolizes the investor's share of the company and the value of its capital and/or dividends is the return of the investor. Bond investments may produce immediate profits if speculation is accurate, but it is the most risky way of doing so.

MUTUAL FUNDS- MFs are a kind of investment that in recent years has become increasingly popular. It's a professionally managed company that combines the money of people and invests it on their behalf in inventories, bonds and other securities. This mode can fulfill the demands of almost any investor, whether risks-adverse or risk-adverse, or short-term or long-term investors. It offers the benefits of diversification and compounding of returns. However, it taxes short-term gains and is a bit dangerous since indirect investments are made only on the stock market.

Result Analysis

Different financial products based on certain criteria It can be observed that mutual funds have the best returns because of their combinational effect (if invested for 2-3 years). Then PPF, with banking deposits followed, then MFs. Equities can also be invested, although the results are very uncertain. In addition, you should not invest in return insurance, since it delivers negative returns, that is to say, below inflation rates, leading to a loss of buying power.

When it comes to risk, the risk of investing in stocks is greatest, followed by reciprocal funds as MFs only indirectly invest in bonds. Due to the average cost of rupee,

The article suggests that authorities should look at affordability, financing form, project scale, and technical assistance for specific schemes, among other factors, to develop efficient investment plans directed at the financial sector. To make the best possible use of money, it is necessary to better understand the local demands of the market, in order to make corresponding changes to the appropriate financial instruments. In the following years the financial instruments are planned, particularly in order to integrate social and environmental impacts into the design of future gadgets, to contribute considerably to investment policy goals.

The article suggests that administrations should look, amongst other factors, at the affordability, funding form, scale of projects and technical assistance of special schemes to develop efficient investment plans for the financial sector. In order to make optimal use of the money, local market requirements need to be better understood so that corresponding changes to the relevant financial instruments are made. The financial instruments are planned in the following years to significantly contribute to investment policy objectives, in particular in order to integrate social and environmental impacts in the design of future gadgets.

FINDINGS AND SUGGESTIONS OF THE STUDY

An investor should keep in mind his needs and accordingly he should decide the apt instrument for himself. The paper would suggest the followings:

MFs are the largest choice for tax savings, according to the report. Therefore, if the investor's goal is to save tax, ELSS funds are proposed because the lock-in period is the shortest, while the average 10-year return is 20%-25%.

If investment is low, bank savings can be argued as the safest solution. If the investor is completely risky, then he should go for bank deposits (both FDs and RDs) and want to invest for the short term. However, if his duration is long-term, he must go for debt funds. The study also states that if the investor is conservative in risk and does not want liquidity for a couple of years, it may use PPF.

The table also provides us with the most liquidity for MFs and the stock market since we can withdraw our money from them quickly in the case of emergencies. The study thus recommends that if the primary objective of an investor is to achieve returns without sacrificing liquidity, it could take these assets into account.

From the article, we can also conclude that mutual funds are less dangerous than the stock market. So if an investor is new to the market and has little cash, then he should choose mutual funds, because they provide diversity and are managed by experts.

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PROTECTION OF FARMERS UNDER FRUITS PM-KISAN SCHEME IN KARNATAKA IN THE PANDEMIC PERIOD

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ABSTRACT

Agriculture is a state topic in India, and policies and initiatives differ from one state to the next, as has been noted in previous years. Agri-sops or advantages, on the other hand, must not alter the market scenario because agricultural operations are interconnected in surrounding regions. Evidence suggests that the majority of small and marginal farmers have not benefited completely from farm loan waivers. Rather, it has an impact on the borrowers' future credit behaviour, severely impacting the agricultural credit culture as a whole. With the impending kharif (rainy/wet) season, institutional crop loan lending should be expanded and facilitated to ensure a smooth (and sufficient) supply of credit to borrowing farmers. Seeds, fertilizers, agrochemicals, and other agri-inputs must be pre-positioned for easy access. With the required policy support, the private sector must play a prominent role. India's growing population has resulted in an increase in food consumption, and the Green Revolution's negative externalities, including environmental trade-offs and staple cereals fundamentalism, have subsequently been realized. After COVID, there is a once-in-a-lifetime opportunity to repurpose existing food and agriculture policy to benefit a healthier population.

Keywords: Farmers, FRUITS, PM-Kisan, Covid-19

Introduction

COVID-19's ongoing health problem has impacted people from many areas of life. Nations have made it a priority to protect the lives of persons suffering from the disease as well as frontline health responders. Since the Corona virus attack, which created an unprecedented situation, governments have sprang into action. In the initial phase, India imposed a three-week nationwide lockdown, which was later prolonged and has aided in the successful containment of the virus's spread. How does Indian agriculture respond to the crisis in these trying times, and how do government policies affect 140 million agricultural households across the country, and how does

this affect the economy of a key developing country?As a result, the purpose of this study is to examine the immediate issues that COVID-19 has posed to the agriculture sector and to recommend mitigating strategies to create a sustainable food system in the post-crisis phase through various programmes available to farmers in Karnataka. The Indian Finance Minister issued an INR 1.7 trillion package shortly after the nationwide lockdown was imposed last year, mostly to safeguard the weak (including farmers) from the effects of the Corona pandemic.

Among a plethora of incentives, the announcement included an early payment of INR 2000 to farmers' bank accounts as income support under the PM-KISAN plan. The government also boosted the wage rate for workers covered by the World's Largest Wage Guarantee Scheme, the National Rural Employment Guarantee Scheme. The Pradhan Mantri Garib KalyanYojana (Prime Minister's scheme for the welfare of the poor) was announced as a specific scheme to care for the vulnerable population. Additionally, grain allotments to registered beneficiaries for the next three months were announced, as well as cash and food assistance to people working in the informal sector, mostly migrant labourers, for which a separate PM-CARES (Prime Minister Citizen Assistance and Relief in Emergency Situations) fund was established. During the lockdown, the Indian Council of Agricultural Research (ICAR) published state-by-state directions for farmers to follow. Specific techniques during harvest and threshing of various Rabi (winter seeded) crops, as well as post-harvest, storage, and sale of farm production, are discussed in the advise. The Reserve Bank of India (RBI) also announced particular measures to alleviate the COVID-19 pandemic's "burden of debt payment." Banking institutions have offered a three-month moratorium on agricultural term and crop loans, with a 3% interest rate discount on crop loans up to INR 300,000 for borrowers with good repayment behaviour.

Review of Literature

AG AdeethCariappaet. al (2021)[1]In their article, the researcher had highlighted on the Indian agriculture system in the pandemic period. The study's major goal was to determine the influence of covid-19 on India's agricultural sector. The researcher did the paper based on secondary source through pointing out ten strategies those were financial reforms, stakeholders' partnerships, social safety, risk management, secondary agriculture, family farming, collective farming, investment, buffer stock and staggered procurement and pricing to strengthen the agricultural sector. The main findings of the study was the social safety, family farming and buffer stock had more impact when it compared to all other strategies. Therefore, the researcher suggested that all other strategies if properly implemented then the farmers will get benefitted. So, the future researchers can analyze the same based on the primary source and further schemes available for farmers can also analyzed individually.

Luigi Mastronardiet. al. (2020)[2]In their research paper, the researcher expressed their views as the effect of Covid-19 pandemic in Italy farms. The main purpose of the study was to investigate problems of farmers faced in the pandemic period and the governing policies to overcome from the crisis faced by the farmers. The researcher did the paper based on primary source by covering of five farms in Italy through conducting of Semi-structured interviews by the way of qualitative and quantitative analysis based on the textual, graphical and sentiment analysis performed. The researcher found that in Farm 1, the Agriculturist had good ideas and they performed different agriculture and allied activities like Agri-tourism, Dairy, Educational farm,

Livestock performing, vegetable processing, windmill. The other Farms 2, 3, 4 and 5 relatively performs less agricultural activities. So, the researcher pointed and suggested to Farm 2, 3, 4 and 5 that to explore more ideas for agricultural activities to reap more benefits. The future researchers can explore their study based on the longitudinal study or through different schemes available for farmers can be analyzed.

Statement of the Problem

In our Indian Economy, more than 80 percentage of the families meant to farmers and their main source of income which is actually based on the agricultural and allied activities. There is a biggest problem for the farmers to produce food grains if rain not comes within time, due to floods and for any other reasons. The Covid-19 pandemic impacted much on agricultural sector as well. So, in order to protect the interest of farmers, certain schemes that is actually offered at central and state level. In our Karnataka, PM-Kisan FRUITS scheme which is also one of the scheme under which the farmers can exercise the benefits as Pledging, Hamals insurance and housing scheme, Raitha Sanjeevini, minimum floor price through these different schemes and additional slabs had introduced under this scheme in the pandemic period. Therefore, the study demonstrated as "Protection of farmers under FRUITS PM-Kisan scheme in Karnataka in the pandemic period".

Objectives of the study

The main objectives of the study as below:
1. To understand the applicability of PM-Kisan FRUITS scheme.
2. To identify the beneficiaries (farmers) under this scheme in the pandemic period.
3. To offer suggestions based on findings.

Scope of the study

This paper addresses for the information demonstrated based on the application of information into curriculum with the applicability of a PM-Kisan FRUITS scheme in Karnataka in the pandemic period. The context for the paper is based on beneficiaries using this scheme and benefits derived from it which actually offered by Government of Karnataka.

Research Methodology

The present study is based secondary data sources and data had been collected from the books, journals, annual reports and websites of Government of Karnataka.

Limitations of the study

Below are the main limitations of the study:
1. The study is concentrated only on PM-Kisan FRUITS scheme.
2. The data which is collected by secondary source may not be find accurate one.

Farmer Registration and Unified beneficiary Information System-PM-KISAN (FRUITS-PM-KISAN)

FRUITS helps in registering farmers and non-farmers and provides a unique ID. Besides, it facilitates to registered beneficiaries as and when they want to avail benefits from the Government if not registered earlier. The scheme started in January 2019 in order to help the farmers in the pandemic period. More than 59 lakh farmers have been registered. The number is growing day by

day thereby more farmers are able to reap the benefits of FRUITS project. This Registration is once in a lifetime activity, as a result, the beneficiary needs not to carry his/her documents to the next department and for every scheme. Benefits given to a person can be tracked using Registration ID which is mandatory for all the departments to capture before providing benefits. This would not only stop multiple benefits reaching the same beneficiary but also helps in inclusive growth. FRUITS integrated with state Direct Benefit Transfer (DBT) portal and through DBT portal is also integrated with Khajane II (K2).

FRUITS (P.M. Kisan) (Farmers' Registration and Unified Beneficiary Information System) is an e-Government initiative to create a standard database for farmer registration and to make updating support and information more accessible to farmers and non-farmers.Agriculture, Horticulture, Sericulture, Animal Husbandry & Veterinary Sciences, Fisheries, Backward Classes, and Social Welfare Organizations are all part of the "FRUITS" initiative. The following are the several schemes available under this scheme:

1. **Pledge Loan Scheme**
    This plan has been in place in 132 State markets since 1994-95, and it was integrated into FRUITS during the pandemic era. Farmers may be given loans up to Rs.2,00,000, or 60% of the value of their agricultural produce, in exchange for a commitment of their agricultural produce.

The advance period cannot exceed 180 days from the date of the produce pledge. For the first 90 days following the date of disbursement of the advance, no interest will be charged; thereafter, interest will be charged at the following rates:

Table 1: Represents the rate of interest under Pledge loan scheme in the Covid-19 pandemic

SL.No	Amount	Rate of Interest
1.	Up to Rs.25,000	4% Per annum
2.	Rs. 25,000/- and above but below Rs.50,000/-	6% Per annum
3.	Rs.50,000/- and above but below Rs.1.00 lakh	8% Per annum
4.	Rs.1.00 lakh and above but below Rs.2.00 lakhs	10% Per annum

Source:*http://fruitspmk.karnataka.gov.in/MISReport.aspx*

The market committee will take reasonable precautions to protect the promised produce from fire, theft, and other dangers, as well as provide for periodic fumigation at the market committee's expense.

The market committee may also accept ware house receipts issued to a produce seller by the Karnataka State Ware Housing Corporation or Central Ware Housing Corporation, or such other co-operative societies as the Director of Agricultural Marketing may notify from time to time, and grant a short-term advance on the pledge of such receipt.

2. Raitha Sanjeevini Scheme

For the benefit of all Karnataka agriculturists, the Karnataka State Agricultural Marketing Board is implementing the "Raitha Sanjeevini" Accidental Insurance Scheme. If a farmer or a member of his family dies while doing agricultural operations or selling agricultural and horticultural commodities in market yards, etc., the farmer's estate will be compensated.

Table 2: Represents the slab rates for maximum insurance amount in the Covid-19 pandemic

SL.NO	Description	Max.Insurance Amount
1.	In case of death	Rs.1,00,000
2.	Rs. loss of two hands or two legs	Rs.50,000
3.	Loss of Two Eyes	Rs.50,000
4.	Loss of One Eye	Rs.30,000
5.	Loss of One Hand OR One Leg	Rs.30,000
6.	Loss of Hand and Leg Fingers(for each finger)	Rs.10,000
7.	Break of Waist	Rs.50,000

Source: *http://fruitspmk.karnataka.gov.in/MISReport.aspx*

The Raitha Sanjeevini Scheme, overseen by the KSAMB, receives contributions from financially capable APMCs. From 1996-97 to the present, 10333 farmers have received Rs.38.62 crores via this scheme, which includes the pandemic era.

3. Minimum Floor Price Scheme

The Floor Price Scheme was created to assist farmers in avoiding distress sales. The government will set a Minimum Support Price and make arrangements for its acquisition. A Revolving Fund has been established for this purpose. Every month, the market committees in the state donate 0.4 percent of the market charge received.

The fund will be managed by the Karnataka State Agricultural Marketing Board (KSAMB). The system is the first of its kind in the country, and numerous states have expressed strong interest in implementing it for the benefit of the farming community.

The scheme has assisted 10,19,578 farmers since 1999, including those who were affected by the pandemic. Since 1999-2000, a total of Rs.3108.73 crores has been set aside for the procurement of agricultural and horticultural products.

4. Hamals Insurance Scheme

The AamAdmiVima Scheme is being implemented by the Karnataka State Agricultural Marketing Board for the benefit of hamals, cartsmen, and weighmen working in 161 APMCs. Every 'Shramik' who wishes to participate in the scheme must pay a fee of Rs.100 per year.

The Government of India provides LIC with Rs.100 each person registered under the Social Security Scheme. Since October 1, 2000, the Scheme has been in effect. If a person dies naturally, he is entitled to Rs.300,000 in compensation under this scheme.

If the death was caused by an accident, the compensation payable is Rs.75, 000. Since the beginning of the year, 3,51,968Shramiks have registered their names under the AamAdmiVimaYojana, with 2099 beneficiaries receiving compensation of Rs.5.89 crores.

5. Hamals Housing Scheme

The Rajiv Gandhi Rural Housing Corporations have also expressed interest in building residences for licensedhamals operating in Karnataka's APMCs. This programme has provided coverage to up to 5000 hamals. Beneficiaries have been recognized as 808 functioning hamals so far.

The house costs Rs.40,000/- in total. Each house receives a RS.10,000 grant from the state government. A total of Rs.80.80 lakhs has been released thus far. The licensedhamal is required to provide a contribution of Rs.5,000.

Rajiv Gandhi Rural Housing Corporation would approve a loan for the remaining sum of Rs.25,000. The licensedhamal must repay this amount in 15 years at a cost of Rs.297 per month. The plan has been funded and is currently being implemented.

Table 3: Represents the Farmers registered (Beneficiaries) under the FRUITS- PM-Kisan in Karnataka (District-wise) in the Covid-19 pandemic from January to June 2021

Districts	Agriculture	Horticulture	Animal Husbandry	Sericulture	Total
Bagalkot	92853	1574	277	999	95703
Bangalore Rural	21275	1253	0	390	22918
Bangalore Urban	19297	189	1	25	19512
Belgaum	122329	4673	9	73	127084
Bellary	117217	5451	80	20	122768
Bidar	88783	708	0	0	89491
Bijapur	63533	508	0	3	64044
Chamrajnagar	63767	1308	174	370	65619
Chikkaballapur	58893	1065	11	1403	61372
Chikmagalur	51330	333	3	0	51666
Chitradurga	51412	2295	0	1117	54824
Dakshina Kannada	31882	4858	4	0	36744
Davangere	48702	942	0	0	49644
Dharwad	62525	2424	0	51	65000
Gadag	66146	1022	105	36	67309

Gulbarga	116909	12156	5	224	129294
Hassan	149091	2147	1	447	151686
Haveri	58777	2686	1	117	61581
Kodagu	22410	493	1	4	22908
Kolar	58715	3521	0	1931	64167
Koppal	56023	917	1	172	57113
Mandya	136365	956	9	110	137440
Mysore	82415	3196	484	1516	87611
Raichur	78672	2596	301	303	81872
Ramnagar	68544	2225	0	164	70933
Shimoga	91904	90	0	1	91995
Tumkur	115520	2595	83	1049	119247
Udupi	23378	1228	0	0	24606
Uttar Kannada	64688	1171	7	0	65866
Yadgiri	69252	691	0	0	69943
Total	**2152607**	**65271**	**1557**	**10525**	**2229960**

Source:*http://fruitspmk.karnataka.gov.in/MISReport/StateLevelCenterWiseReport.aspx*

From the above table, it is clear that, the total numbers of beneficiaries under the FRUITS-PM-Kisan scheme in Karnataka are 2229960 farmers. In the Hassan district, the registered beneficiaries are 151686 which is actually ranked first high, second highest in Mandya are 137440 and third highest in Gulbarga are 129294 beneficiaries registered under this scheme and taking the benefits. In the six districts namely, Bangalore rural and urban, Udupi, Kodagu, Dakshina Kannada and Davangere had the very least beneficiaries and it may be due to lack of awareness or the farmers may be financially strong in those areas. Therefore, the Farmers need to know very keenly about all the facilities provided by the Government and they need to utilize for their optimum benefit in agricultural, horticulture, sericulture and animal husbandry activities.

Findings of the study

The findings of the study as follows:

1. Under the FRUITS – PM-Kisan there are five schemes offered namely pledge loan scheme, raithasanjeeveni scheme, minimum floor price scheme, hamals housing and insurance scheme and these applies based on different beneficiaries (farmers).

2. The total numbers of beneficiaries under the FRUITS- PM-Kisan scheme in Karnataka are 2229960 farmers in the pandemic period from January to June 2021.

3. In the three districts, the beneficiaries of this scheme more namely in Hassan, Mandya and Gulbarga.

4. In the six districts, the beneficiaries of this scheme less namely in Bangalore rural and urban, Udupi, Dakshina Kannada, Kodagu and Davangere.

5. The knowledge of the schemes among the Farmers also not much find to maneuver because of lack of awareness.

Suggestions of the study

The suggestions are as follows:

1. As the number of beneficiaries registered under this scheme were less and this may be due to lack of awareness and the Government need to arrange certain programmes for farmers to skill them to work in field by taking the benefits from the schemes offered by Government based on their eligibility.

2. In some of the districts, this scheme was not popularized, so the Government need to take an initiative and these benefits need to reach for all the farmers by giving an advertisement along with tool-free help-line required for the farmers.

3. Farmers' marketable surpluses must be offered at MSP (minimum support price) or through other price support programmes such as subsidies, low loan interest, and so on by the federal and state governments.

4. Karnataka Government had introduced Covid-19 relief package for farmers which actually less for them and it need to be more in order to protect the farmers from unusual situations.

Conclusion

There have been global concerns, or rather suspicions, about a few global actors restricting agricultural commodity exports. With a solid agri-exports policy, India, which has a trade surplus on commodities such as rice, meat, milk products, tea, honey, horticulture products, and so on, may be able to take advantage of the chances by exporting such products. In 2018-19, India's agricultural exports were valued at 38 billion US dollars, and with the right regulations, they may increase even higher. As the El-Nino weather phenomena, which disturbs rainfall in India, is not present, several climate models forecast a good monsoon in the 2020 season (which the India Meteorological Department has subsequently officially stated). This is good news in the COVID scenario, if agriculture can continue to operate relatively unaffected.

The good news is that the Indian government has shifted its focus to nutrition (in addition to food) security and increasing farmer income (rather than enhancing farm productivity). Using appropriate programmes and incentives to change customer behaviour is already on the table. All of this will require a shift in the current landscape of governmental incentives, which favour the two major staples of wheat and rice. These imperatives for a food system transformation in India must be included in the design of agricultural policies in the post-COVID-19 context.

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THE EFFECT OF RURAL CREDIT AGENCY ON THE MENTAL HEALTH OF BORROWER

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ABSTRACT

India is a country which has its 76% of its population residing in rural areas. The real face of India is seen in the rural India. The progress (Growth and development) of a country is backed by the financial institutions.

In the present study the researcher set out to explore the link between the mean levels of the Anxiety, Psychological well being and Self Esteem of the borrower who availed credit from Formal/Informal sources of rural credit. The financial sources which operate in the country are Formal and Informal (non formal) sources of finance. The informal sources of finance are the traditional money lenders, friends, relatives and the formal sources of finance are the commercial

Banks, cooperative Banks, self help groups, cooperatives and Rural Banks. The informal sources of credit are still operative in the rural areas along with formal sources of credit. The formal credit sources are controlled by Reserve Bank of India, there are proper rules and regulations which govern the formal credit institutions but there is no governing body which controls the functioning of the non formal sources of finance/credit. The formal sources of credit provide the credit at low rate, proper documentation, collateral specifications and flexible modes of payments and repayment. They provide cheap and affordable credits with common terms of credit for all ,on the other hand the non formal sources of credit provide the credit at their will and at the exhorbant rates ,no proper legal documentation /regulations is there. There is no controlling body to regulate the functioning of the non formal sources of credit. Rural credit is the credit which is available to the rural masses through various sources of credit (Formal and Informal).The rural credit is generally obtained for farming and allied services(Seeds, other inputs, machinery storage, chemicals, labour payments etc.)The Rural Credit is associated with the mental health of the borrowers, specifically in respect of levels of Anxiety, levels of Psychological well being and levels of Self Esteem. The   study of psychological effect of credit agency repayment pattern on the of mental health of borrower is the need of the hour.

Keywords: Rural Credit, Financial inclusion and penetration, Anxiety, Psychological Well Being Self Esteem and repayment.

Concepts:

Financial inclusion: Fnancial inclusion refers to the efforts to make financial products and services accessible and affordable to all individuals   and businesses regardless of their personal

net worth or company /firm size . financial inclusion strives to remove the barriers that exclude people from participating in the financial sector and using these services to improve their lives .Financial penetration is a relative small term which is used to represent the share of one credit agency relative to that of others in credit market. In other words we can say that financial penetration is expressed in terms of loans availed by the household from different sources of credit institutions and non institutional financial sources

.**Anxiety**; Anxiety is a temporal relationship with achievement. Anxiety is a Psychological and Physiological state characterized by cognitive, somatic, emotional and behavioural components. Anxiety creates an unpleasant feeling that is typically associated with uneasiness, fear or worry. Anxiety is a generalized mood or state that occurs without an identifiable triggering stimulus. It is normal reaction to stress.

Self Esteem. It is a term used in Psychology to reflect a person's overall emotional evaluation of his/her own worth; it is a judgment of oneself as well as attitude toward the self. Self esteem is our positive or negative attitude towards us.

Psychological Well Being. It is the experience of health, happiness and prosperity which include the good mental health, high life satisfaction, a sense of meaning or purpose and ability to manage stress. Psychological Well Being (PWB) is defined as one's level of psychological happiness/health encompassing life satisfaction.

Rural credit is obtained by the rural masses in hope of better returns. The credit facility is directly influenced by the sources of rural credit. The credit facility which is obtained from Formal sources of Rural credit is flexible whereas the inverse relation is observed in case of Non formal sources of Rural credit(Informal sources of rural credit) The Government of India has taken a number of steps for the Financial Penetration but the target of Financial Penetration has not so satisfactorily been achieved in rural areas due to strong hold of Non formal sources of rural credit(Money lenders ,village heads, Arhties, agricultural middlemen etc, Outlook of masses, easy access, readily availability etc). The financial sources which operate in the country are Formal and Informal (non formal) sources of finance. The Informal sources of finance are the traditional money lenders, friends, relatives and the formal sources of finance are the commercial banks, cooperative banks, self help groups, cooperatives and Rural banks.

The informal sources of credit are still operative in the rural areas along with formal sources of credit.. The formal credit sources are controlled by Reserve Bank of India, there are proper rules and regulations which govern the formal credit institutions but there is no governing body which control the functioning of the non formal sources of finance/credit. The formal sources of credit provide the credit at low rate, proper documentation, collateral specifications and flexible modes of payments and repayment. They provide cheap and affordable credits with common terms of credit for all ,on the other hand the non formal sources of credit provide the credit at their will and at the exhorbant rates ,no proper legal documentation /regulations is there. There is no controlling body to regulate the functioning of the non formal sources of credit. The picture in the rural India is somewhat more complex .The banking system has flourished in last 5 decades but as far as the question of financial inclusion is concerned ,the banking industry has not penetrated in the rural India satisfactorily (Reserve Bank of India report 2011). one more trend observed in this regard is that the share of

money lender (Agricultural and Professional) declined steadily from 69.7% in 1951(All India rural credit survey 1954) to15.7%(48th NSSO round in 1991) and it again rose to 29.6% in 2002(NSSO 59th round).The National sample survey organization in the 59th round on all India debt and investment survey (AIDES 2002) has revealed a startling fact that money lender is thema in supplier of the rural credit.

The fall in the percentage of share of commercial banks during the 90's has raised many eyebrows. In the modern busy times everyone is experiencing the need of financial services in one form or in other. The financial services may be in the form of credit, debit, credit transfer, RTGS, overdraft, Demand draft, Saving accounts, Current deposits, fixed deposits etc, credit requirements, Debit cards & ATM cards During the 1990's a steep fall in the share of commercial banks was observed due to general rigidities in procedures and systems of institutional credit, only four states Himachal Pradesh, Assam, Then Jammu and Kashmir state(Now Union Territory of Jammu and Kashmir) and Kerala had showed a rise in share of Commercial banks during this period ,but the remaining states showed a declining trend(Source-Pardhan-2013,Indian-Journal-of-finance. The percentage share of moneylenders (Agricultural and professional) during 1990's declined only in three states (Himachal pradesh, then Jammu and Kashmir state (now Union territory of Jammu and Kashmir) and Maharashta. Rest of the then 12 twelve states witnessed a rise in the share of traditional Money lenders .On the other side a large population particularly in rural areas had been bought under the ambit of financial institutions. Financial services required by the rural population had not been provided The financial sources which operate in the country are Formal and Informal (non formal) sources of finance.

The Union Territory of Jammu and Kashmir is divided in two regions namely Jammu Division and Kashmir Division both have varied climatic conditions. It has the population density of 124 persons per sq.Km. The union territory of Jammu and Kashmir is having a network of 44 number of Banks which operate through 2067 number of branches. There are 31 commercial banks ,three central cooperative banks,3 rural banks, state financial corporation, Citizens cooperative Bank and private sector banks.(source Focus paper NABARD, 2020-21). Different repayment patterns are observed in the formal and informal rural credit system .The credit is associated with the Psychological wellbeing, levels of self esteem and anxiety levels of the borrowers.

EMERGENCE OF THE STUDY

The type of rural credit agencies influence the behavior of borrower in many ways .The borrower feel stressed when he/she borrows from the Non formal sources of rural credit and psychological behavioral changes are observed The psychological changes include the Anxiety, self esteem and Psychological well being changes. The Psychological effects of the loan/credit be even be greater for those consumers /borrowers who are suffering from the psychological problems like Anxiety, GAD (Generalized Anxiety Disorder),low self esteem, stress, etc. So researchers aim to provide new insights and a good understanding for the behavior of the borrowers from Formal and non Formal sources of rural credit. Unfortunately credit obtained from Non formal credit sources has a negative impact on the mental health of the borrowers. The loans which are given to farmers by different agencies influence the borrowers psychologically at various stages of obtaining credit and liquidating the Credit. The mental health of the borrower is affected by the pressure created by the credit agencies to get the loan amount liquidated (S.M Ahamad, M.Choudhary and A.Bhuiya –world development 2001 Elsevier). various studies have been carried out to ascertain the effect of micro

finance on the psychological well being of borrower (S.Waheed Pakistan Economics and Social reviews 2009 JSTOR).So the researchers aim to provide new insights and a better understanding of the Psychological effects of rural credit. What are the possible misuses of the rural credit and over propensity of spending? In some states it has been observed that the rural credit is not used for the purpose for which it has been obtained and over propensity to spend is also observed in these states(Rural credit and financial penetration in Punjab –Dr. Satish Verma RBI Chair Professor, CRRID, Chandigarh.

REVIEW OF LITERATURE RELATED TO PSYCHOLOGICAL EFFECT OF RURAL CREDIT:

Rural credit which is aimed to improve the standard of living and to increase the income of the farmer/borrower does not come to the expectations due to various reasons which give rise to anxieties and tensions / emotional and Psychological well being This study explores experiences of emotional stress by poor rural farmer, including those involved in credit-based income-generating activities, from Matlab, Bangladesh. In the multivariate analysis, BRAC membership failed to show any discernable effect on the prevalence of emotional stress among poor farmer. Borrowers reported that they developed the symptoms of the psychological ailments while coping such situations. The implications of these findings for emotional well-being of borrowers are discussed. AM Goetz RS Gupta - World development, 1996 –Elsevier Rural micro credit is intended primarily for investment in rural productive activities to improve well-being of poor. However, its use to meet daily consumption needs is not prohibited. Nonetheless, credit increases income and consequently effects consumption. Punjab Rural Support Programme provides micro loans to rural poor who have regular source of income. The study uses six years (1999-2004) secondary data and primary data of 2005. Primary data, using Stratified random sample technique of variables like credit, Income, assets, education and family-size, was collected and applied to multiple regression model. It was concluded that micro credit was largely availed by the poor borrowers, however, non-poor also availed micro loans. Also per capita credit to poor was less than per capita to non-poor. The results show that it is not just micro credit but education also improves income. Assets and family size has insignificant role in income improvement. In rural areas therefore, the micro credit organization need to focus on the amount of loan, customize and geographically target new loan products and discourage misdirected use of micro credit so that income of poor may improve. N. Amit, R Ismail, AR Zumrah in their study has described that the loans create a high percentage of anxiety ,There are limited studies on Psychological effects of debt.

OBJECTIVES OFTHESTUDY

The objectives of the present study were laid down as follows;

1. To explore the levels Anxiety among the borrowers who took credit from Formal and Informal sources of Rural Credit.

2. To explore the levels of Psychological Well Being among the borrowers who took credit from Formal and Informal sources of Rural Credit.

3. To explore the levels of Self Esteem among the borrowers who took credit from Formal and Informal sources of Rural Credit

4. To bring out the barriers to institutional loans

RESEARCH DESIGN AND METHODOLOGY

The researcher carried out the present study by adopting the survey method (Descriptive method).Simple Random sampling Method has been used for the purpose of drawing sample. The sample was drawn from the three border areas (Rural Development Blocks) of District Jammu of Union Territory Of Jammu and Kashmir. The three areas included the areas adjoining the International Border/LAC/LOC with Pakistan. The sample consisted to 240 borrowers .The instrument used to access the levels of Anxiety of borrowers was STAS (STATE TRAIT ANXIETY SCALE) constructed by Dr Govind Tiwari and Dr Roma Pal ,the instrument used to access the levels of Self Esteem was SEI (SELF ESTEEM INVENTORY) constructed by M.S. Prasad and G.P. Thakur and the instrument used to access the levels of Psychological Well Being was PWBS (PSYCHOLOGICAL WELL BEING SCALE).Structured interview has been conducted to study the loan/credit pattern of the borrowers. Sementic analysis, graphical and percentage analysis of data is also done.

RESULTS AND DISCUSSION

The researcher has done the study by taking the rural credit borrowers from different border areas, to explore/access the psychological effects of borrowing from institutional and non institutional sources ,the researcher have classified the borrowers into the following categories .Classification of borrowers: The borrowers have been classified as the credit takers who took loan from Formal sources of Rural credit (INSTITUTIONAL SOURCES OF CREDIT) and the borrowers who took loan from Informal sources of Rural credit (NON FORMAL INFORMAL /NON INSTITUTIONAL SOURCES OF CREDIT).

Name of Rural Block	No of borrowers who took loan from institutional sources	No of borrowers who took loan from non institutional sources
Pargwal	27	53
Samwan	35	45
KhrahBalli	40	40

In the present study it was found that there are 42.5% borrowers who took loan from Financial institutions and 57.5% took loan from non financial credit institution.
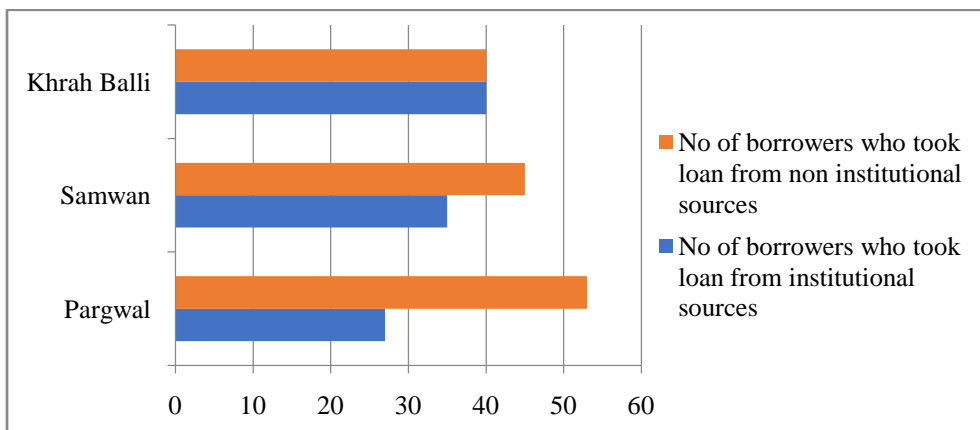
The study revealed that the borrowers were anxious about the repayment of the loan ,so Anxiety was directly proportional to the loan repayment ,the high the repayment successs, low the level of Anxiety and vice versa. On the other hand the high the loan repayment success high the self esteem and high the levels of psychological well being.

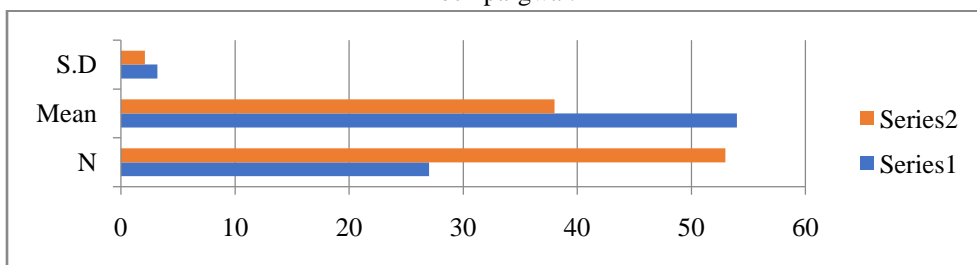The mean levels of Psychological well Being among the institutional /Non institutional borrowers:

Block Samwam.
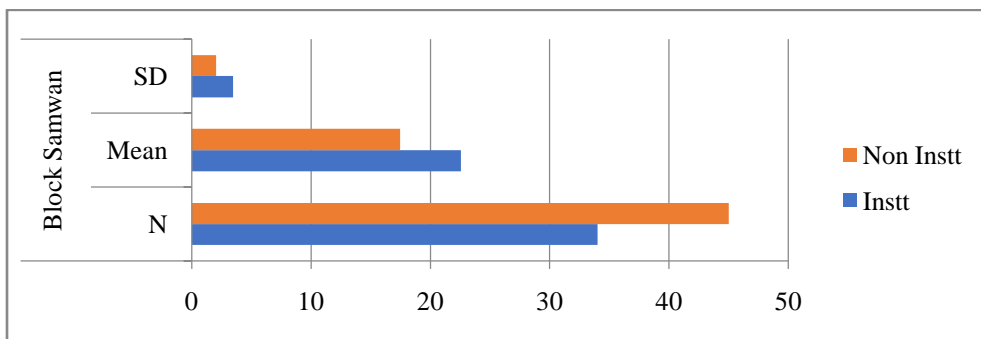
Block Kh.Balli
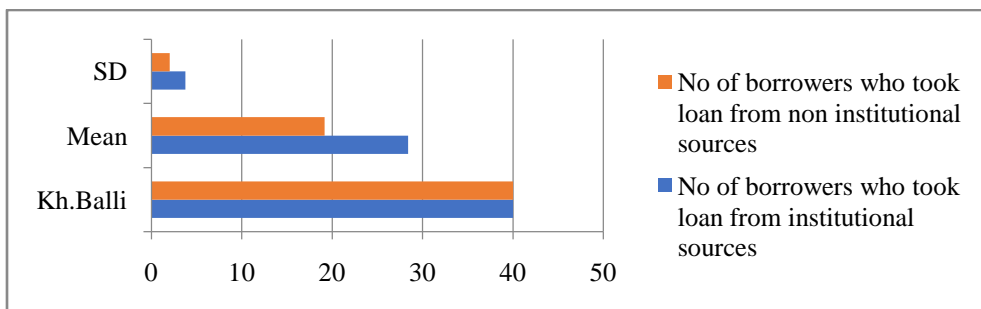

Block pargwal.

This clearly shows that the levels of Psychological well being are quite alarming in case of the non institutional borrowers.

The Self-esteem levels were also arrived at by using the Self Esteem Inventory (Part I &Part II), the results arrived at are depicted in the graph below for Block Pargwal, Samwan and Kharah Balli respectively
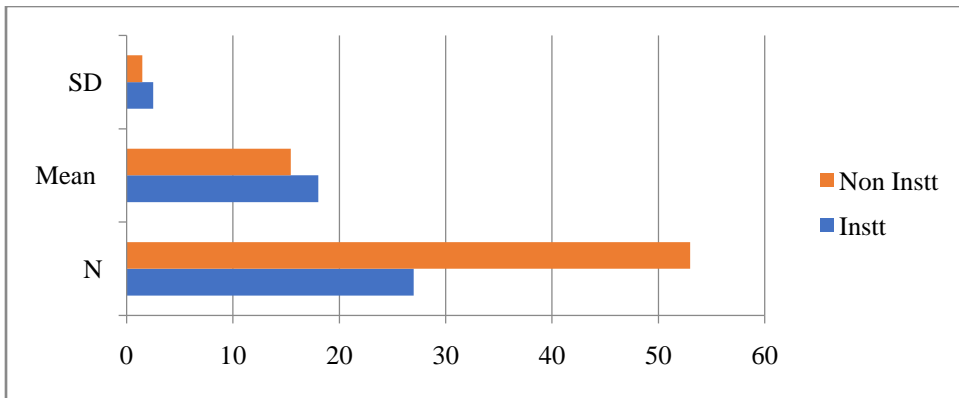
The graph clearly shows that the mean levels of the Self Esteem very between the institutional and non institutional borrowers of Block Pargwal

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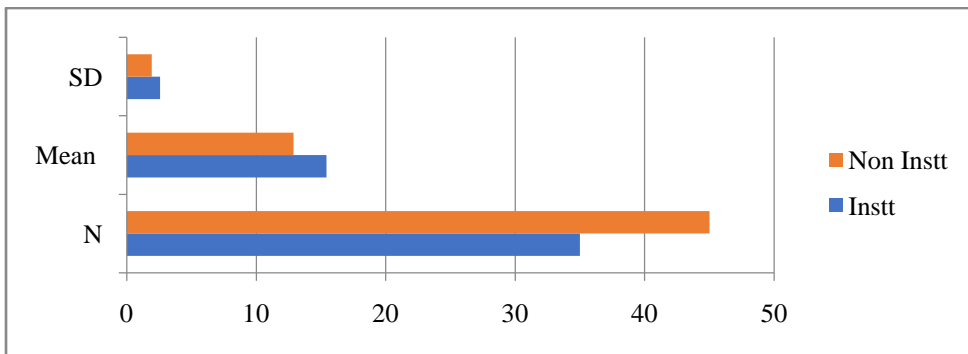
Here also it is seen a wide wedge between the self esteem mean scores of the Instt and Non Instt borrowers of Block Samwan.

The graph in case of BlockKharah Balli also gives the same picture of disparity between the self esteem mean scores of institutional and non institutional borrowers.
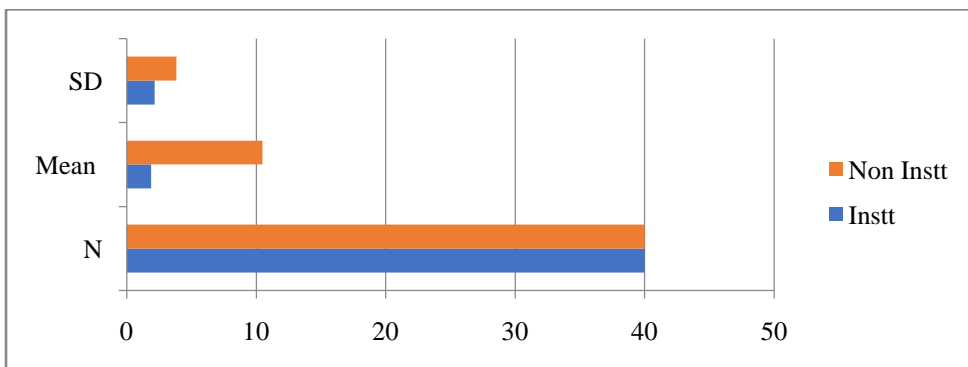
The Anxiety level of the institutional and non institutional borrowers was arrived at by STAS (State Trait Anxiety Test.) The anxiety mean levels depicted the following picture on ground.
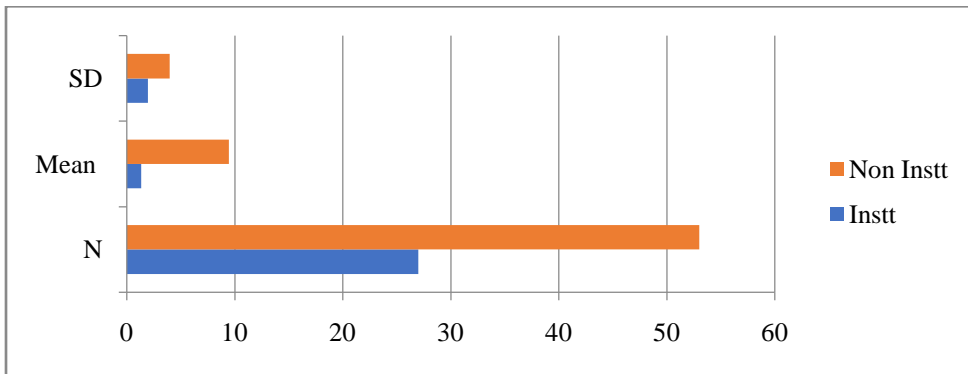
Here the results show that there is almost very low mean level of anxiety among the instt borrowers but a high level is observed in case of the non instt borrowers.

The Block Samwan is not an exception; the situation is almost same in this block too.
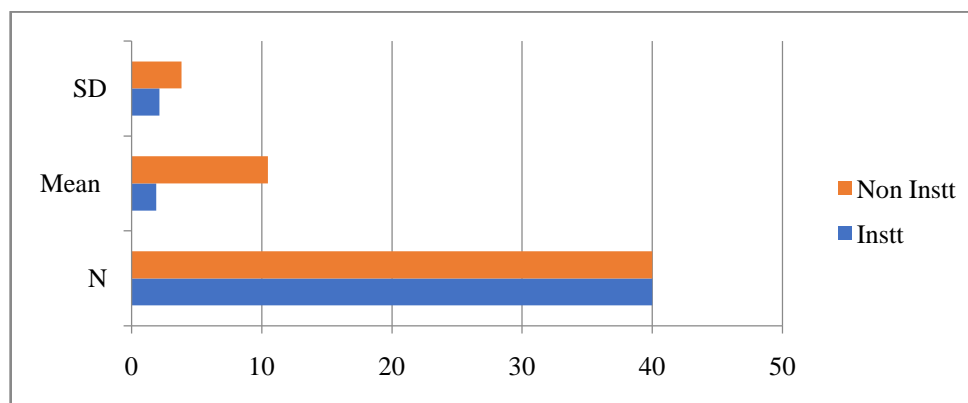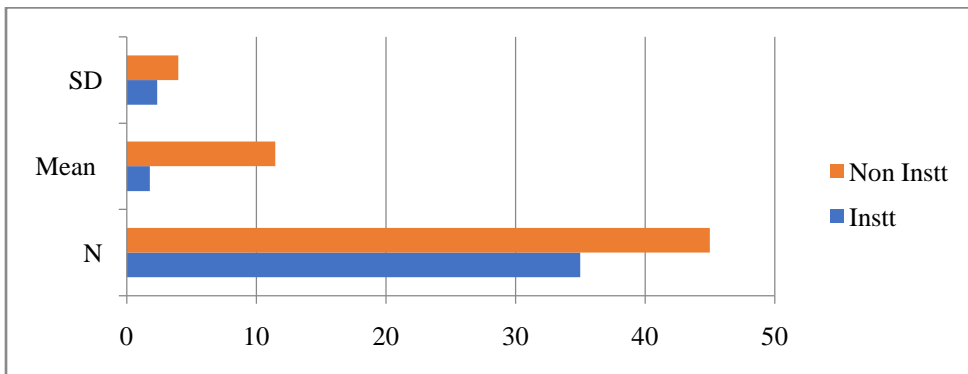
The Block Kharrah Balli is depicting the clear picture that there is a clear cut high mean Anxiety levels among the non institutional borrowers.

The overall Institutional borrowers and non institutional borrowers showed a picture of Anxiety, Psychological Well Being and Self Esteem as under:

Group	Sample Size	Mean Anxiety Score	Standard Deviation	t-value
Institutional Borrowers	102	13.57	1.688	6.973
Non Institutional Borrowers	138	20.71	2.020	
Group	Sample Size	Mean Psychological Well Being Score	Standard Deviation	t-value
Institutional Borrowers	102	21.20	3.761	4.472
Non Institutional Borrowers	138	17.03	2.491	
Group	Sample Size	Mean Self Esteem Score	Standard Deviation	t-value
Instt Borrowers	102	19.57	2.986	3.583
N/instt Borrowers	138	15.23	1.473	

The tables revealed that the mean scores on Anxiety for Instt borrowers is less than the mean scores of the Non instt borrowers, The t-value between these means is 6.973 which is highly significant at 0.01 level of confidence. The result indicate that the Institutional borrowers are less anxious than the non Instt borrowers.On the other hand there is a direct relationship between the Instt borrowers and Psychological well Being as is depicted from the t-value. Similarly the Instt borrowers showed a positive direct relationship with the Self esteem levels as is evident from the t-value obtained at 0.01 level of confidence. Discussion ;The results clearly showed that there is an inverse relationship between the institutional borrower and Anxiety levels and direct relationship with the Psychological Well being and Self Esteem which mean that the institutional borrower is less anxious about the repayment of the loans taken due to the flexible terms of repayment and remain in high esteem and has a good level of Psychological Well Being.So a clear picture comes out that there is a need at of implementing the programmes of Financial inclusion at first instance in the rural areas and gearing up of the Financial Penetration. Financial Penetration will boost the rural Institutional credit and hope for the overall betterment of the mental health of the rural borrower.

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LIST OF RESEARCH PAPERS PRESENTED IN THE CONFERENCE

1	**A STUDY TO SEE ASSOCIATION BETWEEN AGES AND CUSTOMERS BANKING HABITS TOWARDS SERVICES BEING RENDERED BY THE CO-OPERATIVE BANKS IN HIMACHAL PRADESH** *Mr Shashi Kumar, Research Scholar, HPU, Shimla and Mr Manoj Sharma, Assistant Professor of Commerce, Himachal Pradesh University Regional Centre Dharamshala, HP*
2	**Role of Gender in Banking** *Mrs Monika Bhatia, Research Scholar, UBS, MRSPTU, Bathinda* *Dr. Pritpal Singh Bhullar, Assistant Professor, UBS, MRSPTU, Bathinda*
3	**Induction of automated loan approval mechanism by using AI: A conceptual endeavor to reduce occupational stress in Indian Banking Sector** *Ms Hardeep Kaur, Research Scholar, Punjabi University, Patiala and Dr. Jagdeep Singh, Assistant Professor, Punjabi University Guru Kashi Campus, Talwandi Sabo*
4	**PROFITABILITY EVALUATION OF SARVA HARYANA GRAMIN BANK IN HARYANA** *Ms Sakshi Gupta, Research Scholar, Department of Commerce and Management, Baba Mast Nath University, Asthal Bohar, Rohtak, Haryana (India)*
5	**A study on CRM Practices in Indian Banking Sector** *Ms. Jyoti Singla, Research Scholar, UBS, MRSPTU, Bathinda, Dr. Monica Bansal, Director, Panjab University Rural Centre Kauni, Sri Mukstar Sahib and Dr. Veerpaul Kaur Maan Assistant Professor, UBS, MRSPTU, Bathinda*
6	**Impact of Covid in Life Insurance Sector** *Ms. Isha Nandal, Research Scholar and Dr Seema Rathee, Assistant Professor, Department of Commerce, MDU, Rohtak*
7	**Non-Performing Assets of SBI in Non-Priority Sector** *Dr. Romy Arora, Associate Professor, Department of Commerce, S.R. Govt College(W), Amritsar*
8	**Review of literature on study about housing loan in Indian banking sector** *Ms. Deepak, Research Scholar, MRSPTU, Bathinda*
9	**An Empirical Analysis of Benefits and Challenges of Cashless Payment System- A Case Study of Haryana** *M.s Pooja Gupta, Research Scholar, MMIM, Maharishi Markandeshwar (deemed to be) University, Mullana, Haryana*
10	**"Behavioural Finance – A study on Conceptual Framework"** *Ms Tejashwini K.C., Research Scholar, Department of Studies and Research in Commerce, Davangere University, Shivagangothri, Davangere*
11	**Forensic Accounting: A Contemporary Paradigm in Corporate Governance** *Mr Arjit Saxena, Financial Analyst, Daloopa Private Ltd., Noida and Mr Varun Pawaar, Assistant Professor, Shyam Lal College of Commrce, Delhi*

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13	**Dynamics of Structural Change of Indian Exports Since 1991-A Literature Review** *Ms Santushti Monga, Phd Scholar in Economics and Dr. Vishal Sarin, Prof. in Economics, Lovely Professional University* *Phagwara, Punjab*
14	**The Effect of Rural Credit Agencies on the Mental Health of The Borrower** *Mr Surinder Singh, Research Scholar and Mr Manjeet Singh, Research Scholar, Lovely Professional University, Punjab*
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18	**Impact of family control on bank financing and the cost of debt: Evidence from Canadian survey data** *Mr Amarjit Gill, Edwards School of Business, Department of Finance and Management Science , University of Saskatchewan, Saskatoon, Canada, Mr Afshin Amiraslany , Camosun College, Department of Economics, Statistics, and UT, School of Business, Victoria, Canada and Mr Harvinder S. Mand, University College Dhuri, Panjab, India*
19	**Why Indian people always prefer to invest in gold as asset** *Ms. Sarita Rani, Assistant Professor, Shah Satnam Ji Girls College, Sirsa*
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22	**Identifying factors to determine the Investment Attitude of Rural Investors: study of Punjab** *Ms. Shilpa, Research Scholar and Dr. Pritpal Singh, Assistant Professor, UBS, MRSPTU, Bathinda*

23	**Protection of farmers under FRUITS PM-Kisan scheme in Karnataka in the pandemic period** Mr. *Ashok Erappa Umachagi, Research Scholar and Dr. Selvi R., Associate Professor, Department of Studies and Research in Economics, Davangere University, Shivagangothri, Davangere*
24	**Emotional Intelligence in Management Studies** *Ms. Sandhya Balhara, Research scholar, Department of Commerce, MDU, Rohtak & Dr. Jitendra Kumar, Assistant Professor of commerce, G.G.D.S.D. (PG) College, Palwal*
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26	**CSR initiatives of corporate sector in the development of Haryana** *Mr Vishal Anand, Research Scholar, Department of Commerce, J.V. Jain(PG) College Saharanpur. Chaudhary Charan Singh University, Meerut (UP)*
27	**Traditional HRM to sustainable HRM: A Paradigm shift** *Ms.Simarjit Kaur, Research Scholar, Sant Longowal Institute of engneering and technology*
28	**Effect Of Corona Virus On Small And Medium Scales Industries In India** *Ms. Parmjit Kaur, Assistant Professor in Commerce, University College, CDLU, Sirsa*
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30	**International Trade and Economic Development in Gupta Period.** *Dr. Ritu, Assistant Professor, Department of History & Archaeology, CDLU, Sirsa*
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40	**DEFLATED ISSUES IN DOMOTICS – PRIVACY & SECURITY** *Ms. Priyajot, Ms. Divya and Ms. Suman Devi, Assistant Professor. Shah Satnam Ji Girls' College, Sirsa*
41	**An Analytic Approach to Test Data Mining Techniques** *Ms Suman Devi, Ms. Divya and Ms. Priyajot , Assistant Professor, Shah Satnam Ji Girls' College, Sirsa*
42	**FAKE PRODUCT REVIEW MONITORING AND REMOVAL SYSTEM** *Ms. SAHANA.S, BSC Student and Dr B. Gayathri. Assistant Professor, Department of computer Science, Bishop Herber College, TIRUCHIRAPALLI*
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45	**Smart Farming Digital Innovation in Haryana (India)** *Ms. Sharda, Assistant Professor, SGHS College, Jiwan Nagar (Sirsa) and Ms. Yashika Grover, Assistant Manager, Holiday Triangle Pvt. Ltd, Gurugram*
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47	**Role of block chain in operation management- A systematic literature review** *Mr Harpreet Singh Maan, Assistant Professor, Professor, SGGS College, Ms. Navpreet Kaur, Assistant Professor, Deptt. of Mathematics, MRSPTU, Bathinda and Ms. Manpreet KaurMaan, Assistant Professor, SGGS College, Sector26, Chanigarh*
48	**Role of technology for patient management during Covid-19** *Dr Navdeep Singh Sidhu, Assistant Professor, GGS Medical College, Fridkot*
49	**Role of software technology for medical & nursing education during Covid-19 pandemic** *Ms. Sumandeep Kaur, Demonstrator, University College of Nursing, Faridkot*
50	**Achievements of Namdhari Sect in Agricultural Technology** *Ms. Gurjeet Kaur, Research Scholar, Lovely Professional University, Phagwara, Jalandhar*
51	**The development of fashion in the history of fashion industries** *Ms Gurpreet Kaur, Assistant Professor, CDLU, Sirsa*

LIST OF RESEARCH PAPERS DECLARED THE BEST IN THEIR RESPECTIVE TRACK

	TECHNICAL SESSION (BANKING AND INSURANCE) TRACK-1
1	**Non-Performing Assets of SBI in Non-Priority Sector** *Dr. Romy Arora, Associate Professor, Department of Commerce, S.R. Govt College(W), Amritsar*
	TECHNICAL SESSION (ACCOUNTING AND FINANCE) TRACK-2
2	**Impact of family control on bank financing and the cost of debt: Evidence from Canadian survey data** *Mr Amarjit Gill, Edwards School of Business, Department of Finance and Management Science , University of Saskatchewan, Saskatoon, Canada, Mr Afshin Amiraslany , Camosun College, Department of Economics, Statistics, and UT, School of Business, Victoria, Canada and Mr Harvinder S. Mand, University College Dhuri, Panjab, India*
	TECHNICAL SESSION (GENARAL MANAGEMENT) TRACK-3
3	**Identifying factors to determine the Investment Attitude of Rural Investors: study of Punjab** *Ms. Shilpa, Research Scholar and Dr. Pritpal Singh, Assistant Professor, UBS, MRSPTU, Bathinda*
	TECHNICAL SESSION (MARKETING) TRACK-4
4	**Dispositional and situational antecedents of Impulse buying** *Ms Alpana n Wahi. Research Scholar, University School of Financial Studies, Guru Nanak Dev University, Amritsar*

NON PERFORMING ASSETS OF SBI IN SMALL BUSINESS OF NON PRIORITY SECTOR

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The primary duty of a bank is to accept deposits and make loans. Bank is a lawful organisation, which accepts deposits and lends money to individuals and business houses that need it. Banks also render many other useful services like collection of bills, payment of foreign bills, safe-keeping of jewellery and other valuable items, certifying the credit-worthiness of business and so on. (Samir, 2013) There are various types of banks which operate in our country to meet different financial requirements of different categories of the people engaged in agriculture, business, profession, occupation and trade etc.Lower trend of credit growth and significantly very high trend of stressed assets (SAs) growth was quite shocking. Now banks became cautious and careful while extending loans because of mounting level of NPAs in the banking sector.

REVIEW OF LITERATURE

Kalra (2012) has observed that provisioning norms which are set by Reserve Bank of India gave imagining results relating to nonperforming assets. High level of NPAs in banking industry has attracted public as well as foreign researchers to analyse its reasons. She has tried to find out the various factors responsible for huge NPAs. She has performed an empirical analysis of NPAs by considering various factors e.g. credit growth, macro economic conditions and operating efficiency factors. Though RBI and various committees have suggested several prudential measures, the banks still continue to face piled-up NPAs. Her study envisages the key factors responsible for rising NPAs. The study also tries to investigate institutional and geographical biases in terms of size and composition of NPAs.

Chakraborty (2011-2012) has defined non- performing assets and his main area of research was relating to education loans. He said gross non-performing assets ratio for the education loan segment increased to 6 percent in 2011-2012 from 2 percent in 2007-08. He said some of the public sector banks have recorded gross non-performing assets as high as 15 percent in their education loan portfolios in states like Tamil Nadu. Education loans are now causing assets quality troubles for public sector banks also because these loans are typically unsecured in nature.

Rajamohan (2012) researched that Indian banking industry plays an important role in the socio economic development of a country. During the past few years the banks gained sufficient strength to pose good performance which is reflected in the high growth of low cost deposits and well diversified credit portfolio. He said that the corporate, retail, small and medium enterprises gained profits and reflected it through a consistent reduction in NPAs.

Vasantbhai (2013) has done a comparative analysis of NPAs management between SBI and CBI by taking the period of study for five years from 2007 to 2011 and applied ratio analysis technique for the analysis of information. He found in the groundwork of the analysis that gross NPAs &net NPAs of SBI are more than CBI. Problem assets ratio of SBI is less and sub standard assets ratio is higher. Doubtful asset ratio of SBI is less but non-interest income and operating profits of SBI to improve are higher, so it needs to improve asset ratios.

Kamra (2013) has analysed the nonperforming assets (NPAs)of three selected nationalised banks namely State Bank Of India (SBI), Punjab National Bank (PNB), and Central Bank Of India (CBI). He concluded that banks are judged these days neither by no. of branches nor by the volume of deposits they attract in the market rather by the quality of assets which their balance-sheet possess. He quoted that banks with more of NPAs have bad reputation in banking industry as well as in the market. NPAs create fear in the minds of bankers which leads towards slow lending or no lending, disrupts the basic function of banks to earn revenue and to prosper. More emphasis in the paper was given for creating more awareness among bank officials to become master for how to deal with defaulters, to get more recovery, to be the best in negotiation in working out settlements etc.

Sikdar and Makkad (2013) concluded that non- performing assets are a standard criterion for assessing the credit risk of the commercial banks. They studied annual reports of the banks to know about the steps taken by banks to reduce existing NPAs. Regarding performance of the public and private sector banks, they said that the problem of NPAs can be tackled only with proper credit assessment and banking system should be equipped with prudential norms to minimise the related problem. Organisational restructuring, managerial efficiency, skill up-gradation have been emphasised by them as a remedial measure. Study concluded that it is better to avoid NPAs at the nascent stage of credit consideration by putting rigorous efforts at the time of credit appraisal.

Srinivas (2013) has observed the composition of NPAs in public sector banks in India in different sector. He used secondary data for finding total amount of NPAs in nationalized and SBI group banks from the year 2004 to 2013. Their percentage increase, priority sector andnon priority sector contribution, public sector NPAs data & graphical presentation have been done. To conclude he said, NPAs reduction is the key issue in the field of banking industry now.

Selvarajan and Dr. Vadivalagam (2013) have studied about NPAs in priority Sector lending's. They said there is no unanimity in the proper policies to be followed in resolving the NPAs problem. Consistency is also required for applying the NPAs norms. They said that major part of NPAs in the banks is due to lending to priority sector as dictated by politicians and leaders. Forcing by bureaucrats should be stopped to minimize NPAs. Descriptive Research was carried out by them with the help of Primary & Secondary data. To conclude, they said growth of Indian Bank's (IB) lending to priority sector is more than Public Sector banks (PSBs) lending in the respective sector. NPAs management of Indian Bank is better than Public Sector Banks as a whole but now it has started worsening in the present decade.

Mahajan (2014) in his article named "Trends of NPAs in Indian Banking Sector" has examined the dimensional approach of NPAs in the banking system with special focus on concept of NPAs in Indian banking sector in comparison to global companies. He made a study of NPAs of

five different countries namely Brazil, Russia, India, China and South Africa (BRICKS). Time period of his study was from 2005-2012. To conclude his study, he quoted NPAs as a root cause of global financial crisis from which world is still trying to recover. He advocated self help group model to be applied to reduce the problem of NPAs in our economy.

Pawar (2015) in his research paper, "Management of Selected Commercial Cooperative Banks in Gujarat" has discussed about management of NPAs by selected Commercial Cooperative Banks in the said state and has made their comparative analysis also. For research purpose, secondary data from published annual report of the bank was used.

OBJECTIVE OF THE STUDY
To find out total number of non performing accounts as well as the amount blocked in those accounts in specified Small Business of non-priority sector area of selected bank branches of SBI.

Table 1
Branch Wise Non Performing Number of Accounts (NPAs) of Small Business Segment of Selected SBI Bank in Amritsar District during 2010-2015,
Growth Rates and Ranks.

S. No.	Branches	2010	Rank	2011	2012	2013	2014	2015	Rank	CAGR	Rank	t Value
	Urban Branches											
1	AsrCantt	2	1	2	2	3	3	8	8	27.68	17	3.22
2	GopalNgr	8	7	5	5	5	5	5	4	-6.49	5	-1.73^{NS}
3	Karmo Deori	8	7	3	4	4	4	0	0	-60.6	1	-1.94^{NS}
4	Kt. Khazana	7	6	9	11	17	7	23	10	17.45	15	1.57^{NS}
5	Lohgarh	11	10	7	7	7	7	5	4	-10.7	2	-3.09
6	Kabir Park	11	10	5	6	8	13	3	1	-9.11	4	-0.7^{NS}
7	Atta Mandi	4	4	5	5	3	3	3	1	-9.47	3	-2.18
8	RailwaySt	8	7	5	5	5	5	7	7	-1.89	8	-0.34^{NS}
9	Batala Rd	3	3	4	4	7	7	3	1	6.60	11	0.65^{NS}
10	Haripura	4	4	7	2	2	4	9	9	7.02	12	0.41^{NS}
11	Majitha Rd	2	1	2	2	2	4	5	4	20.96	16	3.15
	Rural Branches											
12	Sultanwind	0	0	0	0	0	0	0	0	0	0	0
13	Attari	7	2	6	8	8	2	9	2	-5.66	6	-0.4^{NS}
14	Tangra	14	4	17	12	18	24	12	3	1.93	10	0.26^{NS}
15	Jethuwal	6	1	5	5	9	18	15	4	29.37	18	3.35

16	Chogawan	7	2	3	4	4	6	5	1	1.14	9	0.13[NS]
17	Khasa	0	0	0	0	0	0	0	0	0	0	0
Semi Urban												
18	Ajnala	5	2	6	14	14	8	16	3	11.28	14	1.20[NS]
19	Majitha	13	3	11	7	9	9	11	2	-3.33	7	-0.61[NS]
20	Jandiala	3	1	5	6	5	8	4	1	7.91	13	0.93[NS]

Source: Regional and Branch offices, SBI, Amritsar.

Notes: 1. - denotes Nil.

2. CAGR denotes Compound Annual Growth Rate.

3. Ranks have been given for the initial (2010) and the last year (2015) as well as for CAGR.

4. NS indicates that growth is not significant.

As observed from Table 1 and 2, KabirParkbranch (S. No. 6) ranked 10th due to highest NPA number of accounts (11) in 2010 and surprisingly achieved 1 strank in 2015 with decline of 8 NPA accounts. Highest amount blocked is in Atta Mandi branch (S. No. 7) of Rs. 0.49 crore in 2010 and Rs. 2.18 crore in 2015. Among rural branches, Attari branch (S. No. 13) reduced their overdue amount from Rs. 0.15 crore to Rs. 0.04 crore. So Rs. 0.11 croreamount (difference) is the recovery done by the concerned branch. But in Tangra branch (S. No. 14) overdue amount has jumped with Rs. 0.24 crore during the stipulated period inspite of reduction in NPA accounts. Discussion with branch officials satisfied my curiosity level by quoting the reason for such awkward situation that in the said branch, small NPA accounts were settled down but manifold jump in overdue amount (from Rs. 0.03 crore to Rs. 0.27 crore) during study period is because of one big ticket account entry in NPAs list in the year 2015. Overall growth rate of overdue amount is highest (51 percent) in Batala Road (S. No. 9) which is a big negative remark. Similarly highest growth rate (29 percent) in NPAs (number of accounts) exists in Jethuwal branch (S. No.15).

Table 2
Branch Wise Amount Blocked in Non Performing Assets (NPAs) of Small Business Accounts of Selected SBI Bank in Amritsar District during 2010-2015,
Growth Rates and Ranks.

(Amount in Rs. Crore)

S. No.	Branches	2010	Rank	2011	2012	2013	2014	2015	Rank	CAGR	Rank	t-Value
Urban Branches												
1	AsrCantt	0.01	1	0.01	0.01	0.01	0.01	0.03	3	16.99	12	1.73[NS]
2	GopalNgr	0.01	1	0.01	0.01	0.01	0.01	0.08	6	34.59	15	1.73[NS]
3	KarmoDeori	0.19	9	0.11	0.12	0.12	0.12	0	0	-33.8	1	-2.12
4	Kt. Khazana	0.05	6	0.06	0.06	0.09	0.09	0.09	7	13.92	11	4.82

5	Lohgarh	0.20	10	0.18	0.18	0.18	0.18	0.04	4	-20.5	2	-1.9[NS]
6	Kabir Park	0.13	8	0.09	0.11	0.13	0.15	0.04	4	-11.3	4	-1.05[NS]
7	Atta Mandi	0.49	11	0.53	0.54	0.51	0.19	2.18	10	13.16	10	0.62[NS]
8	RailwaySt	0.01	1	0.01	0.01	0.01	0.01	0.01	1	0	0	0
9	Batala Rd	0.01	1	0.02	0.02	0.02	0.02	0.18	8	51.12	16	2.47
10	Haripura	0.02	5	0.02	0.02	0.02	0.02	0.02	2	0	0	0
11	Majitha Rd	0.12	7	0.12	0.12	0.12	0.14	0.56	9	26.27	13	1.98[NS]
Rural Branches												
12	Sultanwind	0	0	0	0	0	0	0	0	0	0	0
13	Attari	0.15	4	0.15	0.16	0.16	0.18	0.04	2.00	-15.9	3	-1.39[NS]
14	Tangra	0.03	2	0.04	0.03	0.03	0.03	0.27	4.00	33.54	14	1.55[NS]
15	Jethuwal	0.04	3	0.04	0.04	0.04	0.07	0.04	2.00	4.91	9	0.85[NS]
16	Chogawan	0.02	1	0.02	0.02	0.02	0.03	0.01	1.00	-6.22	6	-0.72[NS]
17	Khasa	0	0	0	0	0	0	0	0	0	0	0
Semi Branches												
18	Ajnala	0.23	3	0.21	0.36	0.36	0.30	0.13	3.00	-4.97	7	-0.5[NS]
19	Majitha	0.14	2	0.14	0.12	0.18	0.23	0.06	2.00	-6.47	5	-0.57[NS]
20	Jandiala Guru	0.03	1	0.04	0.04	0.04	0.06	0.02	1.00	-2.29	8	-0.24[NS]

Source: Regional and Branch offices, SBI, Amritsar.

Notes: 1.   - denotes Nil.
2. CAGR denotes Compound Annual Growth Rate.
3. Ranks have been given for the initial (2010) and the last year (2015) as well as for CAGR.
4. NS indicates that growth is not significant.

Majitha Road branch (S. No. 19) has highest growth in small business loan accounts from 15 to 118 during study period where as Tangra Branch (S. No. 14) has followed declining trend in making advances to small business loan accounts (from 131 to 42). Chogawan branch (S. No. 16) amount advanced to small business has declined from Rs0.37 crore to Rs. 0.21 crore. While having detailed talk with concerned bank officials, disclosed that Tangra and Chogawan are agricultural prone areas whereas Majitha and Jethuwal too exist in same type of zone but now borrowers are diverting towards business and table shows highest growth in small business loan accounts in Majitha branch (S. No. 19) and highest growth in amount advanced is in Jethuwal branch (S. No. 15). In Table KarmonDeori branch (S. No. 3) is the best considered branch as its number of NPA

accounts have vanished during study period by making total recovery of Rs. 0.19 crore which was due in 2010, now it has 0 overdue amounts and among all 20 branches, is the best performer.

Jethuwal branch (S. No. 15) NPA accounts have increase from 6 to 15 and in Batala road branch (S. No. 9), overdue amount rose from Rs. 0.01 crore to Rs. 0.18 crore. Discussion with loan staff of the said branches disclosed related facts that the worst performance of the branch is due to the closure of 150 processing houses out of which 4 or 5 are functioning at present. So because of the closure of ancillary units and shops, NPAs shot up to a great extent.

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