

# **INNOVATIVE BUSINESS PRACTICES FOR SUSTAINABLE DEVELOPMENT**

**Editors**

**Dr. AANCHAL PURI**

**Dr. YABESH ABRAHAM DURAIRAJ ISRAVEL**

**Dr. NEENA KATKAR**



**Universal Research Academy**  
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## **Editors**

### **Dr. AANCHAL PURI**

Assistant Professor  
Department of Business Administration  
Kanoria PG Mahila Mahavidyalaya, Jaipur

### **Dr. YABESH ABRAHAM DURAIRAJ ISRAVEL**

Associate Professor  
School of Management  
S.A. College of Arts & Science, Chennai

### **Dr. NEENA KATKAR**

HOD-Corporate Relations, Placements  
Chetana's Institute of Management & Research  
Bandra (E), Mumbai

**Universal Research Academy**

**Vellore & Chennai -69**

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**Dr. AANCHAL PURI**

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## **PREFACE**

This edited volume, "**Innovative Business Practices for Sustainable Development**," aims to support academics' and students' research and learning activities in the social sciences, economics, global business, and economics. Its goal is to encourage these fields' usage and comprehension of scientific research procedures.

The goal of this edited book is to support and elevate the scholarly research contributions made by scholars in the management, economics, and commerce domains. It seeks to give researchers, businesspeople, and academics a respectable stage on which to present their work. The writing style of the book is simple and conventional.

We sincerely hope that this book will sufficiently serve the demands of scholars studying business, management, and economics.

Since mistakes are unavoidable, we will appreciate it if they are pointed up to us ahead of time. We anticipate that the previously suggested modifications will be incorporated into subsequent iterations.

We sincerely appreciate the support that each and every academic, researcher, and business worker who has worked on this project has given us. We especially like to thank the writers and reviewers who have contributed actively to the review process. Without the tremendous assistance of numerous people, this edited book would not have been possible to realize.

We would like to sincerely thank our family, friends, and well-wishers for your timely and crucial support and encouragement.

We would like to acknowledge and be grateful to **Universal Research Academy** who gave us an opening in writing this book and their involvement to make this publication successful.

**Dr. AANCHAL PURI**

**Dr. YABESH ABRAHAM DURAIRAJ ISRAVEL**

**Dr. NEENA KATKAR**

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**A STUDY ON CUSTOMER BEHAVIOR TOWARDS UPI PAYMENT**

**Dr. Chouturu Manoj Kumar<sup>1</sup>, Dr. D. Balaji<sup>2</sup>, and Prof. S. Raghunatha Reddy<sup>3</sup>**

<sup>1</sup>*Assistant Professor, Department of Humanities & Sciences,  
KSRM College of Engineering, Kadapa.*

<sup>2</sup>*Assistant Professor, Department of MBA,  
SEA College of Engineering and Technology, Bangalore.*

<sup>3</sup>*Department of Commerce, Yogi Vemana University, Kadapa.*

**ABSTRACT**

*In India digitalization is most significant aspect for the future Indian economy. In India the development of the e-payment is estimated to be done by UPI (Unified Payments Interface) payment service providers and effective online banking operations are enhancing aspects for online payments. UPI payment system is an electronic medium through which customers make online payments. Knowing about these UPI payment system will make the customers to opt this payment method with ease and effective. The present study focuses on awareness of customers towards UPI payment system used in current commercial world. The objective of the study is to study the customer awareness towards UPI Payment and factors influencing customer behavior towards UPI Payment. The data required for the study have been collected from both primary and secondary sources. The primary data was collected through google form questionnaire. The researcher has collected the primary data from 151 sample respondents on the basis of convenient sampling method. The secondary data has collected through websites, publications, books, journals and newspapers.*

**Keywords:** UPI Payment, Financial Inclusion, Awareness and Customer behavior.

**I. INTRODUCTION**

Unified Payment Interface payment method has made money transfer between bank accounts easy. UPI Payment is a real-time payment method developed by NPCI (National Payments Corporation of India) for e-payment transactions with any one identifier without giving any bank details. Unified Payment Interface facilitates online banking. UPI Payment is a role player in Indian economy with cost effective with advanced features. Consumers have standard awareness on the UPI (Unified Payments Interface) payment operations and the importance of these UPI payment systems has been increased up to a greater extent in the past five years. It is a single platform that enables people to make payments, receive payments and pay bills. Digital India programme is an initiation of dream to change the phase of the country from cash to cash less

transactions. The Govt. of India has come up various initiatives towards UPI payment system for cash less transactions. Paperless transactions are the prime agenda of the UPI payment programme.

## II. REVIEW OF LITERATURE

**Prakasha (2023)** conducted a vibrant study on the E-Payments of Unified Payment Interface introduced by National Payments Corporation of India (NPCI). The author had conducted a study on the university students in Madikeri city of Karnataka state. The main objectives of the study are to study about the awareness of UPI payment system among university students in Madikeri city and to know the preference and levels of satisfaction towards the UPI scheme. The analysis of the study has done with the help of percentage analysis. The study found that all the users of UPI services are satisfied with the 24/7- and 365-days services and ease of usability, user-friendly, security and cash back offer. The google pay is considered as most usable app and amazon pay is the least used UPI apps for fund transfer. The users are happy with the services of UPI and worried about the security issues in the UPI payments.

**Hafiza Nanugazi and Shadab Shakil Shaikh (2023)** in their research analyzed the patterns of awareness and adoption of online payment systems by commerce students in their study. The objectives of this study are to study the growth of digital payments usage among youngsters. To study the transformation from barter system to digital payment system, to study the convenience payment method and finally to understand the need of digital payment. The author analyzed the several payment methods used by younger generation like banking cards, unstructured supplementary service data, Aadhar enabled payment system, UPI mobile wallets, and Bank prepaid cards, POs terminals and Internet banking. The authors found that younger generation salaried employees are very comfortable with online payments. Similarly, the un-educated individuals are also habituated to use the online payment methods. It is due to the growth in economy and technology many individuals are welcoming the online payment methods.

**Bugade Lakshmi and Rajesh (2021)** the study the awareness of fraudulent activities among the users. The authors had made an attempt to identify the prospects of cashless payments through UPI payments. In their study the authors had made an attempt to know about customer's perception of UPI as a digital mode of payment with reference to Coimbatore district. The objectives the study is to study the demographic factors of the respondents to know the awareness level of UPI payments among the respondents, to study the frequencies in use of UPI payments and the authors found the customers of private banks are ready to use the cashless payments and satisfied with the services offered by the UPI gateway.

**Mallesha (2020)** had a profound study and performed a case study on perception towards online payment systems among urban and rural customers. For this study the author had selected sixty sample collections. The objectives of the study, to study various modes of online payments, awareness on online payment system among the respondents, problems faced by the customers in using online payment systems. To study number of transactions customers performing weekly and monthly and finally to study the satisfaction level of customers for online shopping. After analyzing the data, the author found that there is a tremendous gap exists in between rural and urban customers because of awareness in rural areas government should take appropriate measures to create awareness among the customers about online transactions. Similarly, both rural and urban customers are fearing about the security of their online transactions for which government should take proper measures.

**Aravind Chaudhari and Deepak Chaudhari (2019)** in their article consumer satisfaction on Unified Payment Interface with special reference to Hyderabad & suburban areas. The authors made an attempt to understand the awareness of the customers towards UPI payments introduced by Reserve Bank of India on 11<sup>th</sup> April 2016 by then RBI governor Raghuram Rajan. Similarly, the study also compares the satisfaction levels of the customers modern UPI payments and traditional services, its effect on modern UPI Payments. The education levels of the customers and its impact on UPI payments. This study includes Hyderabad and its surroundings. The authors opined that customers are more concerned about the security and safety of their monetary benefits. Lastly the authors found that customers are satisfied about the UPI payments.

### **III. NEED FOR THE STUDY**

It is observed from the review of literature that many of these research studies have analyzed various aspects such as awareness and satisfaction levels of the customers towards modern UPI payments and traditional services, growth of digital payments usage and cashless payments through UPI payments, various modes of online payments, problems faced by the customers in using online payment system. But there is a scanty in understand the customer awareness and factors influencing customer behavior towards UPI Payment. Hence, the researcher has chosen to understand the customer awareness and factors influencing customer behavior towards UPI Payment with the following objectives.

### **IV. OBJECTIVES OF THE STUDY**

1. To understand the customer awareness towards UPI (Unified Payments Interface).
2. To identify the factors influencing customer behaviour towards UPI Payment.



**V. METHODOLOGY OF THE STUDY**

The objective of the study is to study the customer awareness towards UPI (Unified Payments Interface) Payment and factors influencing customer behavior towards UPI Payment. The data required for the study have been collected from both primary and secondary sources. The primary data was collected through questionnaire. The researcher has collected the primary data from 151 sample respondents on the basis of convenient sampling method with well-structured google form questionnaire. The secondary data has collected through websites, publications, books, journals and newspapers. The questionnaire has been designed keeping in view the objectives of the study.

**VI. SOCIO ECONOMIC PROFILE OF THE UPI CUSTOMERS**

The socio-economic profile of the UPI users taken from both rural and urban areas. The sample respondent’s profile i.e. location, gender, education, occupation, income, mode of income and savings are analyzed based on the primary data. The socio-economic profile of the UPI customers shown in the Table-1.

**Table – 1 Socio-economic Profile of the UPI Customers**

S. No.	Socio Economic Profile		No. of Respondents	In %
1	Location	Rural	71	47.0
		Urban	80	53.0
		<b>Total</b>	<b>151</b>	<b>100.00</b>
2	Gender	Male	94	62.3
		Female	57	37.7
		<b>Total</b>	<b>151</b>	<b>100.00</b>
3	Age	18-29 Years	136	90.06
		30-39 Years	9	5.96
		40-49 Years	6	3.98
		<b>Total</b>	<b>151</b>	<b>100.00</b>
4	Education Qualification	School Level	3	1.97
		Intermediate	25	16.56
		Graduates	123	81.47
		<b>Total</b>	<b>151</b>	<b>100.00</b>
5	Occupation	Student	124	82.12
		Business Men	11	7.28
		Employee	16	10.60
		<b>Total</b>	<b>151</b>	<b>100.00</b>

6	Family Monthly Income Rs.	<10,000	36	23.8
		10,001-20,000	43	28.5
		20,001-30,000	32	21.2
		Above 30,000	40	26.5
		<b>Total</b>	<b>151</b>	<b>100.00</b>
7	Mode of Income	Daily	32	21.19
		Monthly	119	78.81
		<b>Total</b>	<b>151</b>	<b>100.00</b>
8	Family Size	Two	5	3.32
		3 to 5	120	79.47
		Above 5	26	17.21
		<b>Total</b>	<b>151</b>	<b>100.00</b>
9	Savings Per Month (Rs.)	Up to 1,000	65	43.05
		1,001 to 5,000	44	29.14
		5,000 to 10,000	25	16.56
		Above 10,000	17	11.25
		<b>Total</b>	<b>151</b>	<b>100.00</b>

**Source:** Primary data.

It is found from the above table majority (53 per cent) of the sample respondents are living in urban areas and remaining 47 per cent of respondents are living in rural areas under. The overall result shows that 62.3 per cent male and 37.7 per cent of female in the study area. It is understood from the analysis of the table that majority 90.06 per cent are in the age group of 18 to 29 years. It is observed from the above table among the total 81.47 per cent sample respondents are graduates. The overall analysis inferred from the table is that the major portion of respondents, i.e., 28.5 per cent fall in the income group of Rs.10,001 to Rs. 20,000. The overall analysis inferred from the table is that the major portion of respondents, i.e., 78.81 per cent fall in the monthly income group.

**Table - 2 Awareness about UPI (Unified Payments Interface) Payment**

<b>Aware of about UPI Payment</b>	<b>Number of Respondents</b>	<b>In %</b>
Yes	143	94.7
No	8	5.3
<b>Total</b>	<b>151</b>	<b>100.00</b>

**Source:** Primary data.

The above table-2 exhibits the awareness of customers towards UPI Payment. The table exhibits that majority 94.7 per cent of the sample respondents are aware about the UPI Payment. Only few sample respondents are not aware about the UPI Payment. In the following table - 3 displays how sample respondents are known about the UPI Payment.

**Table – 3 How to Know the about UPI Payment**

<b>How to know the about UPI Payment</b>	<b>Number of Respondents</b>	<b>In %</b>
Friends	69	45.7
Family Members	39	25.8
Relatives	3	2.0
Neighbors	1	0.7
Social Media Channels	35	23.2
Newspapers	4	2.6
<b>Total</b>	<b>151</b>	<b>100.00</b>

**Source:** Primary data.

It is observed that among the total 151 sample respondents the majority of respondents have been aware about UPI Payment through the friends, family members and social media channels. The remaining respondents aware about UPI Payment through the relatives, neighbors and newspapers etc. In the following table-4 exhibits the which mode prefer by the customers for UPI Payment.

**Table – 4 Which of the Following Mode Prefer for UPI Payment**

<b>Mode of UPI Payment</b>	<b>Number of Respondents</b>	<b>In %</b>
Phone Pay & Google Pay	131	86.8
Paytm, BHIM & Other Apps	20	13.2
<b>Total</b>	<b>151</b>	<b>100.00</b>

**Source:** Primary data.

It is found from the study majority of the UPI customers preferred Phone Pay & Google Pay payment mode for UPI Payment. The following respondents preferred Paytm, BHIM & Other Apps for UPI Payment. How long have been aware about UPI Payment presented in table-5.

**Table – 5 How Long Have You Been Aware of the UPI Payment**

<b>How long have you been aware of the UPI Payment</b>	<b>Number of Respondents</b>	<b>In %</b>
Below One Year	22	14.57
One Year to Two Years	23	15.23
Two Years to Three Years	37	24.50
Three Years to Four Years	20	13.23
Above Four Years	30	19.87
<b>Total</b>	<b>151</b>	<b>100.00</b>

**Source:** Primary data.

The above table depicts the details of How long UPI customers have been aware about UPI Payment. The table exhibits that majority of the respondents are have been aware more than two years. It is observed from the study the remaining sample respondents aware about UPI Payment

below one year. In the following table-6 exhibits the How long have been using the UPI Payment services.

**Table – 6 How Long You Have Been Using the UPI Payment Services**

<b>How long you have been using the UPI Payment services</b>	<b>Number of Respondents</b>	<b>In %</b>
Below One Year	22	14.6
One Year to Two Years	47	31.1
Two Years to Three Years	31	20.5
Three Years to Four Years	26	17.2
Above Four Years	25	16.6
<b>Total</b>	<b>151</b>	<b>100.00</b>

**Source:** Primary data.

It is observed from the study majority respondents using UPI Payment services from last two years. Only few customers are using UPI Payment services from last one year onwards. In the following table - 7 exhibits the Services availed form UPI Payment Apps.

**Table – 7 Services availed form UPI Payment Apps**

<b>UPI Services</b>	<b>Number of Respondents</b>	<b>In %</b>
Shopping, Recharge, Pay Bills (DTH, Mobile Recharges & Electricity)	107	70.86
Travel Bookings, Insurance and Other Services	44	29.14
<b>Total</b>	<b>151</b>	<b>100.00</b>

**Source:** Primary data.

It is observed from the study majority customers were using UPI Payment for shopping, recharges and paying bills etc. In the following table - 8 exhibits the Awareness of UPI Payment App Features.

**Table – 8 Awareness of UPI Payment App Features**

<b>Features of UPI</b>	<b>Number of Respondents</b>	<b>In %</b>
Fund Transfer, Bill Payments & QR Code Payments	111	73.51
Merchant Transactions, etc.	40	26.49
<b>Total</b>	<b>151</b>	<b>100.00</b>

**Source:** Primary data.

It is observed from the above table majority 111 sample respondents are aware about fund transfer, bill payments and QR Code transfer and some of the users aware about merchant transactions

also in UPI Payment apps. The table - 9 exhibits Monthly how many times utilized UPI Payment services.

**Table – 9 Monthly how many times utilized UPI Payment services**

<b>Monthly how many times utilized UPI Payment</b>	<b>Number of Respondents</b>	<b>In %</b>
Below 10 times	40	26.4
11 to 20 times	54	35.8
21 to 30 times	19	12.6
Above 30 times	38	25.2
<b>Total</b>	<b>151</b>	<b>100.00</b>

**Source:** Primary data.

Majority customers utilized UPI Payment services monthly above forty times and only few UPI Customers utilized UPI Payment services monthly below twenty times. The table – 10 shows that how frequently shopping through UPI Payment Apps by the customers.

**Table – 10 How frequently are you shopping through UPI Payment Apps**

<b>How frequently shopping through UPI Payment Apps</b>	<b>Number of Respondents</b>	<b>In %</b>
Regularly	90	59.60
Rarely	61	40.40
<b>Total</b>	<b>151</b>	<b>100.00</b>

**Source:** Primary data.

It is observed from the above table 90 respondents regularly shopping through UPI Payment Apps and remaining 61 respondents rarely shopping through UPI Payment Apps. The table-11 shows that Factors influenced to prefer the UPI Payment.

**Table – 11 Factors influenced you to prefer the UPI Payment**

<b>factors influenced you to prefer the UPI Payment</b>	<b>Number of Respondents</b>	<b>In %</b>
Discounts /Cashback/Offers	42	27.80
Speed/Time Saving/Convenience 24 * 7 Availability, Simple procedure/Security	87	57.60
Multiple Services Availability	22	14.60
<b>Total</b>	<b>151</b>	<b>100.00</b>

**Source:** Primary data.

The above table exhibits what are the factors influenced to prefer UPI Payment by the customers. Majority of the customers prefer UPI Payment for Speed/Time Saving/Convenience, 24/7 Availability, Simple procedure/Security and Multiple Services Availability. Some of the customers

prefer UPI Payment for Discounts /Cashback/Offers. At present days a greater number of customers following UPI Payment, the reason is behind that multiple services availability, 24/7 services and simple procedure.

### **VII. FINDINGS OF THE STUDY**

1. Majority respondents are aware about the UPI Payment. Only few sample respondents are not aware about the UPI Payment.
2. It is found from the study majority of the customers preferred Phone Pay & Google Pay payment mode for UPI Payment.
3. The table exhibits that majority of the respondents are have been aware more than two years. It is observed from the study the remaining sample respondents aware about UPI Payment below one year.
4. It is observed from the study majority customers were using UPI Payment for shopping, recharges and paying bills etc.
5. It is observed from the above table majority respondents are aware about fund transfer, bill payments and QR Code transfer and some of the users aware about merchant transactions also in UPI Payment apps.
6. Majority of the customers prefer UPI Payment for Speed/Time Saving/Convenience, 24/7 Availability, Simple procedure/Security and Multiple Services Availability. Some of the customers prefer UPI Payment for Discounts /Cashback/Offers.

### **VIII. SUGGESTIONS**

Based on the findings of the study the following suggestions are made by the researcher.

1. The online payment apps need to increase awareness about UPI payments system among older age people.
2. Increase safety while doing UPI payments should increase.
3. While UPI payment for large amount should be done with two steps of verification.
4. Online Payment Apps need to provide speed and better services to the UPI customers.
5. The online payment apps avoid additional charges in UPI payment.

### **IX. CONCLUSION**

The study concludes that there is a need to improve services and create more awareness, provide more cashback offers and reduce the scratch cards that are related to products sales. Many people are not interested in using scratch cards become useless and need to remove additional charges on recharge plans etc. Then, the UPI payment will be increased. The UPI App developers need to provide fast services, enhance the secure account details to the customers and solve the technical problem immediately. The study recommends that the day-to-day transaction limit also increase up to five lakhs.

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**FINANCE TECHNOLOGY IN THE BANKING INDUSTRY: AN OVERVIEW**

**<sup>1</sup>Dr.P.Venkatesh, <sup>2</sup>Dr.V.Selvakumar and <sup>3</sup>Dr.C.R.Senthilnathan**

*<sup>1</sup>Associate Professor, Department of Management Studies,  
Sri Sairam Engineering College, Chennai, India.*

*<sup>2</sup>Associate Professor, Department of MBA,  
Sri Sairam Institute of Technology, Chennai, India.*

*<sup>3</sup>Professor & Head, Department of MBA,  
Sri Sairam Institute of Technology, Chennai, India.*

**I. INTRODUCTION**

Since the inception of the “Open Banking Working Group” in the United Kingdom in 2015, open banking has generally been considered as the platformization of the retail banking industry. To date, it has spread worldwide from the UK to Continental Europe, America, and Asia, constituting one of the retail banking industry’s shaping forces of the future. Thus, on top of the open banking initiative in the UK and PSD2 (Payment Services Directive) in the European Union, there are open banking regulations in Australia, India, Mexico, and Brazil, and forthcoming regulations in Russia and Canada. The essence of open banking regulations is to recognize the banking clients’ right to share their transactional data with authorized third parties and detailed provisions on how to materialize this right. Despite its apparent simplicity, this data-sharing right constitutes the primary vector for fostering the transformation of the retail banking sector from a closed business model to an open platform, similar to what occurred in telecommunications, power, and gas industries. Open banking originated from practitioners and was inspired by the open data, open-APIs (Application Programming Interfaces), and open innovation philosophies applied to the retail banking business. The business community is analyzing this phenomenon extensively, understanding it as a “collaborative model in which banking data is shared through APIs between two or more unaffiliated parties to deliver enhanced capabilities to the marketplace”. Its first implementation worldwide materialized in the UK. It was requested by the Competition and Markets Authority as a foundational strategy to ascertain that personal current accounts, as well as small and medium-sized enterprises’ banking markets, serve customers better. This issue emanated from a retail banking market investigation concluded in 2016. It also inspired the European Commission to publish the PSD2. Although open banking is still in its initial stages of development, the concept has been embraced by practitioners and regulators, being regarded as one of the shaping forces of the financial industry worldwide. Nevertheless, despite existing literature acknowledging the importance of open banking as a critical retail banking industry’s transformational lever, open banking as a research object still lacks conceptualization both



theoretically and empirically. Academic literature on the subject is still in its early stages of development.

## **II. OBJECTIVE OF THE STUDY**

- It provides a range of features designed to make banking easier and more efficient, including an integrated budgeting tool and an automated savings feature.
- Open Bank also provides users with access to a range of third-party financial services, such as credit cards, investment products, and tax services.
- Open Bank also allows users to link their accounts to other third-party services, such as PayPal, Amazon, and Apple Pay.
- Users can transfer funds between accounts, set up automatic payments, and set reminders for bills.
- Additionally, Open Bank offers a secure environment for users to store and access their financial data.

## **III. REVIEW LITERATURE**

“Open Banking could be all kinds of things, from a remedy to an ecosystem, or most often: a (business) model of some sort. Its purposes are considered to be providing new (‘better’, ‘customer-centric’) services to customers and improving competition in the banking market by letting third parties in. O’Leary et al. (2021), building on an open data lenses approach, propose the following definition: “An initiative which facilitates the secure sharing of account data with licensed third parties through Application Programming Interfaces (APIs), empowering customers with ownership of their own data. The initiative aims to increase competition in retail banking by developing innovative products and services which will bring increased value to customers.” Finally, Laplante and Kshetri (2021) approach the need for a definition of open banking, but do not provide a generalized definition other than describing the phenomenon as: “Open banking describes a special kind of financial ecosystem. The ecosystem provides third-party financial service providers open access to consumer banking, transaction, and other financial data from banks and nonbank financial institutions through the use of application programming interfaces (APIs).”

The existing definitions of open banking present three types of problems fundamentally: perspective bias, discipline bias, and purpose bias. Starting with the perspective bias problem, open banking is a tripartite scheme between the owner of the data, custodian, and third party who accesses it. Any general definition must consider the three agents to avoid partial or incomplete analysis of the phenomenon. Regarding the discipline bias problem, researchers tend to confuse the context in which

open banking is used in their discipline with a generally applicable definition. Thus, technical literature focuses exclusively on the technological support of the phenomenon, the regulatory literature on its legal support, and the management literature on the possible implications for the business model. However, a generalized concept of open banking must be able to encompass all its contexts of use and not just one of the meanings. Finally, the purpose bias problem consists of giving open banking a specific purpose other than the one for which it was formulated: to increase competition in retail banking by facilitating the entry of new competitors. Considering the combined effect of the three biases

#### **IV. RESEARCH METHODOLOGY**

In this chapter is introduced research methodology and factors how it has been synthesized with research process, data collection methods and analysis methods. In addition, the actual data collection is walked through following with the data analysis and presenting the results. This chapter is concluded with the evaluation of research validity and reliability.

#### **V. RESEARCH DESCRIPTIVE**

This study made use of a descriptive research design in exploring deeply into the course of this study. This study adopted a survey research method to generate the necessary information that was needed for the research work.

#### **VI. DATA SOURCE**

There were many sources available for the researcher to adopt in order to gather information concerning the topic at hand, but due to non-existence of solid and accurate data from a modified or secondary source, the researcher was hereby restricted to making use of primary sources of generating information which is abetted via a well-structured and organized questionnaire comprising meaningful questions relating to the topic at hand.

#### **VII. DATA COLLECTION**

Data collected is one of the most important aspects of research. For the success of any project accurate data is very important and necessary. The information collection through research methodology must be accurate and relevant.

- Primary Data and secondary Data

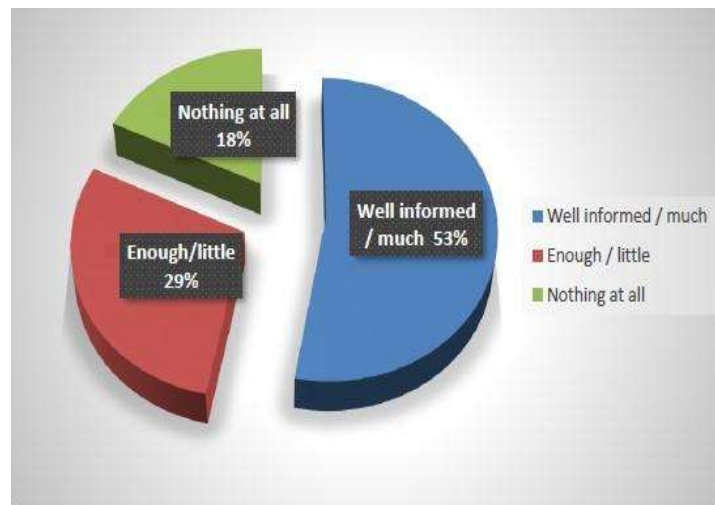
#### **VIII SAMPLING TECHNIQUE**

**Sample Size :** Around 100 people were given the surveys to find out the examination.

**IX. DATA ANALYSIS AND INTERPRETATION**

**1) How much you are aware of the products of open-Banking?**

<b>Particulars</b>	<b>No. Of Respondents</b>	<b>Percentage</b>
Well informed / much	53	53%
Enough / little	29	29%
Nothing at all	18	18%

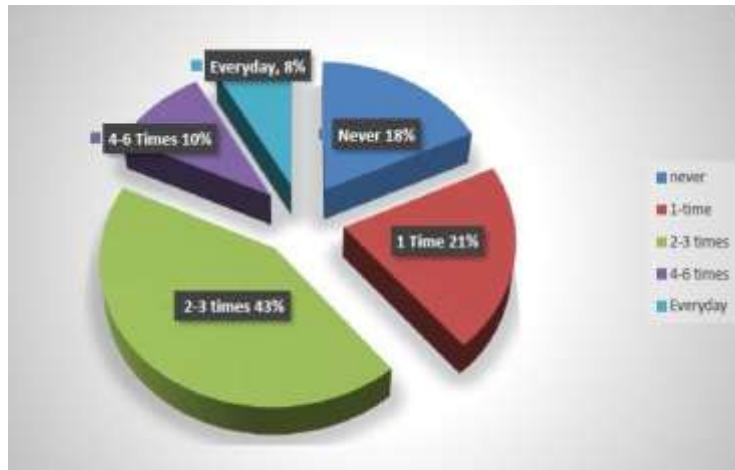


**INTERPRETATION:**

We had surveyed 100 people. Out of them 53% people are well informed about open-banking, 29% people are having little knowledge about E-banking, 18% people do not know about the open banking.,

**2) How often you avail of the service of open banking?**

<b>Particulars</b>	<b>No. Of Respondents</b>	<b>Percentage</b>
never	18	18%
1-time	21	21%
2-3 times	43	43%
4-6 times	10	10%
Everyday	8	8%

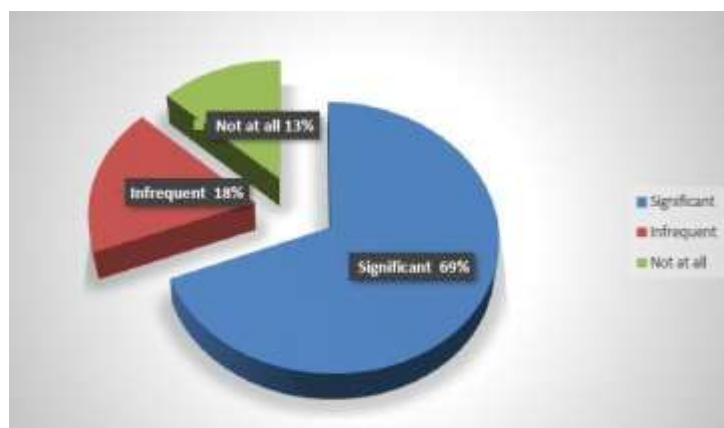


**INTERPRETATION:**

We had surveyed 100 people. Out of them 18% people never use E-banking, 21% people are using 1-time, 43% are using 2-3 times, 10% are using 4-6 times, 8% people are using E-banking on everyday basis.

**3) How important would be the open Banking for your day-to-day activities**

Particulars	No. Of Respondents	Percentage
Significant	69	69%
Infrequent	18	18%
Not at all	13	13%

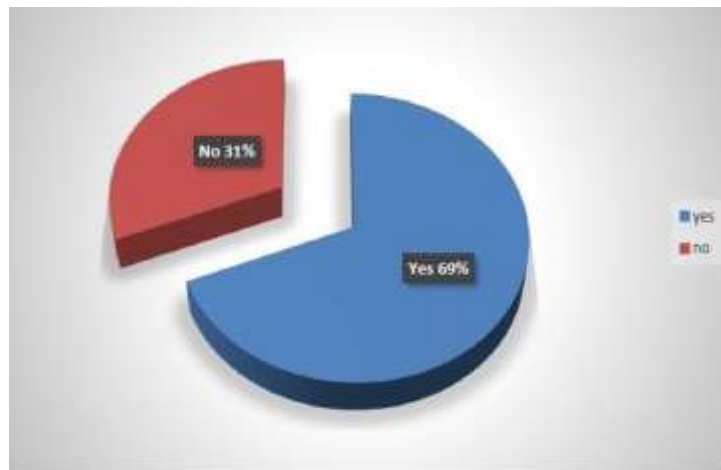


**INTERPRETATION:**

According to survey, 69% people find that E-banking is having significant importance in their daily banking activities, 18% people find that E-banking is having infrequent importance in their daily banking activities 13% people find that E-banking is not at all important in their daily banking activities.

**4) Are the services being offered adequate?**

Particulars	No. Of Respondents	Percentage
YES	69	69%
NO	31	31%



**INTERPRETATION:**

According to survey, 69% people find that the services being offered to them are adequate but 31% people that the services being offered to them are not adequate this shows what people feel about banking services and this may also be one of the reasons for the dissatisfaction of the people.

**5) What kind of banking transactions you normally do use the Internet?**

Particulars	No. Of Respondents	Percentage
Personal banking	48	48%
Business Transaction	39	39%
Both	13	13%



**INTERPRETATION:**

According to survey, 49% people do personal banking over the internet, 38% people do business transactions over the internet and 13% people do personal banking as well as business transactions over the internet.

**X. CONCLUSION**

Customer expectations in financial services are increasingly being conditioned by their experiences in other industries that are further along the digital curve. In retailing, for example, customers have overcome their early inhibitions about buying fashion online driven by styling and fit concerns (and indeed industry scepticism). This has been aided in no small part by flexible return policies, pioneered by new market entrants rather than incumbents, which have gradually become the industry norm. We believe the emergence of marketplace banking and the ensuing fight to capture the customer interface between incumbents and new entrants alike will drive similar pressures for change. Even in the context of banking’s currently low switching rates and the need for greater customer reassurance in money matters, we believe that banks will need to use customer data to:

- improve the user experience,
- tailor services and offers to customers
- anticipate their future needs.

This will necessitate a shift in focus away from individual product profitability. Instead, it will move to identifying gaps in the bank’s offering based on customer needs and determining whether these can be filled internally or via partnerships with TPPs. Potential new entrants, ranging from relatively traditional players like PCWs to non-traditional players such as Fintech and technology giants, are likely to adopt this customer-centric approach, forcing a shift in industry mindset and practices. This is likely to lead to a blurring of industry boundaries, with non-traditional players moving into banking

and banks potentially moving into non-traditional services. Incumbent banks have much to consider if they are to thrive in this future landscape. However, they cannot afford to stand still. By addressing their leadership and culture, improving their ability to optimize their use of data and embracing opportunities to automate, incumbent banks will be well positioned to maintain the customer relationship and, ultimately, to win in an 'open banking' world.

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**LINKAGE BETWEEN NET INTEREST MARGIN AND MACROECONOMIC DETERMINANTS: EMPIRICAL EVIDENCE FROM SCHEDULED PUBLIC AND PRIVATE SECTOR COMMERCIAL BANKS IN INDIA**

**<sup>1</sup>Dr. Srinivasan K and <sup>2</sup>Dr. Reshmi U P**

*<sup>1</sup>Assistant Professor, Management Studies,  
Kristu Jayanti College of Law,  
Kothanur, Bengaluru, Karnataka 560077*

*<sup>2</sup>Assistant Professor in Economics,  
Kristu Jayanti College of Law,  
Kothanur, Bengaluru, Karnataka 560077*

**ABSTRACT**

*This empirical study critically examines the linkage between net interest margin of 45 public and private sector banks and macroeconomic determinants for the period 2013-2023. The study aims to find the association between Net Interest Margin (NIM) and macroeconomic determinants with the help of econometrics tools such as Unit Root Test Analysis, Johanson Cointegration test, Granger Casualty Test and Auto Regressive Conditional Heteroscedasticity (ARCH Model). The analytical results confirmed the long term relationship among net interest margin of public and private sector banks and macroeconomic factors during the study period. It is found that all the macroeconomic determinants such as GDP, Real Effective Exchange Rate, Real Interest Rate and Weighted Average Lending Rate are having causality relationship with net interest margin and all these exogenous variables granger caused net interest margin of public and private sector banks in uni-directional mode. It is also observed from the results that exogenous variables such as inflation, real effective exchange rate, real interest rate, credit growth, deposit growth, unemployment rate, capital to assets ratio and weighted average lending rate are having statistically significant relationship with net interest margin of public and private sector commercial banks.*

**KEYWORDS:** Net Interest Margin, Commercial Banks and Macroeconomic Determinants, Johanson Cointegration test, Granger Causality test and ARCH Model.

**I. INTRODUCTION**

Banking industry has undergone a sea change since the economy unleashed under the banner of new economic policy 1991. New economic policy has led to tremendous transformation in banking industry as many new players for domestic and foreign countries started to enter. There has been a continuous phenomenal growth in Indian banking but at the same time, there is stiff competition among the players. In the wake of mounting NPA, especially in the case of public sector banks, commercial banks are expanding their business activities in order to ensure long run sustainability.

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Net Interest Margin is considered as one of the significant profitability indicators of commercial banks. With this introductory note, the paper has been organised as follows: Section 2 reviews the existing literature related to net interest margin management at global level. Section 3 presents the research design and methodology. Section 4 discusses the empirical results and Section 5 concludes.

**II. REVIEW OF LITERATURE**

<b>Variables used in the previous studies</b>	<b>References</b>
Economic Growth, Price Movement, Capital cushion, net interest margin, bank size, liquid assets, non performing assets, cost inefficiency and assets share.	Tushar B. Das (2013)
Net Interest Margin, Size, Return on Assets, Bank’ Operating expenses to operating income, statutory reserve ratio, capital adequacy ratio, loan to deposit ratio, non-performing loans ratio and market share of bank loan	PamujiGesangRaharjo, DediBudiman Hakim, Adler Hayman Manurung and TubagusN.A. Maulana (2014)

**III. RESEARCH METHODOLOGY AND**

**3.1. Objectives of the Study**

The study has framed the following objectives.

- 1) To examine the long run and causality relationship between net interest margin of Public and private sector Commercial Banks and macroeconomic variables.
- 2) To investigate the impact of macroeconomic determinants on net interest margin of Public and private sector Commercial Banks.

**3.2. Statement of Hypotheses**

Based on the above mentioned objectives, the following hypotheses are formulated and tested.

**H<sub>01</sub>** Macroeconomic determinants do not have stationary during the study period.

**H<sub>02</sub>** Net Interest Margin of Public and private sector Banks are not cointegrated with macroeconomic factors and vice versa.

**H<sub>03</sub>** Net Interest Margin of Public and private sector commercial Banks do not granger cause macroeconomic factors and vice versa.

**H<sub>04</sub>** Macroeconomic variables are not having significant relationship with Net Interest Margin of Public and private sector commercial banks.

**3.3. Sources of Data**

The study primarily depends on secondary data. Ratios are heavily drawn from “Statistical Tables Relating to Banks in India”. Data for macroeconomic factors have been compiled from the various issues of Economic Survey starting from 2015-2023.

**4. Sampling Framework**

The study has taken 6 SBI & Associates Banks, 19 Nationalised Banks, 13 Old Private Sector Banks and 7 New Private Sector Banks. AllPublic and private sector Banks have been taken on the basis of availability of the data for the study period.

**3.5. Research Instruments**

The study has employed the various econometrics tools for analysis of macroeconomic data such as Unit Root Test, Johanson Cointegration Test, Granger Causality TestAuto Regressive Condition Hetroscedasticity Model

**3.6. Period of the Study**

The study is analytical in nature and the present study uses the latest available secondary data published by RBI for the 10 years.

**IV ANALYSIS AND DISCUSSION OF EMPIRICAL RESULTS**

**4.1Unit Root Test Results of Net Interest Margin and Macroeconomic Determinants**

Variables	Augmented Dickey Fuller Test		
	Level	First Difference	Order of Integration
<b>Net Interest Margin</b>	-1.725535	-5.755056*	I (1)
<b>Gross Domestic Product</b>	-1.647532	-20.74655*	I (1)
<b>Inflation Rate</b>	-1.348672	-14.77800*	I (1)
<b>Real Effective Exchange</b>	-1.904967	-11.80366*	I (1)
<b>Real Interest Rate</b>	-2.238512	-25.88991*	I (1)
<b>Credit Growth</b>	-1.255703	-13.96670*	I (1)
<b>Deposit growth</b>	-1.897892	-16.39985*	I (1)
<b>Unemployment Rate</b>	-1.657983	-16.25690*	I (1)
<b>Capital to Assets Ratio</b>	-2.113779	-27.81133*	I (1)
<b>Weighted Average Lending</b>	-2.017245	-43.51825*	I (1)

Note: The \* indicates significance at 1%, \*\* at 5% and \*\*\* at 10%

Table 4.1 displays the unit root test results of Net Interest Margin of all the public and private sector commercial banks and macroeconomic determinants. In order to check whether the time series data are stationary or non-stationary, Augmented Dickey-Fuller (ADF) Unit Root test has been applied. The analytical results reveal that all the endogenous and exogenous variables are stationary at level. The rejection of null hypothesis against the alternative hypothesis implies that all the time series variables are stationary and integrated the order of zero i.e., 1(1). These variables are stationary at first difference.

**4.2 - Bivariate Cointegration Test of Net Interest Margin and Macroeconomic Determinants in Public and Private Sector Commercial Banks**

<b>Pair wise</b>	<b>Eigen Value</b>	<b>Trace Statistic</b>	<b>Critical Value (5%)</b>	<b>Max-Eigen Value</b>	<b>Critical Value (5%)</b>
<b>NIM - GDP</b>	0.492276	311.3241	15.49471	301.6290	14.26460
	0.021551	9.695146	3.841466	9.695146	3.841466
<b>NIM - INFL</b>	0.527859	343.6413	15.49471	333.9628	14.26460
	0.021515	9.678482	3.841466	9.678482	3.841466
<b>NIM - REER</b>	0.385031	226.0722	15.49471	216.3516	14.26460
	0.021607	9.720558	3.841466	9.720558	3.841466
<b>NIM - RIR</b>	0.189448	103.2542	15.49471	93.46785	14.26460
	0.021752	9.786380	3.841466	9.786380	3.841466
<b>NIM - UR</b>	0.432373	261.6347	15.49471	251.9990	14.26460
	0.021420	9.635632	3.841466	9.635632	3.841466
<b>NIM - CG</b>	0.453316	278.3931	15.49471	268.7282	14.26460
	0.021485	9.664972	3.841466	9.664972	3.841466
<b>NIM - DG</b>	0.308227	173.7041	15.49471	163.9813	14.26460
	0.021612	9.722810	3.841466	9.722810	3.841466
<b>NIM - CTA</b>	0.330662	188.3099	15.49471	178.6526	14.26460
	0.021468	9.657364	3.841466	9.657364	3.841466
<b>NIM - WALR</b>	0.866547	905.9624	15.49471	896.2313	14.26460
	0.021630	9.731133	3.841466	9.731133	3.841466

After checking the time series of properties of each macroeconomic variable through Unit Root Test, the study is proceeded to test the cointegrating relationship between endogenous and exogenous variables. Johansen Cointegration analysis helps to determine whether there is a cointegrating relationship between the variables or not. It enables to identify more than one cointegration relationship between time series data. The study has applied Johansen Maximum Likelihood method of cointegration to find whether there is more than one cointegration relationship among the variables. In order to accept the cointegrating relationship between variables, Trace and Max-Eigen Statistics value should be higher than the critical value at 5% significance level. The results reveal that all the variables are cointegrated with endogenous variable NIM.

**4.3 -Granger Causality Test of Net Interest Margin and Macroeconomic Determinants**

Null Hypothesis H <sub>0</sub>	F-Statistic	P - Value	Conclusion
GDP does not Granger Cause NIM	3.21919	0.0409	Rejected H <sub>0</sub>
NIM does not Granger cause GDP	0.13407	0.8746	Accepted H <sub>0</sub>
INFL does not Granger Cause NIM	0.50502	0.6038	Accepted H <sub>0</sub>
NIM does not Granger cause INFL	1.23375	0.2922	Accepted H <sub>0</sub>
REER does not Granger Cause	3.37303	0.0352	Rejected H <sub>0</sub>
NIM does not Granger cause REER	0.02352	0.9768	Accepted H <sub>0</sub>
RIR does not Granger Cause NIM	2.54856	0.0793	Rejected H <sub>0</sub>
NIM does not Granger cause RIR	0.01061	0.9894	Accepted H <sub>0</sub>
UR does not Granger Cause NIM	0.20057	0.8183	Accepted H <sub>0</sub>
NIM does not Granger cause UR	0.17728	0.8376	Accepted H <sub>0</sub>
CG does not Granger Cause NIM	1.10457	0.3323	Accepted H <sub>0</sub>
NIM does not Granger cause CG	0.67498	0.5097	Accepted H <sub>0</sub>
DG does not Granger Cause NIM	1.86708	0.1558	Accepted H <sub>0</sub>
NIM does not Granger cause DG	0.97829	0.3768	Accepted H <sub>0</sub>
CTA does not Granger Cause NIM	0.19223	0.8252	Accepted H <sub>0</sub>
NIM does not Granger cause CTA	0.09816	0.9065	Accepted H <sub>0</sub>
WALR does not Granger Cause	2.51919	0.0817	Rejected H <sub>0</sub>
NIM does not Granger cause	0.84161	0.4317	Accepted H <sub>0</sub>

Table 4.3 represents the results of Granger Causality Test of Public and private sector Banks. Granger Causality Analysis is a statistical hypothesis test for determining whether one time series data is useful in predicting another. Granger causality test results have showed the uni-directional causality relationship between net interest margin of Public and private sector banks and Gross Domestic Product (GDP), Real Effective Exchange Rate (REER), Real Interest Rate (RIR) and Weighted Average Lending Rate (WALR).

**4.4 Auto Regressive Conditional Heteroscedasticity Model of Net Interest Margin of Public and Private Sector Commercial Banks and Macroeconomic Determinants**

Dependent Variable: Net Interest Margin to Total Assets				
Method: ML - ARCH (Marquardt) - Normal distribution				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-15.54068	0.042428	-366.2838	0.0000
Gross Domestic Product	0.023580	0.073572	0.320501	0.7486
Inflation Rate	-0.246703	0.082026	-3.007613	0.0026

<b>Real Effective Exchange Rate</b>	1.778959	0.021339	83.36628	0.0000
<b>Real Interest Rate</b>	-0.089041	0.026142	-3.406076	0.0007
<b>Unemployment Rate</b>	0.744637	0.164528	4.525887	0.0000
<b>Credit Growth</b>	0.505118	0.071333	7.081139	0.0000
<b>Deposit Growth</b>	0.788998	0.093387	8.448734	0.0000
<b>Capital to Total Assets Ratio</b>	-1.431831	0.396989	-3.606730	0.0003
<b>Weighted Average Lending</b>	2.189212	0.170068	12.87260	0.0000
	<b>Variance Equation</b>			
<b>C</b>	0.004257	0.001113	3.825057	0.0001
<b>RESID(-1)^2</b>	0.608297	0.077744	7.824344	0.0000
<b>GARCH(-1)</b>	0.441624	0.028956	15.25181	0.0000
<b>R-squared</b>	0.874262	<b>Mean dependent var</b>	1.326371	
<b>Adjusted R-squared</b>	0.764334	<b>S.D. dependent var</b>	0.823981	
<b>S.E. of regression</b>	0.939601	<b>Akaike info criterion</b>	0.817846	
<b>Sum squared resid</b>	388.4541	<b>Schwarz criterion</b>	0.936558	
<b>Log likelihood</b>	-171.0154	<b>Hannan-Quinn</b>	0.864635	
<b>Durbin-Watson stat</b>	0.217555			

Table 4.4 exhibits the summary results of ARCH Model of Public and private sector Banks.

The estimation results show that Gross Domestic Product (GDP) is having a positive relationship. However, its coefficient is highly insignificant with net interest margin of Public and private sector Banks. The coefficient of exogenous variables such as inflation rate, real interest rate and capital to total assets ratio are exerting a negative and statistically significant relationship with net interest margin of Public and private sector commercial banks at 1% level of significance. Similarly, explanatory variables such as real effective exchange rate, credit growth, deposit growth and weighted average lending rate are having positive and significant relationship with net interest margin. The influence of macroeconomic and banking sectoral factors on net interest margin of public and private sector Banks is to the extent of 87 % as R<sup>2</sup> value of the model explains the endogenous variable. Likewise, the adjusted R<sup>2</sup> value is fairly good which implies the goodness of the model fit. The Durbin-Watson statistics indicates the absence of autocorrelation as its value is less than 2.

**V. CONCLUSION:**

This empirical study has analysed the interaction between macroeconomic factors and net interest margin conditions in Public and private sector Banks in India using the econometrics tools for the period 2013-2023. The bivariate cointegration test results revealed that all the macroeconomic variables are cointegrated with net interest margin of Public and private sector commercial banks. It is also found from the analysis that exogenous variables such as GDP, Real Effective Exchange Rate, Real Interest Rate and Weighted Average Lending Rate have showed a uni-directional causality relationship with net interest margin of public and private sector commercial banks. It can be concluded that macroeconomic variables like Gross Domestic Product, inflation, credit growth,

exchange rate, unemployment rate, annual growth of industrial production and weighted average lending rate are delineating the net interest margin of Public and private sector Banks to a great extent.

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**A STUDY ON ATTITUDE OF WOMEN STUDENTS TOWARDS  
ENTREPRENEURSHIP AS A CAREER CHOICE- WITH REFERENCE  
TO CHENNAI CITY**

**Dr.S.Senthil Kumar**

*Professor, MBA Department,  
Karpaga Vinayaga College of Engineering and Technology,  
Padalam, Chengalpattu Distric.,Tamil Nadu, India*

**ABSTRACT**

*Entrepreneurship is a dynamic concept which converts a business idea in to a profitable business venture. Entrepreneurship was not a popular career choice until rely India, especially among women. There are many impediments at social, economic and environmental levels for women to become entrepreneurs Women aspiring to become entrepreneurs need more courage, motivation and determination than their male counterparts though they are, by nature, better administrators. Indian women are ready to break their shackles and slowly and steadily evolve as entrepreneurs, making entrepreneurship as a career choice the last decade. Government and other non-government organizations are taking due effort to nurture the spirit of entrepreneurship among women from all walks of the society. Universities and Colleges also offer courses on entrepreneurship at UG, PG and research levels. This paper aims to study the attitude of women students towards entrepreneurship as a career choice. Entrepreneurship intention, Career choice, Women, Entrepreneurial intentions*

**Key words:** Entrepreneurship intention, Career choice, Women, Entrepreneurship intentions

**I. INTRODUCTION**

Creation of new venture, product and services are the main features of entrepreneur- ship (Lumpkin & Dess, 1996). The benefit of entrepreneurship goes beyond employment and income generation, as it can contribute to equitable economic development of the nation. India is a country with the second largest population in the world next to China. She has to create multi-million jobs in the near future for her growing population. It is not possible for the government to create and meet the entire job requirements of the nation. Over the past years, the public sector and private sector organizations have not created significant employment opportunities for the people of India.

Studies worldwide have proved that significant percentage of jobs is created by new ventures. Many emerging nations like India, today, concentrate on the promotion of entrepreneurial culture among youth as it is can contribute to the development of Economy by turning job seekers in to job Entrepreneurship is a unique combination of various skills, factors, traits, attitudes and abilities. The

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entrepreneurial ecosystem plays a vital role in the promotion and nurturing of entrepreneurship. It varies from place to place.

Women entrepreneurship is subject to continuous research across globe in recent times as it is seen as a vital choice of women empowerment. The emergence of women entrepreneurs depends on the socio-economic factors and the entrepreneurial intentions of the women. Women tend to be good administrators and decision makers by nature and can succeed as an entrepreneur easily. In reality, many women prefer a fixed pay check over business especially in India. Studies have shown that entrepreneurial inclination is high in men than their female counterparts (Pines et al (2010), King and Solomon (2003) population of India. Women empowerment. Has taken drastic dimensions in India over the past few decades, Given the fact that entrepreneurship is considered as a tool to empower Indian women, the emergence ratio is still low. This may be due to the societal pressures or lack of entrepreneurial intention among women. Many countries have realized that the entrepreneurial intentions and motivations can be nurtured by proper training among people and have started offering many courses at college level.

Special courses are framed by the Government of India and Tamil Nadu, in particular, to train women entrepreneurs in rural and urban areas. Entrepreneurship development cells are formed in all the banks. In spite of all these steps, the ratio of women taking entrepreneurship as a career is low. Becoming entrepreneurs can offer greater financial independence, higher self- confidence and prominent social presence for Indian women. Many women entrepreneurs have reached there due to compulsive reasons and only few have planned it as a career. The spirit of entrepreneurship should be nurtured among female students when they are at school and college levels.

## **II. LITERATURE REVIEW**

Comper (1991) found that 65% of the new businesses were started by women in Canada. Cooper (1981) in his study stated that the three main challenges faced by entrepreneurs are background factors, genetic factors and environmental factors. The reasons for starting a business may vary for men and women. Lavoie (1992) in his study established that women entrepreneurs take up entrepreneurship for challenge and self-fulfillment This study tries to study the title of female college students of Chennai Cey towards entrepreneurship as a career choice

## **III. METHODOLOGY**

For the purpose of the study, 44 female students from first year under graduation and 32 students each from first, second and third years of arts & science colleges were considered. Data is collected through questionnaire. Simple percentage analysis was used to analysis the data.

#### **IV. FINDINGS AND OBSERVATIONS**

The study reveals that 41% of students are from 17-19 age group and 59% of them are from 19-23 age group. 40% of them are first year students and 30% each are from second and third year UG students. 52% of the students prefer to go for higher studies and only 18% are planning towards business as career plan immediately after UG. 24% of the female students prefer to go for jobs after their graduation. 60% of the women students say that their family members want them to do higher studies after graduation and 41% want them to take up a job.

Only 30% of the women are having idea of taking up business at some point in life, 41% want to do business and 29% cannot say about that right now. 77% of the respondents feel that prior experience can help them in starting a business. If business is taken up as a career option, 37% of them prefer food industry and 33% prefer textiles and fashion and least preferred is IT 77% of the respondents say that their decisions are influenced by their parents and 78% of them say that their family will not encourage them to take up business because they are new to the Business (40%) and there will not be financial security (38%). Only 2% said that their ability is doubted. When the respondents were asked whether they possess the most established psychological traits of entrepreneurs, it is observed that majority of them agree that they possess the qualities like Self-confidence (94%), Creativity (79%), Risk taking ability (60%), Need for achievement (91%), Vision (60%), Facing uncertainty (80%).

#### **V. CONCLUSION**

The study reveals that the entrepreneurial intentions of women students are considerably low as majority of them prefer to take up higher studies immediately after their graduation. They also feel that their parents influence their decisions and their family will not encourage them to take up business as a career option. It is mainly due to their inexperience and financial insecurity. Majority of the women students never considered business as a career option at any point of time in life. The respondents feel that they possess all the qualities to be successful in business yet not clear about their entrepreneurial intentions. The findings reveal that the entrepreneurial qualities are present widely among the respondents; hence, proper training and motivation can nurture the spirit of entrepreneurship among them as a career option.

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**HOLISTIC SHIFT OF BUSINESS TOWARDS DIGITAL ADVANCEMENT –  
BUSINESS DATA ANALYTICS**

**Dr. M. Gomathy**

*Assistant Professor*

*Department Of Business Administration*

*Vallal P.T Lee Chengalvaraya Naicker Arts & Science College, Chennai.*

**I. INTRODUCTION**

Today's businesses are growing increasingly with an infusion of digital technologies. Digital technologies and digitized data (i.e. Digital representation of physical data) refers to digitalization that enhances operational efficiency and generates higher revenue to business. Digitalization embraces innovative technologies to navigate the challenges in the digital era. This necessitates automation of business activities spanning from customer engagement to supply chain management that drives competitive edge. In short, adoption and assimilation of digital tools and digital technologies promotes digital strategy and reconfigured business landscape to face market dynamics and helps to gain value producing opportunities. Most popular digital technologies are Artificial Intelligence, Data Analytics, Block Chain, IOT (Internet of Things), Robotic Process Automation (RPA), Big Data, and Machine Learning etc.

A successful assimilation of digital technology into all areas of business requires data strategy, digital processes, and organizational change. Thus, digitalization renovates business environment that enables to best engage, interact, and support the customers. Forbes (2023) evident EDT (enterprise digital technology) optimizes complex supply chain processes and aligns marketing demand by harnessing data that ultimately enhances profit. EDW (Enterprise Data Warehouse) combined with advanced analytics foster collaboration and efficiency that contributes to the development of new business insights. Similarly, KMPG (2023) survey marked that investment on digitalization has increased employee productivity, operational insights, customer experience enhancement, and value creation. Hence, digitalization facilitates greater agility for digital enterprises can outperform market needs and can retain market share.

Everyday business generates massive streams of data like supplier contacts, invoice processing receipts, vendor management, employee information, customer feedback data etc. This creates business capability to integrate enormous amount of structured and unstructured data from various internal and external entities; and imposed demanding need to develop applications for integrate all the data on a single platform and explore new insights that can propel the businesses towards

success. Hence, the arrival of digital tools and technologies has heightened the expectations of robust data strategy, accurate analytics, and stronger regulatory compliance to leverage the business resilience across various industries. Data analytics is one such tool that helps the organizations to utilize the data smarter to identify patterns and create models to make more informed decisions. This article considered the application of data analytics in business and challenges faced in acquisition of business data analytics in current scenario.

## **II. BUSINESS DATA ANALYTICS**

Business analytics is a powerful tool that can keep a company forefront in marketplace and an emerging field with career enrichment on data management, machine learning, and artificial intelligence. Business analytics refines past and present data by which organizations can obtain valuable insights to make decision and can build sophisticated business models for future development. Business analytics utilize data driven methodology and relies on the statistical methods and technologies to analyze the data and to uncover new insights that help to make a strategic decision for future improvement. It uses machine learning and artificial intelligence technologies to predict and generate more efficient productive system for daily operations and to gain competitive edge. Data driven decision making with process mining supported by business intelligence is gaining eminence globally. Hence, business analytics is an indispensable tool for businesses to flourish real time business environment.

There are number of research studies have done on business analytics in different industry in both academic and trade journals. Academic scholars and practitioners have attempted to find the various aspects of business analytics in the field of business and performance of organization. Some of the literatures are reviewed and are analyzed below.

Watson (2009) defined business analytics as a broad category of applications, technologies, and processes for gathering, storing, accessing, and analyzing data to help business users make informed decisions. Beller and Barnett (2009) described business analytics as a set of skills, technologies, applications, and practices required for continuous iterative exploration and investigation of past business performance to gain insight and drive business planning. Davenport and Harris (2007) describes Business Analytics is the extensive usage of data, statistical, quantitative analysis, explanatory, predictive and fact based decision making and action.

Delen and Ram (2018) pointed four different analytical approaches such as descriptive analytics, diagnostic analytics, predictive and prescriptive analytics. The descriptive analytics explain the relationship in data and classify customers or group customers (Hair, 2007). The diagnostic

analytics finds the causal relationship such as to find the cause of customer displaying a particular type of behavior. Prescriptive analytics is more complex as it uses optimization and scenario building techniques to evaluate the different solution alternatives in an organization (Banerjee et al, 2013). Predictive analytics is considered an advanced form of analytics that transforms operational data into strategic insights for the organizations improved decision making process (Bose, 2009). Using Predictive models can analyze past customer behavior to predict their future behavior and manage all the customer life cycle phases from customer acquisition and customer development to customer retention (Hair, 2007).

Germann et al. (2014) in their study conducted research in 8 industries across the Americas, Europe, Middle East, Africa, and Asia and found that business analytics direct to a significant increase in the firm's business performance. Business Analytics is the assimilation and up gradation of business capabilities to achieve strategic benefits such as new product development, research and development, and technology commercialization to improve operational effectiveness, firm performance, and competitive advantage (Momaya, 2019).

Sharma et.al (2014) found that business data analytics helps firms generate better customer insights, provide superior customer experience, offer customized products, integrate business processes, improve firm's performance, and create a strategic competitive advantage. Similarly, Davenport and Harris (2007) stated the organizations that have successfully channeled the data analytics capabilities as a strategic advantage and firms are increasingly considering the implementation of business analytics for improving competitive edge globally.

Satish and Yosuf (2017) have proven the use of business analytics for generating crowd sourced business intelligence and its impact on customer satisfaction and loyalty, revenue, and greater employee satisfaction. Anshari and Lim (2018) suggested that personalization, customization, quick response, multichannel interactions, cost effectiveness, and competitive value are the benefits gained in adoption of business analytics. Similarly, Marshall et al. (2015) studied 341 users of business analytics for the innovation process and found that organizations that use big data are 36% more likely to outperform their competitors in revenue growth and operating efficiency.

Conversely, research studies revealed that implementation of business analytics is a complex and challenging process. Many firms struggle with the successful implementation of business analytics (Bean and Davenport, 2019). A trade report entitled "Big Data and Executive Survey (2019)" found that 77.1% of the managers believed that business analytics adoption to be a significant

challenge. Martin and Matlay (2001), without proper understanding of technology adoption, firms find it difficult to advance the adoption of technologies.

Coghlan et al. (2010) found that less than 20% of firms could successfully implement business analytics and achieved business benefits. Verma (2017) study identified that cost was a significant factor that negatively influencing business analytics adoption in Indian manufacturing firms. Similarly, Cosic et al. (2015) study did not find cost as a business analytics adoption barrier in Australian firms. In addition, research studies conducted in developing countries revealed that technological complexity to be a challenge for many organizations (Agrawal, 2015; Lai et al., 2018; Sam et al., 2018). Also, research studies on conducted in developed countries did not indicate that technological complexity as a significant challenge for business analytics adoption (Chen et al., 2015; Cosic et al., 2015; Ramanathan et al., 2017; Troilo et al., 2016).

Banerjee and Banerjee (2017) have suggested that firms in India are often experience difficulty and complications in collecting data from sources including the lack of standardization of data. A large population of India resides in rural and semi-urban areas. Therefore, expanding the data footprint can be challenging for many organizations in India. Marda (2018) found a lack of quality and relevant publicly available data in India, which could restrict its usage by firms from various industries. Momaya (2019) found that probable reasons for low success in managing new technology in India is the lack of understanding about the tools and technology usage and the lack of skilled human resources. Xavier et al. (2011) suggested that employee's technical skills in business analytics is an inhibitor for adoption in India.

The above literatures highlight the growing interest on investing business data analytics as a means to deliver strategic imperatives and obtain competitive advantages widely. Besides, such investments are driving the demand for more skilled professionals with business data analytics knowledge and experience. Consequently, global completion and customers demands on exceptional data quality and enormous data collection are often quite significant problem that requires prompt solution. Moreover, acquisition of business data analytics covers challenges like budget constraints, ROI, legacy system, talent struggles, security concerns, culture change, and change management and so on. Hence, the strategies and methods used to safeguard the business information are growing complex, organizations capacity to enact new capabilities, and security on personal privacy are significantly raised. Various techniques are available to resolve the data analytics exceptions and learning to use the data analytics are explained below.



### **III. OVERCOMING DIGITAL CHALLENGES**

In spite of all the facts and figures, there is some resistance in adopting digital solutions. They are determined below.

#### **1. Data barriers**

Data driven organisations overwhelmed with the data issues such as the amount data to be collected, sorting and categorisation of data, data quality and reliability, data silos, and data standards. This demands centralised and automated data system to collect, organize, compare, and visualize information in an appealing format. This facilitate new trends, time-saving, and can gain real time insights that outcome high degree of accuracy, speedy decision making, and value to business.

#### **2. Knowledge and skills barriers**

Organisations struggle with the skills needed to use the new technologies as Big Data, Business Intelligence, and Data Analytics. Employees may not have the knowledge, ability, and skills to compute exhaustive analysis. Learning to use data tools can network opportunities and simplify works. Therefore, organisations must ensure skills at hand to extract and harness the data efficiently. This can build robust analytics and competency to make more wise decisions.

#### **3. Technical barriers**

This relates to the architecture and software required to build data privacy into business analytics. This covers hardware and software obstacles such as data protection, data storage, transparency, and high bandwidth internet connection. This outlined laws, legislations, internal procedures, and privacy policies. Designing innovative business models, privacy friendly business practices, compliance with access control, server based platforms, and security measures can help organisations to offer extra layer of security and take advantage for generating value.

#### **4. Organisational barriers**

This refers to the barrier that presents within a company like resistance to change, change in organisation structure, data driven culture, top management support, resource constraints, and audit reports. Such as budget constraint on procuring data analytics, experts for assistance, time to prioritize the projects, and accountable control system plays vital role to ensure data analytics benefits to consumer and business alike. Hence, resources are required to explore opportunities,

match data driven business capacity and growth that ensures more empowered and prompt response to business circumstances.

#### IV. CONCLUSIONS

In line with the challenges, Research studies suggest that organizations should develop a culture among the employees to use digital tools for making business decisions. They must focus on developing an appropriate technological environment for successful Business Analytics acquisition (Nam et al., 2019; Puklavec et al., 2018; Oliveira et al., 2012; Gupta and George, 2016). The execution of business data analytics at all levels confined on the activities sponsored by the top management. Gangwar (2018) pointed out that top management support reprovng the acquisition of business data analytics in India. The support and sponsorship entails the availability of financial resources from the top management. Hence, development of strategies provides the necessary resources that can lead the organization to gain industry specific knowledge to leverage business analytics for competitive edge. Besides, research studies evident the negative effect of complexity on technology adoption (Verma and Bhattacharya, 2017; Gangwar, 2018; Lai et al., 2018). Therefore, organizations must ensure readiness in data analytics adoption with the availability of hardware and software infrastructure within the organisation. Further, they must educate and train their employees to reduce the complexity in the implementation and use of the Business Analytics technologies.

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**A STUDY ON INTRODUCING VARIOUS NEW TECHNOLOGIES IN EMERGING ORGANIZATIONS AND THE HITCHES**

**<sup>1</sup>Ms. V. Anitha and <sup>2</sup>Karthicksrivatchan K.A**

*<sup>1</sup>Assistant professor, Department of management studies,  
Sri sairam engineering college, Chennai.*

*<sup>2</sup>Student, Department of management studies,  
Sri sairam engineering college, Chennai.*

**ABSTRACT**

*In today's rapidly changing environment, organisations face both possibilities and problems due to the unrelenting speed of technological innovation. This abstract examines the current problems that businesses have while introducing new technology, illuminating the difficulties and ramifications of this vital procedure. The speed at which technology is changing is one of the most important concerns. Keeping abreast of the most recent developments while guaranteeing the smooth integration of new technologies into their current infrastructure is a challenge that many organisations face. Disruptions, inefficiencies in operations, and heightened employee resistance may result from this disparity. Concerns about security and privacy are also quite important. Protecting private data from hacks and breaches is a never-ending struggle for enterprises using data-driven technology. Because of the relentless pace of technology advancement, companies must deal with both opportunities and challenges in the quickly evolving modern world. This abstract explores the challenges that firms face today when they implement new technology, shedding light on the complexities and implications of this crucial process. One of the most significant issues is the rate of technological change. Many businesses struggle to stay up to date with the latest advancements while ensuring that new technologies are seamlessly incorporated into their existing infrastructure. This discrepancy might lead to disruptions, operational inefficiencies, and increased staff resistance. Privacy and security concerns are also quite essential. For businesses utilizing data-driven technology, safeguarding confidential information from intrusions and breaches is an ongoing challenge.*

**Keywords:** Technological Innovation, Organizational Challenges, Technology Implementation

**I. INTRODUCTION:**

Modern management methods are a reflection of how business and leadership are changing in the twenty-first century. Redefining occupational responsibilities and skill sets in light of fast technology breakthroughs like automation and artificial intelligence (AI) is a major problem. Concerns about

diversity and inclusion have taken front stage as businesses attempt to provide fair work environments that maximise the potential of a varied workforce. In light of the expanding environmental restrictions and concerns, sustainability and environmental responsibility are also critical considerations. The COVID-19 epidemic has hastened the shift to remote work, compelling managers to investigate novel approaches to teamwork and worker engagement. Furthermore, marketing and customer relationship management must constantly change due to the shifting expectations of consumers in an increasingly digital environment. Effective management in this changing environment necessitates accepting these difficulties as chances for development and innovation, which fundamentally need flexibility and agility.

Due to its revolutionary effect on firms, the introduction of new technologies is one of the most significant concerns in contemporary management practices. Technology increases production and efficiency, enabling businesses to maintain their competitiveness in a fast-paced global marketplace. It facilitates data-driven decision-making and offers insightful information for long-term planning. Using technology to its full potential also creates new opportunities for cooperation and communication, two things that are essential in a remote and global workforce. Technology also encourages creativity and aids companies in adjusting to the shifting needs of the market. It does, however, present certain difficulties with regard to worker skill development, cybersecurity, and ethical issues. In this situation, successful management demands a cautious integration of technology while tackling these obstacles to long-term success and development.

## **II. REVIEW OF LITERATURE**

Smith and Johnson (2019) examine the difficulties businesses have while using cutting-edge technology in their study. To guarantee a smooth transition, they stress how crucial it is to coordinate organisational strategy with the deployment of technology. The authors draw attention to the recurrent problems of staff training, cybersecurity concerns, and reluctance to change. They contend that an all-encompassing strategy that takes into account organisational and psychological factors in addition to technical ones is necessary for successful technology integration.

Brown et al. (2020) examine in-depth the effects of cutting-edge technology like AI and IoT on modern business procedures. They emphasize that although technology brings significant advantages in terms of productivity and creativity, data privacy and algorithmic prejudice are important ethical issues. Furthermore, they contend that in order for businesses to stay on the cutting edge of technological innovation, they must cultivate a culture of flexibility and ongoing learning.

Smithson and Chen (2018) investigate how leadership affects an organization's adoption of technology. Their analysis emphasises how crucial visionary leadership and change management

techniques are for navigating the challenges of implementing new technologies. They contend that in order to optimise the advantages of technology while reducing disruptions, leaders must promote a culture of experimentation and learning, address the fear of job displacement, and cultivate a feeling of shared purpose. These three studies of the literature offer insightful analyses of the current problems with new technology implementation in organizations, including strategic alignment, moral dilemmas, and the critical role of leadership.

### **III. OBJECTIVES OF THE STUDY**

- To identify What are issues faced by the organization during implementation of new technology.
- To identify What are the problem in adopting new technology by employees.
- To identify how organization go through challenges and make employee to adopt new technologies.

### **IV. RESEARCH METHODOLOGY**

The term "research methodology" describes the methodical strategy and procedures used in a study to collect, examine, and evaluate data in order to find answers to research questions or validate hypotheses. It includes the general structure of a research study and describes the procedures for gathering, selecting, and analysing data. In order to guarantee the validity and reliability of their findings, researchers use research methodology to help them choose the best study design, data sources, and instruments. To draw meaningful findings and add to the body of information already known in their particular domains, researchers must maintain rigour and precision in both qualitative and quantitative research.

#### **Research**

A thorough examination or enquiry, particularly via the pursuit of new information in any field of study, is called research. A researcher is someone who does thorough, critical investigation or analysis to find facts or principles and determine some of them.

#### **Research Design**

A fundamental structure that offers direction for the entire research process is known as research design. The procedures for gathering and analysing data are laid out in the research design. The research is related to a descriptive research study because it makes use of primary data.

## **Descriptive Research**

A population's or phenomenon's characteristics are described through descriptive study. It answers the "what" question, which is, what qualities of the population or circumstance are under consideration, rather than the how, when, or why the characteristics happened (examined), the traits that are typically employed to characterise the circumstances or populations are some sort of descriptive categories are another name for a category scheme.

## **Data Collection Primary Sources**

Primary sources of data are those that are not easily accessible and need personal effort to gather. The other kind of source used to get the data is known as the primary source. The primary data are gathered through a structured survey.

## **Secondary Sources**

The additional significant sources that were used to gather the data are known as secondary sources. These are easily accessible sources of data that don't require much work to gather because they have already been gathered and processed in an antiquated way by a few research specialists. and unique. Secondary data is gathered via online sources. publications research paper.

## **Questionnaire**

A systematic questionnaire was used to gather the primary data. The following are the components of the structured questionnaires that were created:

- Likert 5-point scale
- Questions with multiple choice
- Question of ranking.
- A free-form query.

## **Sample Design**

To put it simply, sampling is the process of inferring characteristics about a population from a sample taken from it. Using this approach, conclusions are made by considering a small subset of the universe as indicative of the entire mass. "A cross section or little image of the data is called a statistical sample. the totality of the group or aggregate that the sample is drawn from.



## **Sample Size**

The number of items chosen from the population to make up a sample is referred to as the sample size; the ideal sample size is one that satisfies the needs of reliability, flexibility, and efficiency representatives. Utilising a basic random sample method responders are chosen for the investigation's objectives. 105 people filled out the questionnaire.

### **Statistical tools:**

#### *Chi-Square Analysis*

A statistical approach for determining the significance of a difference between experimental data and theoretical values obtained under a theory or hypothesis was devised by Karl Pearson in 1900. A chi-squared test, sometimes known as an X-2 or chi-square test, is a statistical hypothesis test in which, in the event that the null hypothesis is true, the sampling distribution of the test statistic is a chi-squared distribution, or in which this is asymptotically true, meaning that, if the null hypothesis is true, the sampling distribution can be made to approximate a chi-squared distribution as closely as desired by increasing the sample size.

#### *Correlation*

Correlation analysis is a technique used to examine the relationship between two variables. Two-variable studies are common in statistical analysis, when a change in one variable's value results in a change in another's value. It aids at Determine if there is a positive or negative correlation between the two variables.

#### *One-Way Annova:*

A statistical technique called one-way analysis of variance (ANOVA) is employed to determine if the means of three or more independent (unrelated) groups differ significantly from one another. When comparing means across many levels of a single category variable, it is very helpful. The analysis entails dividing the overall variability in the data into two parts: the variability within each group and the variability between group means. ANOVA compares these two sources of variability to ascertain if group mean differences are statistically significant or if they may have resulted from pure chance. The data inside each group are assumed to be normally distributed and to have equal variances using this technique.

**V. DATA ANALYSIS AND INTERPRETATION**

To find the relationship between the training given and how those training helped the employees to over come the problems in new technology in an organization

**HYPOTHESIS:**

Null Hypothesis (Ho): There is no association between training and overall level of training helped for Workers.

Alternative Hypothesis (H1): There is a association between training and overall level of training helped for workers.

**Table 1 Showing Chi-Square Test For Training And How Overall Level Of Training Helped Workers**

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.338 <sup>a</sup>	6	.018
Likelihood Ratio	14.345	6	.026
Linear-by-Linear Association	7.102	1	.008
N of Valid Cases	106		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 2.91.

**INFERENCE:**

The null hypothesis is disproved as the p-value (0.018) is less than the significance level (0.05). As a result, there is a correlation between training and the overall degree of assistance provided to employees.

**CORRELATION:**

To find the correlation between the age and their attitude towards adapting new technology.

**HYPOTHESIS:**

**NULL HYPOTHESIS (Ho):** There is no significant relation between age and their attitude towardsadapting new technology

**ALTERNATIVE HYPOTHESIS (H1):** There is a significant relation between age and their attitudetowards Adapting new technology

**Table 2 Showing The Correlation Between The Age And Their Attitude Towards Adapting New Technology**

Correlations			
		AGE	HOW_DO_YOU_REACT_TO_ADOPTING_NEW_TECHNOLOGY_IN_AN_ORGANISATION
AGE	Pearson Correlation	1	.045
	Sig. (2-tailed)		.652
	N	105	105
HOW_DO_YOU_REACT_TO_ADOPTING_NEW_TECHNOLOGY_IN_AN_ORGANISATION	Pearson Correlation	.045	1
	Sig. (2-tailed)	.652	
	N	105	105

**INFERENCE:**

From the above table it was clear that the age and their attitude towards adapting new technology are positively correlated. Correlation coefficient at 99% significant level is 0.045. Significant level at 2 tailed test was 0.652.

**ONE WAY ANOVA:**

To find the difference between the challenges related to implementing new technology and difficulties in work while learning those new technology in the organization.

**HYPOTHESIS:**

**NULL HYPOTHESIS (H<sub>0</sub>):** There is no significant difference between implementing new technology and difficulties in work while learning those new technology in the organization

**ALTERNATIVE HYPOTHESIS (H<sub>1</sub>):** There is a significant difference between implementing new technology and difficulties in work while learning those new technology in the organization.

ANOVA					
challenges_related_to_implementing_new_tech_in_your_org					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.696	4	.174	.772	.546
Within Groups	22.748	101	.225		
Total	23.443	105			

**INFERENCE:**

Since the computed value (0.546) is more than level of significance (0.05), the null hypothesis is accepted. Therefore there is no significant difference between implementing new technology and difficulties in work while learning those new technology in the organization

**VI. SUMMARY OF FINDINGS, SUGGESTIONS AND CONCLUSION**

The majority of responders are in the 21–30 age range, Men make up the majority of those surveyed and majority of the respondents are working in private employee, Majority of the respondents are ug degree holder, majority of the respondents agreed that they faced challenges related to implementing new technology in your organization, majority of the respondents are saying that they are given limited training, majority of the respondents says training increase their confidences, maximum number of the respondents says they keep support team for the work till they complete learning new technology, majority of the respondents says within 1 year the company reaches their breakeven point, majority of the employees says IT department faces many difficulties in new technology, majority of the employees says more and more training could help to overcome difficulties in new technology, majority of the employees feels that new technology helps in increase operational efficiency, majority of the employees says they are regularly given feedback.

**VII. SUGGESTIONS:**

Employee recognition can be improved, as it makes a huge difference by way of encouraging their skills and contribution towards the work, makes the employees to feel satisfied in their role.

Employee Assistance program can be improved, as it provides counselling and support services for employees which helps to reduce the stress and increase their well-being and Proper practical and theoretical training awareness program can be provided to the employees about the new technology at the workplace which helps the employees to work effectively, training can be provided in the organisation can be improved, To enhance the wellbeing of employees, the organisation can offer cycle to work scheme and also, Organisation can conduct a regular performance review to identify the employees' strength and weakness, and help them to improve in the area where they lack, will lead to job advancement.

**VIII. CONCLUSION:**

Introducing new forms of technology in the contemporary world is an inherently complex and challenging endeavor. While technological advancements hold immense promise for improving our

lives, they also give rise to a multitude of contemporary issues that must be addressed to ensure their successful integration. In a rapidly evolving landscape, several key conclusions can be drawn about the challenges faced when introducing various forms of new technology. Firstly, the pace of technological innovation often outstrips society's ability to adapt. This misalignment can create disruptions, exacerbate inequalities, and lead to resistance or fear among certain segments of the population. Secondly, privacy and security concerns have become paramount. As new technologies collect vast amounts of personal data and interconnect our lives, safeguarding this information from breaches and misuse has become an ongoing challenge. Thirdly, ethical dilemmas are increasingly prevalent. Technologies like artificial intelligence and biotechnology raise profound questions about issues such as autonomy, accountability, and the potential for bias and discrimination. Moreover, the environmental impact of technology cannot be ignored. The proliferation of electronic waste and the energy consumption of data centers and devices necessitate eco-friendly solutions and sustainable practices. Lastly, the digital divide remains a pressing issue, as not all communities have equal access to new technologies, hindering their ability to benefit from them.

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**AI AND CHANGE THE TEACHER ROLE**

**<sup>1</sup>Dr. G. Nagarajan and <sup>2</sup>B.Jeevitha**

*<sup>1</sup>Professor, Department of Management Studies,  
Global Business School, Melvisharam.Ranipet, Tamilnadu.*

*<sup>2</sup>Asst.Professor, Department of Management Studies,  
Global Business School, Melvisharam.Ranipet, Tamilnadu.*

**ABSTRACT**

*The article concentrated on the way AI could potentially change the role of the teacher in the future. A new era of learning is being ushered in by artificial intelligence (AI), which is revolutionizing education by altering the conventional role of teachers. This study explores the profound changes that artificial intelligence (AI) brings to education, focusing on the ways that AI impacts pedagogy, student engagement, and the educational process overall. Among the main concerns are the integration of AI-driven tools into the classroom, the dynamic of teacher-intelligent system collaboration, and the evolving responsibilities of the modern educator. Through an analysis of impending trends and difficulties, this essay provides insights into how educators should proactively embrace AI to enhance their teaching methods and better prepare students for a dynamically shifting future.*

**Key words:** AI, Path way of AI, Practice in AI.

**I. ARTIFICIAL INTELLIGENCE (AI)**

Artificial Intelligence (AI) is emerging as a potent catalyst in the era of digital alter, with transforming a number of industries, including education. The application of AI holds enormous potential to revolutionize teaching and learning processes as India moves closer to being a worldwide center for education. This introduction offers an overview of the rapidly changing field of artificial intelligence (AI) in Indian education, examining the disruptive potential, obstacles, and overall effects on the educational ecosystem.

India is poised to lead the way in a technology revolution in education because to its broad and diverse education system. The development of AI offers a previously unheard-of chance to solve problems and improve educational results. Applications of artificial intelligence (AI) in education are diverse and include intelligent tutoring systems, adaptive tests, automated grading, and personalized learning platforms.

***Diversity of Learning Styles:*** Meeting the requirements and varied learning styles of a large student body is one of the major issues facing the Indian educational system. By enabling tailored learning experiences and customizing content and pacing to meet the needs of each individual learner, AI provides a solution. This flexibility could fill in knowledge gaps and guarantee that no learner is left behind.

***Improved Teaching Methods:*** AI gives teachers more power by giving them insightful data on student performance, pointing out areas of strength and weakness, and making customized intervention suggestions. Teachers can improve their methods and deliver lessons in a more focused and efficient

manner by using AI-driven analytics. The potential for improving educational standards nationwide exists in the symbiotic relationship that exists between educators and AI.

***Fair Access to High-Quality Education:*** Ensuring fair access to high-quality education is a recurring concern in India, a nation known for its size and diversity. AI has the ability to democratize education by giving underprivileged and isolated areas access to online educational materials. When it comes to enhancing traditional classroom environments, online resources and intelligent tutoring systems can be quite helpful, especially in areas with little educational infrastructure.

***Preparing a Future-ready Workforce:*** With India attempting to establish itself as a major role in the global economy, there is a greater need than ever for workers who are prepared for the future. With the use of artificial intelligence (AI), education may better prepare students for success in the changing labor market by teaching them critical thinking, problem-solving, and adaptability abilities in addition to subject-specific knowledge. Notwithstanding the optimistic outlook for advancement, one must exercise caution when navigating issues like data privacy, ethical dilemmas, and the digital divide. To guarantee that AI acts as an enabler rather than a disruptor in education, it is essential to strike a balance between technology innovation and the human touch.

## **II. PATH WAY OF ARTIFICIAL INTELLIGENCE (AI)**

The journey of artificial intelligence (AI) in Indian education is taking place at this exciting nexus of tradition and technology. It has the ability to revolutionize the educational system and equip the country's children for a future characterized by knowledge and innovation. These days, AI technology has advanced significantly along with advances in global science and technology. AI technology is widely applied in many different sectors and is updated often (Pannu, 2015). Unquestionably, AI is becoming more and more integrated into the classroom and teaching methods used in educational institutions. As the technology advances, more and more individuals become aware of its significance in the sphere of education. AI has been widely applied in the education field and has shown large application advantages, which has a dramatic impact on the teaching process and classroom management (Chassignol, Khoroshavin, Klimova, & Bilyatdinova, 2018; Roll & Wylie, 2016). AI has the ability to constantly enhance and optimize the learning environment while igniting students' passion, initiative, and inventiveness (Colchester, Hagra, Alghazzawi, & Aldabbagh, 2017; Yang & Bai, 2020). At the same time, it can considerably increase the classroom management level of teachers and ensure that classroom management is more reasonable and efficient (Tuomi, 2018; Wang, 2020).

AI technology is evolving in tandem with the modern sciences' and technologies' rapid development. The findings of related research have made it possible to apply AI in education more broadly, and it has demonstrated positive application impacts that have aided in teaching improvement. The full integration of teaching and learning has been made possible by the application of AI in education, and it has also created a chance for teaching and learning reform. The use of AI in education is thoroughly analysed and summarized in this article.

## **III. AI'S PRACTICE IN EDUCATION**

Global interest in AI research has increased after 2016 when AlphaGo upset world Go champion Lee Sedol (Borowiec, 2016) with a high score of 4:1 in the game. An increasing amount of research on artificial intelligence (AI) in education focuses on using AI to support instruction, create smart



campuses, and achieve intelligent teaching, learning, and administration. Image recognition technology, facial recognition technology, adaptive learning and other AI technologies are applied to the education sector, launch a series of changes in the area of education, increase instructors' job efficiency (Kuo, 2020) and students' learning experience (Cui, Xue, & Thai, 2019). Additionally, big data and AI technologies are integrated to thoroughly examine and evaluate instructional data; this can also support educational reform and raise the standard of instruction (Williamson, 2018). The literature on AI's effects on intelligent tutoring robots, virtual classrooms, smart campuses, adaptive learning, and teaching assessment will next be reviewed.

### *i) Adaptive education*

AI facilitates the growth of adaptive learning, which applies real-time analysis, learning analytics, data mining, and intelligent teaching systems. In order to support students' learning, adaptive learning aims to integrate all facets of practice, instruction, assessment, and learning into the system (Van Der Vorst & Jelcic, 2019). According to Cui et al. (2019), the adaptive learning system may gather data on student learning behavior, determine the best possible learning path for each student based on an analysis of their abilities, and then push online teaching videos as the final step in the closed-loop learning process. When faced with issues that cannot be resolved through in-class instruction, teachers can receive help from artificial intelligence (AI) in the form of online question and answer services (Goel & Polepeddi, 2016). These days, there are a lot of businesses that offer adaptive learning systems. Some of the more established ones are DreamBox Learning (Grams, 2018), BYJU'S (Tripathy & Devarapalli, 2020), and IBM Watson Education (Russo-Spena, Mele, & Marzullo, 2019). Teachers use these systems in the classroom to enhance the educational experience.

### *ii) Assessment of Instruction*

AI-based teaching and assessment tools like computer vision, picture recognition, and prediction systems are convenient. One of the most important aspects of teaching is evaluating students. Teachers must devote a significant amount of time to completing assessment duties in traditional education, including question preparation, scoring, performance rating, and test paper analysis. AI makes teaching assessment methods more diverse, the assessment process more scientific, and the evaluation outcomes more accurate.

AI technology not only can produce exam questions (Rahim, Aziz, Rauf, & Shamsudin, 2018), but also can automatically correct the assignments and test papers (Li et al., 2018). Teachers often have to correct test papers and assignments. Correcting homework and test papers takes a lot of time, and teachers can get tired quickly. As a result, after a while, there will be some mistakes when revising exam papers. With a low mistake rate, image recognition technology relieves teachers of the laborious task of marking assignments and correcting homework (Li, Cao, & Lu, 2017). In addition to correcting exam papers, artificial intelligence (AI) technology may identify blank and potentially similar papers, saving teachers' time in the classroom.

### *iii) Online Learning Environment*

The advancement of hearing, sensing, augmented reality, and virtual reality technology is helpful for changing the classroom experience. Create virtual laboratories and classrooms by integrating physical

and virtual spaces through the use of ubiquitous computing technology (Encalada & Sequera, 2017; Krumm, 2018).

Natural phenomena or changes in things that are difficult or impossible to observe in real life can be presented in a smart classroom to give students a contextual learning environment. Virtual classrooms use technology to simulate teaching scenarios that are challenging to explain. Presenting information in multiple dimensions increases students' interest in learning and enhances teaching effects. It also allows students to participate with their vision, hearing, kinaesthetic, and other senses, giving them a strong sense of reality and making abstract concepts and theories more comprehensible and visual. Regarding flexibility in course attendance, the hybrid virtual classroom is particularly promising (Lakhal, Bateman, & Bédard, 2017) because it allows students to attend lectures from home or on campus.

#### *iv) Intelligent Campus*

The campus serves as a vital hub for talent development, and the use of AI technology to create smart campuses is emerging as a new trend in the field of education (Dong, Zhang, Yip, Swift, & Beswick, 2020). AI is crucial to campus services and administration. When building a smart campus, face recognition, hearing, and sensing technologies are used (Zhou 2020, An & Xi(2020). By gathering and evaluating large data, intelligent management approaches are produced (Villegas- Ch, Molina-Enriquez, Chicaiza-Tamayo, Ortiz-Garcés, & Luján-Mora, 2019). A collaborative human-machine decision-making model between managers and AI is formed (Liu, Ma, & Jin, 2018). This model can identify issues with the education system's functioning early on, achieve more effective resource allocation, and successfully enhance campus safety.

At the same time, face recognition may also avoid the phenomenon of changing cards and fraudulent usage of other people's certificates, maintaining campus safety (Zhou, 2020). According to Upala and Wong (2019), face recognition technology can also be used to borrow and return books from the library, verify identity using facial recognition data, and enable autonomous book borrowing and return through a book lending and return machine. All of these uses increase library productivity and reduce labor costs. At campus grocery stores and canteens (An & Xi 2020, Liu, Zhou, Zou, Yeh, & Zheng,2018), a camera can be installed at the checkout counter to use image recognition technology to automatically recognize and determine the cost of food or other goods (Ramdani, Virgono, & Setianingsih, 2020),

#### *v) Sensible Tutoring Machines*

Teaching robots are multi-disciplinary and cross-field scientific studies that involve education, computer science, automatic control, materials science, psychology, optics and other fields. According to the perspective of the robot development process, industrial robots served as the primary basis for early robotics technology research and development (Grau, Indri, Lo Bello, & Sauter, 2017). The educational potential of robots has garnered increasing attention along with the popularity of robotics technology. The first instructional robot was developed at the Massachusetts Institute of Technology's AI lab, which was started in the 1960s by Professor Papert (Catlin & Blamires, 2019). Over time, the robots gained intelligence. Educational robots are specifically designed with the goal of developing students' critical thinking, creativity, and practical skills in the classroom. According to Miller, Nourbakhsh, and Siegwart (2008), it possesses the qualities of instructional application, interactivity,

openness, and scalability. A wide range of artificial intelligence (AI) technologies are available for tutoring robots, including voice recognition, emotion recognition that interprets facial expressions and tones, and bionic technology that can mimic human speech, hearing, seeing, and thinking (Yang & Zhang, 2019).

#### IV. DISCUSSION AND IMPLICATION

In the final discussion and implication, the importance of artificial intelligence (AI) technology in education has grown along with economic and technological globalization. Moreover, many countries have prioritized the development of AI technology. The state-of-the-art AI-based education ecosystem is distinguished by the precision, personalization, and flexibility of its administrative and instructional services. Schools, educators, and students face a variety of AI-related challenges as the cutting-edge educational ecosystem is developed. To solve these problems and design the best possible integration of AI technology and education, educators, learners, and other stakeholders in the education ecosystem must work together.

#### V. CONCLUSION

AI will be utilized in education more and more in the future as the technology advances. People can gain a general overview of the state of AI in education by examining the applications of AI in education as well as the difficulties this technology faces in this field. Additionally, it will assist educators and learners in embracing and utilizing AI technology in the classroom, enhance the quality of instruction provided by teachers and learners' learning strategies, and expand and customize the range of learning styles available to them. In an AI powered educational landscape, the role of teachers has to elevate. The future of education lies in synergy between dedicated teachers and possibilities offered by AI, ensuring that students receive the best of both worlds.

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**UNDERSTANDING THE ROLE OF GOLD ETFs IN REMODELING THE INDIAN CAPITAL MARKET**

**Dr. Sheeba K.H,**

*Asst. Professor (Dept. of Business Administration), MES College, Marampally*

**ABSTRACT**

*In India, gold ETFs were launched mainly with objective to increase the liquidity for the better market efficiency. The drawback with gold ETFs is liquidity; some ETFs are illiquid, which impacts their buying and selling flexibility. Hence, investors should consider this as a factor while investing in gold ETFs and should stick to funds that are liquid. Traditionally, Indians love to buy gold and they want to possess it. In fact, they hardly go for ETFs which is just a piece of paper for them. But in India, during the last one year, investment in gold ETFs has risen by Rs. 303 crore. Hence, the study on returns, AUM and NAV should also be undertaken to identify the growth of gold ETFs in India. The proposal hence is made to analyze the role of Gold ETF's in shaping the new investment portfolio in the Indian Capital Market.*

**Key Words:** *Gold ETF, AUM, NAV, Liquidity, Trading.*

**I. INTRODUCTION**

Gold ETFs are open ended mutual funds that help the investor, invest their money in gold which is 99.5% pure. Gold Exchange Traded Funds are also known as paper gold. These are listed on the stock exchanges and investors are assigned units of the mutual fund where each unit often represents one gram of gold. There are ETFs where each unit can represent less than one gram of gold as well. Being passively managed funds, they simply follow the price of gold in the market and so their returns match the returns of gold investor would buy off-line. An investor can buy and sell them on the stock exchange. A gold exchange traded fund is commodity ETF that consists of only one principle asset, Gold. However, the fund itself consists of gold derivative contracts that are backed by gold. Investor does not actually own any gold. Even when the investor redeems gold ETF, they do not receive the precious metal in any form. Instead, an investor receives the cash equivalent. Gold ETFs provided investors a means of participating in the gold bullion market without the necessity of taking physical delivery of gold, and to buy and sell that participation through the trading of units on stock exchange. Gold ETF would be a passive investment; so, when gold prices move up, the ETF appreciates and when gold prices move down, the ETF loses value. Gold ETF tracks the performance of Gold Bullion. Gold ETFs provide returns that, before expenses, closely correspond to the returns provided by

physical Gold. Each unit is approximately equal to the price of 1 gram of Gold. But, there are Gold ETFs which also provide a unit which is approximately equal to the price of ½ gram of Gold.

## **II. STATEMENT OF PROBLEM**

In India, gold ETFs were launched mainly with objective to increase the liquidity for the better market efficiency. The drawback with gold ETFs is liquidity; some ETFs are illiquid, which impacts their buying and selling flexibility. Hence, investors should consider this as a factor while investing in gold ETFs and should stick to funds that are liquid. Traditionally, Indians love to buy gold and they want to possess it. In fact, they hardly go for ETFs which is just a piece of paper for them. But in India, during the last one year, investment in gold ETFs has risen by Rs. 303 crore. Hence, the study on returns, AUM and NAV have been undertaken to identify the growth of gold ETFs in India. The proposal hence is made to analyze the role of Gold ETF's in shaping the new investment portfolio in the Indian Capital Market.

## **III. RESEARCH OBJECTIVES**

- To analyze and compare the historical data of various gold ETFs in India.
- To track the performance of gold ETF in relation to returns on daily, weekly ,monthly, quarterly and yearly basis.
- To analyze the performance of AUM and NAV of gold ETF companies.
- To analyze the future expected returns of gold ETF on quarterly basis.
- To offer suggestions based on the findings of the study.

## **IV. METHODOLOGY**

**Approach:** The study basically relates to Management. Source materials are needed to be drawn from different branches of Management and Economics. Aspects of Shifts in Gold purchase are integral to basic concepts of Behavioural Psychology, and as such, the proposed study is interdisciplinary in character and it is based on a fundamental premise that growth of technology has contributed much to this phenomenon.

**Data Collection:** The study requires primary and secondary data. Three districts from three different zones of Bangalore are selected as project areas to study and analyze the changing phases of Gold. For collecting primary data, the envisaged field survey comprises an individual survey and an institutional survey to be conducted in each of these districts. For a thorough investigation, structured schedules containing aspects of multifarious facets of the subject of enquiry were prepared and administered in consultation with the Research Guide and other Experts in the subject area. A comprehensive review

of relevant literature including books, articles, news reports and other published and unpublished documents will serve as sources of secondary data.

**Analysis:** A study on changing phase of Gold is multidimensional requiring a comprehensive approach. Analytical tools specific to those aspects were improvised and employed in the present study, apart from the conventional statistical and analytical tools that are appropriately applicable to the nature of the data to be collected and conforming to the stated objectives of the study.

## **V. AVENUES FOR TRADING AND INVESTING IN GOLD**

The rise of Exchange traded funds (ETFs) appears to be the unfolding big investment story. With investors ploughing money into ETFs, the total asset under management has more than tripled from 4,283 crore in May 2012 to 14,008 crore by the end of May this year. The ETF is finally coming onto its own in India. “Globally, it took over a decade for ETFs to take off and that could play out in India as well,” says Vikaas Sachdeva, CEO, Edelweiss Mutual Fund. The first Indian ETF, Nifty BeES, was launched in January 2002. But the first decade for these funds was insipid. “The inflexion point is just a couple of years away. It took 11 years for global ETFs to reach an asset size of \$1 trillion, but it doubled in the next five years,” says Sachdeva. Surprisingly, it is the non-Nifty ETFs that have led the growth over the past three years.

### ***The triggers***

Growing investment demand for gold has made investors flock to gold ETFs. These are preferred over physical gold due to the ease of storage and higher liquidity. Gold ETFs currently account for almost 48 per cent of all ETF assets. The Centre’s decision to divest its stake in public sector enterprises led to a surge in the CPSE ETFs that have public sector enterprises as their underlying asset. This segment garnered 2,414 crore and accounts for a fifth of the total assets. A surge in the demand for ETFs based on banking shares over the past year is the third reason for their surge. Goldman Sachs’ Bank BeES has seen assets increase from 143 crore in May 2014 to 1,434 crore by May 2015. Kotak Banking ETF has similarly garnered 566 crore over the past year. The increased demand in banking ETFs is driven mainly by insurance companies, says Sachdeva. “Buying a Nifty ETF can make insurance companies exceed the sector limits in some sectors. Buying bank ETF does not come with this risk.” According to an NSE spokesperson, many brokers are encouraging investors to invest in ETFs through SIPs (systematic investment plans). “People are willing to put money into the market as they do in a recurring deposit.” About 30,000 such accounts were set up in FY15.

***Lagging globally***

While the growth in the last three years is heartening, the ETF segment in India lags far behind its developed market peers. The NYSE, for instance, has 1,470 ETFs listed on it. The Deutsche Borse with 1,032 ETFs, SIX Swiss Exchange with 841 ETFs and Euronext with 618 ETFs are the other major exchanges that lead in ETF trading. In contrast, the NSE has fewer than 50 ETFs listed on it. In January 2015, the value of ETFs traded on the NYSE was \$459 billion while \$268 billion of ETFs were traded on the Nasdaq OMX, according to the World Federation of Exchanges. The ETF turnover of \$184 million on the NSE indeed compares poorly. So what is impeding the growth of ETFs in India? “It is actually a broking product sold through a mutual fund channel,” explains Sachdeva. “Push from distributors is important to attract retail investors. Since ETF is a low-margin, high-volume business, the marketing push is taking time.” Lack of options could be another factor. Compared to the Nifty ETFs, the CPSE, gold and bank ETFs are gaining traction.

This shows that investors are attracted to novel strategies. While the NSE has numerous thematic and strategic indices such as the CNX Dividend Opportunity Index, NSE quality index, CNX Consumption Index or CNX Service Sector Index, fund houses are yet to launch ETFs based on them. The assets of these funds are also set to grow with the government allowing the EPFO (Employees’ Provident Fund Organisation) to invest up to 5 per cent of its incremental flows into equity through ETFs.

**VI INTRATRADING AND PORTFOLIO PERFORMANCE WITH INVERSE LEVERAGED  
ETF’S**

Numerous studies have examined whether other t5Tes of financial innovations in a traditional ETF (non-leveraged) contribute to significant changes in the underlying securities held by those ETFs. Lin and Chiang (2005) examined the effect of the Taiwan Top Tracker ETF (ticker TTT) on the volatilities of the constituent stocks of that index. They found that the Taiwan Tracker ETF increased the volatility of certain sector-specific stocks, while other stocks categorized as "mixed sector" experienced a decrease in volatility. Richie and Madura (2007) examined the impact of the NASDAQ Quhe ETF (ticker QQQQ) on the underlying NASDAQ 100 securities. They observed an increase in overall liquidity for these stocks, along with a decrease in risk realization. Chu, Hsieh, and Tse (1999) examined the impact of Standard and Poor's Depository Receipts (SPDRs) on the S&P 500 Index. Although futures prices often led the market, the SPDRs contributed significantly to the process of price discovery. Switzer, Varson, and Zghidi (2000) found a significant reduction in mispricing between spot index and futures since the introduction of SPDRs.



Some studies have examined the effects of normal ETFs on the liquidity of the underlying stocks. Hedge and McDermott (2004) examined the effect of two ETFs, the Diamond and the Qube, and found an increase in liquidity for their underlying stocks primarily due to lower informed trader costs. Richie and Madura (2007) extended the work of Hedge and McDermott by looking for a relationship between liquidity effects and the weighting of the components. Their main interest was the Qube ETF, which tracks the 30 Dow Jones stocks. They found that while all constituents increased liquidity, the less heavily weighted components experienced the greater increase in relative liquidity. Taken together, the results described above show that even the traditional ETF, an ever-popular and expanding form of basket trading, can have significant yet diverse effects on its underlying securities.

However, few studies have examined the impact that leveraged and inverse leveraged ETFs have on the returns of the underlying securities they hold. Cheng and Madhavan (2009) found that these funds may destroy value in buy-and-hold portfolios. Moreover, when analyzing daily net asset value NAVs, they provide evidence that the daily rebalancing of ETF portfolios increased the volatility experienced by the constituent stocks towards the close of trading each day. Curcio, Anderson, Guirguis, and Boney (2012) examine the impact of leveraged and traditional ETFs on real estate stock prices 64 days prior to and 64 days post the introduction of the ETFs. Using daily data, they conclude that the underlying stocks of three out of the four ETF groups experienced a statistically significant increase in volatility. The post introduction volatility increase ranged from 50% to roughly three times the price volatility prior to the introduction.

A comprehensive study by Cheng and Madhavan (2009) shows how inverse ETFs need to be rebalanced on a daily basis to maintain a constant leverage, and how this can lead to wealth destruction. This wealth destruction occurs largely because of the resulting path dependence on accumulated wealth that can easily diverge from the underlying index over longer holding periods. Additionally, Lu, Wang, and Zhang (2012) show how the longer term performance diverges from the benchmark through periods of up to one year, and caution investors on their use as substitutes for benchmark indices. This wealth destruction is also aggravated by higher volatility, although Trainor and Baryla (2008) notes an interesting corollary that suggests some of these leveraged ETFs can outperform their respective benchmarks in periods of low volatility. Giese (2010) aptly summarizes the benefit of holding leveraged funds in bullish markets, as well as their benefit as an investment product remaining positive, unlike a short position, but highlights these benefits are offset by increased performance volatility.

Although the first inverse ETF came into existence in 2007, both inverse and leveraged open-ended mutual funds have been in existence far longer. Since 1997, ProFunds has offered an inverse and leveraged version of the S&P 500 index through two mutual funds. By mid-2010, 150 different inverse and leveraged ETFs were available with a total of \$30B of assets under management (see Guedj et al., 2010). Although their track record is brief, the history of these products so far suggests that they are meeting the objectives contained within their offering prospectuses. Unfortunately, the daily re-leveraging of these products results in potential investment management challenges and risks.<sup>1</sup> Many researchers, including Bamhorst and Coccozza (2010), Cheng and Madhavan (2009), Guedj et al. (2010), Trainor and Baryla (2008), and Lu et al. (2012) have noted that daily rebalancing has tended to reduce their stated investment effectiveness over longer holding periods. Furthermore, the limited history of these products prevents longer term studies of historical returns within a diversified portfolio.

### **VII. EFFECTS OF INDEX ETF'S**

Exchange-Traded Funds (ETFs) are investment funds designed to replicate the performance of an index or a specified benchmark as closely as possible. Contrary to conventional index mutual funds, ETFs are listed on an exchange and can be traded at any time in the trading day at market prices. Their shares may also be created and redeemed by the issuer in large blocks on a daily basis, either in cash or in kind. ETFs which replicate benchmark stock indices have developed rapidly since their introduction in North America in the 1990s. Their number reached 2,422 funds by the end of November 2010, with 5,413 listings and assets of US\$1,231.0 billion from 133 providers on 46 exchanges around the world (Barclays, *ETF Landscape Industry Review* (November 2010)). These liquid exchange-traded index securities offer new trading facilities for index portfolio managers, index risk hedgers, and arbitrageurs. They may therefore change trading equilibriums and cross-market pricing relations. In particular, the introduction of ETFs has been shown to tighten the spot-futures no-arbitrage price relation (see Park and Switzer (1995) for the case of the Toronto 35 Index, Switzer *et al.* (2000) for the S&P 500 Index, and Kurov and Lasser (2002) for the NASDAQ-100 Index) (Deville and Riva (2007) also show that ETF introduction significantly improves the joint efficiency of spot and options prices.). However, the literature has not yet investigated how this efficiency improvement actually developed.

Using high-frequency index, futures, and ETF data over two 5-month periods surrounding the introduction of the first ETF tracking the CAC 40 index, a significant improvement in the no-arbitrage pricing relation in the post-ETF period is found. This finding is consistent with those of Switzer *et al.* (2000) and Kurov and Lasser (2002). However, in contrast with Kurov and Lasser (2002), we do not attribute the observed improvement to the increased ease in establishing cash

positions in cash-futures arbitrage trades through use of ETF shares. Complementary empirical work suggests that the post-ETF efficiency improvement may rather arise from a long-run indirect effect of the creation of the ETF market caused by a structural change in the way index traders distribute across markets. The ETF market is likely to provide a second-resort trading venue to some specific categories of traders such as long-term position hedgers and liquidity traders, and this may leave other index markets with a greater proportion of arbitrageurs.

### **VIII. GOLD ETF- THE INDIAN CONTEXT**

Gold, the metal dear to Indians, is becoming less valuable. On 15 April 2013, gold was around 20% cheaper than its all-time high of Rs 32,460 per 10 gm achieved on 26 November 2012. Don't get tempted by the falling prices of the yellow metal. Gold, say market experts, can slide further to return a loss during the year, after 12 consecutive years of annual gains. Commodity experts cite the ongoing financial crisis in the Eurozone and expected decline in India's gold imports as the reasons. "The major rally in gold has come to an end. Any price appreciation in three-four years will be moderate. Investors should buy gold only if they can stay invested for at least 10 years," says Raghvendra Nath, managing director, Ladderup Wealth Management. "The present turmoil in the gold market caused due to the crisis in Cyprus may keep gold prices under pressure," says Vedika Narvekar, senior research analyst (commodities), Angel Broking. "In addition, the metal has lost its safe-haven appeal as risk appetite has increased due to improvement in the global economic outlook. Easing inflation in major economies has also diminished the demand for safe havens," Narvekar adds. In April, the US Dow Jones index touched a record; Japan's Nikkei also hit its five-year high during the month.

According to a World Gold Council report, gold demand in 2012 was down by 12%. However, the market saw a 41% increase in demand in the October-December 2012 quarter from the year-ago period. The demand for the precious metal in the quarter was 261.9 tonnes in value terms. Demand for jewellery and investment reached their highest levels in six quarters. During the quarter, the demand for jewellery rose 35% year-on-year to reach 153 tonnes, while 108.9 tonnes was purchased for investment.

In India, the prospect of increase in prices due to a hike in duty, which came into force in January 2013, might have encouraged people to buy. After the duty hike, India imported around 200 tonnes of gold in January-March 2013, a 24% decline from a year ago

"Fall in gold demand is seen as the result of hike in the import duty to 6% that was announced in 2012," says Narvekar. According to Crisil Research, if gold prices sustain at lower levels,

consumption could grow at a faster pace. However, volatility in prices could limit investment demand in the near term. The prospect of any meaningful recovery in gold remains weak. "Given the lack of any major triggers in the near term, gold prices are unlikely to reverse the downtrend anytime soon," says Kishore Narne, head of commodities, Motilal Oswal Securities. "Small spurts in prices are very much possible, given the rate at which the gold's value has declined. However, such jumps will be followed by a decline in prices. The metal can retreat 12-15% from here in domestic markets during 2013-14," Narne adds.

Basant Vaid, assistant vice president (commodities), Globe Capital, concurs with Narne. "The yellow metal can touch Rs 24,900 per 10 grams in the next few quarters," says Vaid.

### **Return from Gold ETFs (in %)**

FUND	1 MONTH	3 MONTHS	6 MONTHS
Kotak Gold	-12.55	-16.87	-18.54
Reliance Gold Savings	-12.19	-15.77	-18.45
Motilal Oswal Gold ETF	-13.17	-16.96	-17.48
R*Shares Gold ETF	-13.22	-17	-17.48
HDFC Gold ETF	-13.27	-16.99	-17.46
IDBI Gold ETF	-13.23	-16.96	-17.46
Kotak Gold ETF	-13.26	-16.98	-17.45
SBI Gold ETF	-13.24	-16.96	-17.43
UTI Gold ETF	-13.23	-16.95	-17.43
IDBI Gold	-13.15	-16.82	-17.41

#### **Net Analysis**

If one is looking at very long-term then E-Gold is a good option to use. If one is looking at shorter term then gold ETF would probably be a better option. Also, with assets surging, ETF is the next big story.

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**A STUDY ON AWARENESS OF INCOME TAX E-FILING BY THE SALARIED  
EMPLOYEES AT BANGALORE**

**Prof. Sadiq Pasha A**

*Assistant Professor, School of Management, CMR University, Bangalore.*

**ABSTRACT**

*The authorities have placed an undue emphasis on streamlining tax administration. A crucial and cutting-edge e-authorities function is e-filing. For tax checks and payments, it is convenient for taxpayers. Through a few mouse clicks, clients can complete transactions on the internet. E-filing adoption may be significantly influenced by this convenience. For taxpayers, electronic filing offers numerous convenience. A systematic questionnaire has been used to gather primary data. The research study contains just the paid group of individuals since the respondents are only those who get a pay from a company. Given the infinite nature of the population, non-probability sampling is used and sample size is 100 from Bangalore respondents. The study reveals that while the majority of individual taxpayers encounter difficulties during the e-filing process, the income tax department needs to take the necessary steps to provide additional resources to help taxpayers file their income tax returns electronically. Currently, users are aware of and satisfied with the e-filing facilities.*

**Keywords:** Taxpayers, Income Tax, E-Filing

**I. INTRODUCTION**

In order to improve public administration information dissemination and public offering delivery, governments all around the arena are utilizing statistics and verbal exchange technologies more frequently. Therefore, citizens' satisfaction with several aspects, such as the ease of use of these services, is crucial to the success of e-government. In recent years, the Indian government has implemented a number of initiatives. Using traditional methods is not the only way to file, submit, locate, search records, and conduct online transactions to some extent. Additionally, electronic filing allows taxpayers to save time and minimize computation errors on their tax returns. In addition, electronic filing offers the tax authorities numerous advantages. As a result of tax returns being submitted electronically, e-filing reduces carrier provider effort and operational costs. Processing, storage, and handling expenses associated with tax returns are also decreased. The article about the gift addressed the e-filing of income tax returns by means of a focus group consisting of 120 paid employees.

The authorities have placed an undue emphasis on streamlining tax administration. A crucial and cutting-edge e-authorities function is e-filing. For tax checks and payments, it is convenient for

taxpayers. Through a few mouse clicks, clients can complete transactions on the internet. E-filing adoption may be significantly influenced by this convenience. For taxpayers, electronic filing offers numerous conveniences. It is therefore time for data submission, both online and offline, for refunds, etc., Refunds for electronically filed returns handled at CPC, Bengaluru, and online ratification submissions as well as reputation updates verification for ITR-V receipt are all included in this device. Via a cellular interface, certain data is accessible.

## **II. REVIEW OF LITERATURE**

Every review of the literature that is included in this chapter is based on the present investigation. Every review addresses awareness and issues that salaried employees have when submitting their income taxes. Each of these reviews was helpful in developing the research design. This chapter's primary goal was to evaluate the numerous previous research that had been carried out as well as to introduce and take into consideration the new chapters that had not been covered in the earlier studies. The research gap in this chapter primarily outlines the significance and applicability of the current study in relation to earlier research.

**Wang** covered the use of computerized tax filing methods in his study. The adoption of computerized tax filing systems is examined in this article. The study established "perceived credibility" as a new criterion that indicates the user's intrinsic belief in the electronic tax-filing systems, using the technology acceptance model (TAM) as a theoretical framework. The study's conclusions have significant ramifications for creating efficient electronic government services generally and efficient electronic tax filing systems specifically.

**Lalonde** conducted an analysis of the viability of introducing electronic filing for case documents submitted under the NAFTA, the North American Free Trade Agreement. By describing the problems and prerequisites related to the adoption of electronic filing and suggesting a possible course for the future, the paper aimed to start a dialogue and stimulate thought processes among the three national sections of the NAFTA Secretariat and their respective governments.

In their analysis, **Ambali** covered the implemented e-government policy as well as the practical concerns with the electronic filing system. The study involved distributing a questionnaire to participants and conducting unstructured interviews to gather comprehensive data regarding the perceived ease of use, usefulness, security, enabling conditions, and retention of the electronic file system. 450 taxpayers made up the handy and purposeful sample size that was selected for the study throughout the course of two months of data gathering.

In their study, **Azmi et al.** described how taxpayers who embraced the electronic filing method responded. One significant e-government service in Malaysia is the e-filing system. Three dimensions were included in the study's suggested model: perceived utility, perceived ease of use, and perceived risk. There are 200 responders in the sample. Emails were used to distribute the questionnaires. The questionnaire used for the survey was a 7-point Likert scale.

An empirical theory of online tax filing acceptance model was carried out by Lu et al. This paradigm would serve as the foundation for the development of e-government. The study also took norms and tax equity into account. The study concentrated on behavioral control, finding that attitude and subjective norms are the factors influencing behavioral intention (online tax filing intention), and that online tax filing intention influences actual online filing behavior while also having a noteworthy favorable impact on the control of online tax filing behavior.

In their study, **Geetha et al.** concentrated on how people felt about completing their income taxes electronically. The study employed a questionnaire with 200 respondents to determine the outcome in order to evaluate the tax payer's perception and awareness regarding the electronic filing of income tax returns.

In a study, **Meenal et al.** concentrated on the goals of taxpayers with regard to ITR, e-Filing, e-Governance, and e-Return intermediaries. The responsible factor is that it is simple to use and saves time.

**Mamta** clarified that she found the electronic filing method user-friendly. to look into any issues or facilities the taxpayers may have had when utilizing the electronic filing system. 300 respondents were surveyed, and the results were noted in order to assess the situation. It can be inferred that the majority of taxpayers possess sufficient equipment to utilize an electronic filing system at their place of employment or residence, and that the primary motivation for filing returns electronically is convenience.

**Arora** conducted an analysis of the electronic filing procedure in India and the development of the e-taxation system by comparing annual progress based on income tax returns. The study employed descriptive statistics and the data source was secondary in nature. According to the study, e-taxation has demonstrated some dynamic results that will alter the Indian tax structure.

In order to assess taxpayers' awareness and satisfaction with electronically filing income tax returns, **Chawla et al.** conducted a study. The results were analyzed using 300 completed questionnaires from



respondents (162 men and 138 women). ANOVA and chi-square test were also performed using SPSS. The mean score was used to rank the respondents on a 5-point Likert scale.

The advantages of electronic tax filing were examined by **Kumar et al.** for the government, legislators, current and potential taxpayers, e-filing intermediaries, financial software engineers, and academics. The study concentrated on the advantages that various societal segments experienced as a result of electronically filing income tax returns.

**Rajeswari et al.** investigated salaried employees' awareness and satisfaction with electronic tax filing. An examination of the administrative and technological limitations of the electronic filing pattern has been conducted.

**Ling et al.** investigated citizen adoption of e-government services and the impact of e-participation on e-filing. Prior to using the actual set, a pilot set of questionnaire surveys was created to gather data and information that could be used to test the aforementioned hypotheses. The study found that the primary driver behind the adoption of the e-filing system was technological preparedness.

### **III. STATEMENT OF THE PROBLEM**

The successful submission of income taxes online is referred to as e-filing. The idea and methods for electronically submitting income tax returns over the internet were created by e-governance. For the advantage of both taxpayers and the government, the income tax department has therefore made it easier for taxpayers to define the rules that must be adhered to, which may be submitted, and how to file the income tax. Therefore, the purpose of this research is to determine the awareness of electronic income tax filing among individual taxpayers in Bengaluru city, as well as their degree of satisfaction.

### **IV. OBJECTIVES OF STUDY**

To determine if the taxpayer is aware that income tax returns may be filed electronically.

To provide recommendations on how to improve the e-filing process for paid staff.

### **V. RESEARCH METHODOLOGY**

This study is descriptive in nature since it has been done before, and its goal is to update the previous research and provide fresh results by analyzing the changes that have happened since the previous investigations. A systematic questionnaire has been used to gather primary data. The research study contains just the paid group of individuals since the respondents are only those who get a pay from a

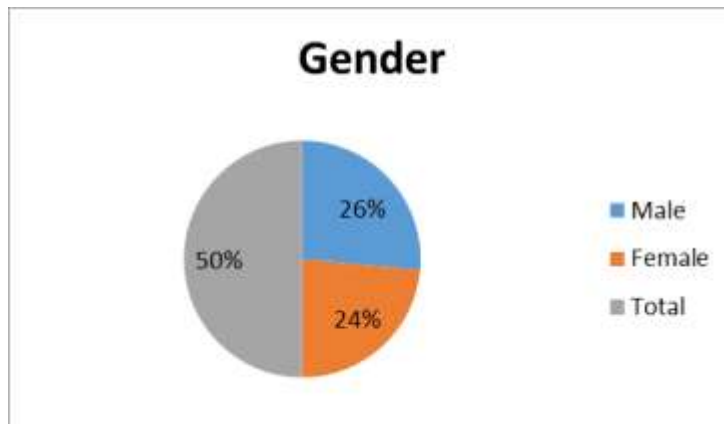
company. Given the infinite nature of the population, non-probability sampling is used and sample size is 100 from Bangalore respondents.

**VI. DATA ANALYSIS AND INTERPRETATION**

**Table 1 showing frequency of gender.**

<b>Gender</b>	<b>No. of Respondents</b>	<b>Percentage(%)</b>
Male	53	53
Female	47	47
Total	100	100

**Chart 1 representing gender of respondents.**

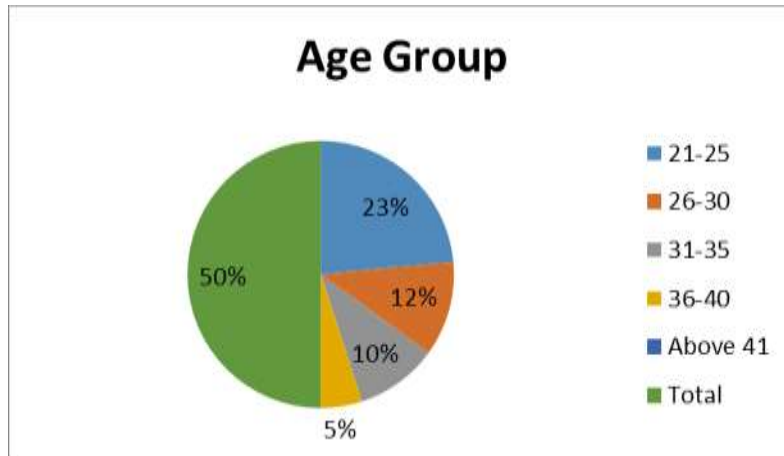


Interpretation: The above chart shows the number of respondents and their gender. There are 53 male respondents and 47 female respondents.

**Table 2 showing age group of respondents**

<b>Age group</b>	<b>N0. Of respondents</b>	<b>Percentage(%)</b>
21-25	47	47
26-30	23	23
31-35	20	20
36-40	10	10
Above 41	0	0
Total	100	100

**Chart 2 representing age group of respondents**

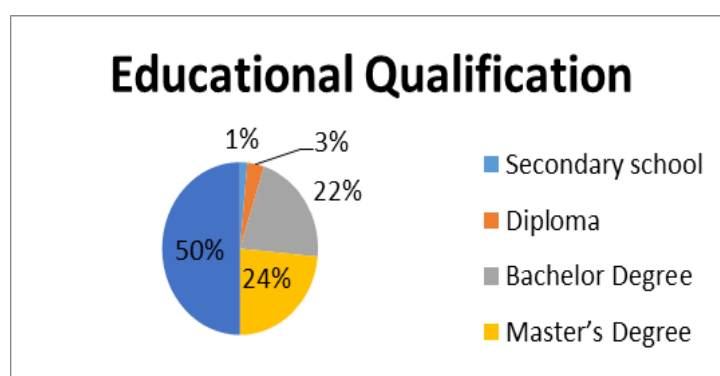


**Interpretation:** From the above data of age , 43% of the respondents were between 20-25 years , 21% of the respondents were 26-30 years, 27% of the respondents were 31-35 years ,10% of the respondents were 36-40 and 0% of the respondents were 41 years .

**Table 3 showing education qualification of respondents**

Education Qualification	Respondents	Percentage (%)
Secondary school	3	3
Diploma	7	7
Bachelor Degree	43	43
Master’s Degree	47	47
Total	100	100

**Chart 3 representing education qualification of respondents.**

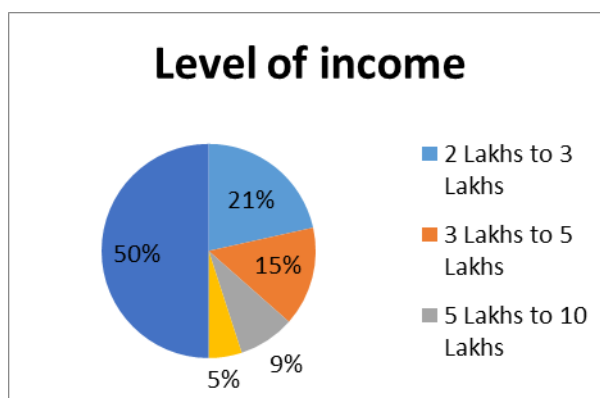


**Interpretation:** From the above data of educational qualification,3% respondents were secondary school, 7% of respondents were diploma, 47% of respondents were under graduate and 43% of the respondents were post graduate.

**Table 4 showing income level of respondents**

<b>Income</b>	<b>No. of respondents</b>	<b>Percentage (%)</b>
2 Lakhs to 3 Lakhs	43	43
3 Lakhs to 5 Lakhs	30	30
5 Lakhs to 10 Lakhs	17	17
Above 10 Lakhs	10	10
Total	100	100

**Chart 4 representing Level of income of respondents.**

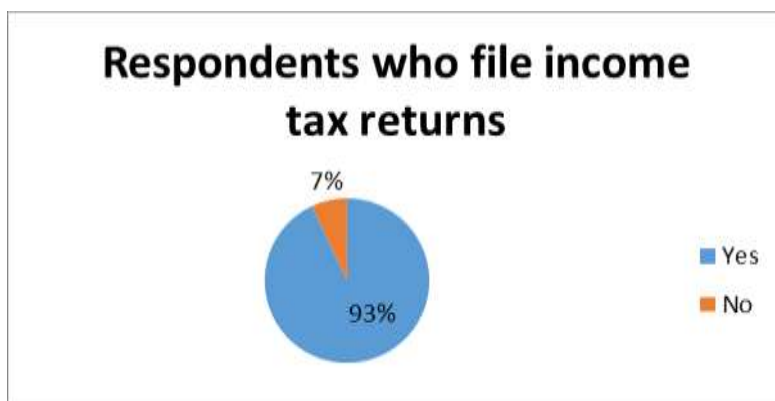


**Interpretation:** From the above data of income level, 43% of respondents were receiving income between 2 Lakhs to 3 Lakhs, 30% of the respondents were receiving Income of 3 Lakhs to 5 Lakhs, and 17% of the respondents were receiving income of 5Lakhs to 10Lakhs and 10% of the respondents were receiving income of 10 Lakhs and above.

**Table 5 showing number of respondents filing income tax returns**

<b>File income tax returns</b>	<b>No. of respondents</b>	<b>Percentage (%)</b>
Yes	93	93
No	7	7
Total	100	100

**Chart 5 representing number of respondents filing income tax returns**

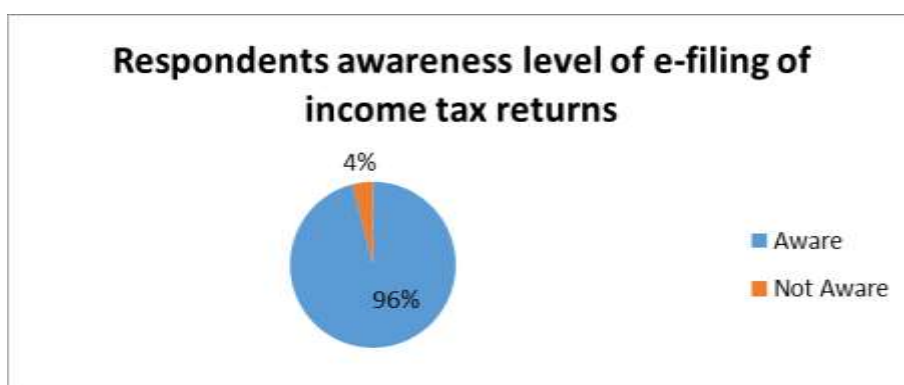


**Interpretation:** From the above data of respondents filing income tax return, 93% respondents file income tax, 7% of respondents do not file income tax.

**Table 6 showing awareness for e-filing.**

Awareness of e-filing of income tax	No. of respondents	Percentage (%)
Aware	96	96
Not Aware	4	4
Total	100	100

**Chart 6 representing awareness of e-filing amongst respondents**

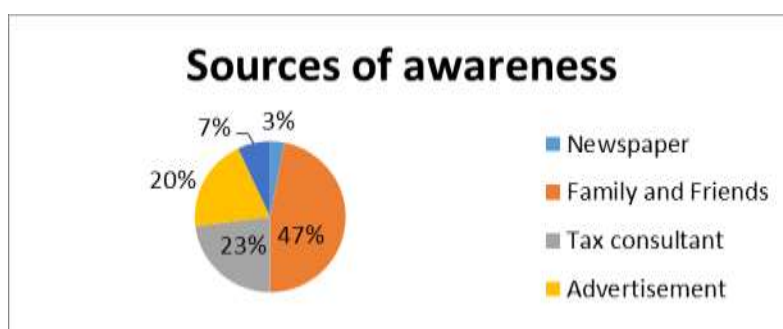


**Interpretation:** From the above data of awareness level of e-filing of income tax return, 96% respondents were aware and 4% of the respondents were not aware.

**Table 7 showing sources of awareness for e-filing**

Sources	No. of respondents	Percentage (%)
Newspaper	3	3
Family and Friends	47	47
Tax consultant	23	23
Advertisement	20	20
Website	7	7
Total	100	100

**Chart 7 representing sources of awareness of e-filing.**



**Interpretation:** From the above data of sources of awareness , 3% respondents were aware about e-filing through newspaper, 47% of respondents were aware through family and friends, 23% of respondents were aware through tax consultant, 20% of the respondents were aware through advertisement, and 7% respondents were aware through websites.

## VII. CONCLUSION

New technologies are being brought into every industry quite quickly in the modern world. Taxpayers may now electronically file their income tax forms thanks to technological advancements. The modern, efficient way to file your income tax return online and make an electronic payment of taxes is called e-filing. It eases our stress while also saving money, time, and energy. Therefore, it is urged of the tax payers to adopt the electronic filing and payment systems. The study reveals that while the majority of individual taxpayers encounter difficulties during the e-filing process, the income tax department needs to take the necessary steps to provide additional resources to help taxpayers file

their income tax returns electronically. Currently, users are aware of and satisfied with the e-filing facilities.

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**START-UPS SERVING INDIA ACHIEVE AND CHALLENGES ON THE JOURNEY TO THE \$ 5 TRILLION POLICY INITIATIVES ECONOMY BY 2025**

**<sup>1</sup>Dr.G.Nagarajan and <sup>2</sup>B. Jeevetha**

*<sup>1</sup>Professor & Head, Department of Management studies,  
Global Business School, Melvisharam.Ranipet, Tamilnadu.*

*<sup>2</sup>Assistant Professor, Department of Management Studies,  
Global Business School, Melvisharam.Ranipet, Tamilnadu.*

**ABSTRACT**

*This article discussed the difficulties associated with achieving India's objective of attaining a \$5 trillion GDP by 2025, with a particular emphasis on start-up services. India now has a GDP of \$2.72 trillion, making it the seventh largest economy globally. When considering Purchasing Power Parity (PPP), India ranks third with a value of \$10.51 trillion. India is among the most rapidly expanding economies globally. India's economy, previously valued at \$1.7 trillion in 2014, has experienced a growth to \$2.7 trillion throughout the past five years. Having acquired an extra \$1 trillion inside the past five years exclusively, it is projected that the nation will attain a GDP of \$5-7 trillion by 2024-2025. The International Monetary Fund (IMF) has projected that India's Gross Domestic Product (GDP) is expected to reach around \$4.7 trillion by the year 2024. To achieve the aforementioned objective, India must strive for an annual growth rate of 8% and increase its exports by \$1 trillion. The essay primarily focuses on the key factors that drive economic growth, namely investment, productivity increase, job creation, demand, and exports. The purpose of this paper is to investigate the present economic deceleration and assess the necessary measures for India to achieve a \$5 trillion GDP in a world marked by unpredictability and volatility.*

Key words: Start-up, Challenge, Policy initiatives, Potential to the growth

**I. INDIA START-UPS**

At an estimated GDP of \$2.6 trillion, India presently has the sixth largest economy in the world, according to a recent assessment from the Ministry of External Affairs, Economic Diplomacy, and States Division. India's GDP is already halfway to reaching the government's goal of being worth \$5 trillion by 2025. The thriving start-up scene plays a significant part in making sure India hits this target of \$5 trillion in revenue. At the recent convocation of IIT-Madras, Prime Minister Narendra Modi declared that India ranks third globally amongst start-up nations, boasting over 7,000 start-ups within its ecosystem.



There is still a long way to go, so specialists in the field should investigate how start-ups may help achieve the goal of a \$5 trillion economy. India is now home to the third-largest venture ecosystem in the world thanks to the incredible expansion of Indian start-ups in recent years. The Indian government has taken the effort to assist budding business owners with a number of programs, such as the Start-up India program.

The staggering \$42 billion in funding that Indian start-ups received in 2022—a significant increase from \$16 billion the year before—underlines their critical role in the country's ambition to reach its \$5 trillion economy target. Nonetheless, financing for India's computer industry has drastically decreased this year. Even so, India's tech sector continues to rank among the best in the world. Start-ups these days serve every kind of customer, from B2B to B2C. FinTech, e-commerce, SaaS, D2C, Autotech, and other industries are among the many that thrive in India; these sectors accounted for an astounding 89% of all funding in H1 CY23 and have continuously dominated investment charts.

The government's plan calls for actions include emphasizing inclusive growth, encouraging FinTech, Digital economy, Technology-enabled development, Energy transition, and climate action, as well as depending on a positive feedback loop of investment and growth, in order to build India's GDP to \$5 trillion. In addition, Prime Minister Narendra Modi recently declared, "Despite volatility in the global economic situation, India is the fastest-growing major economy in the world." The Indian economy will soon reach \$5 trillion." Out of the 92,683 startups that DPIIT has identified, the following industries have significantly boosted the Indian economy and have the potential to propel the country's economy to \$5 trillion by 2024:

**1) *Electric automobiles (EVs):*** According to Vaibhav Kaushik, CEO and founder of Nawgati, startups are working with the government to develop a sustainable ecosystem in the EV market in order to accelerate the shift. By 2030, sales of EVs are predicted to reach 17 million units. In order to promote green mobility in the nation, more than 486 EV start-ups are currently investigating potential and difficulties in the areas of energy storage solutions, battery recycling, and charging infrastructure.

**2) *FinTech:*** According to Kaushik, it is one of the most disrupted industries in India with an adoption rate of more than 87%. He also noted that over the past ten years, about 6,386 start-ups have emerged to meet the various financial needs of Indian consumers, covering everything from wealth management to digital lending, insurance technology, and cashless economies. Customers from Tier 2, Tier 3, and rural areas have been included by the FinTech, bolstering the potential for the financial technology market as a whole, which is projected to reach \$1.3 trillion by 2025.

**3) Job Creation:** According to Ravi K. Ranjan, the creator of Super Angels Summit 2023, recognized start-ups have given rise to over 10.34 lakh direct jobs for people in the nation. According to him, India's present achievements in the field of entrepreneurship are having an impact on the world at large and have the ability to surpass the country's 100,000 unicorn growth. These inventive and job-creating entrepreneurial endeavours will function as dynamic catalysts, driving economic growth. They boost competitiveness and draw in foreign investment by introducing novel concepts and technological advancements to the market.

**4) Technology:** Start-ups' entry into cutting-edge technology is one of the key ways they are supporting India's \$5 trillion GDP objective. Co-founder and director of Paycorp.io Balaji Jagannathan told Livemint, "They are not just disruptors, they are transformers." Indian start-ups are leading the EV industry in areas such as superior battery technologies, electric car components, self-driving technology, and charging infrastructure. Aside from this, the landscape is varied and encompasses a number of industries, such as media, entertainment, D2C brands, FinTech, EdTech, E-commerce, Social Networks, FoodTech, Logistics, and HealthTech.

**5) Bilateral Trade:** Navneet Singh, Founder and CEO of Avsar noted that start-ups enhance India's exports, with software services exports surpassing \$156.7 billion in 2021-22. According to him, the US-India defence agreements contribute to the expansion of the Indian startup scene. The US-India Defence Acceleration Ecosystem and other US-led initiatives, notably the \$191 billion in bilateral trade and investment projected for 2022, serve as further catalysts for the growth of the start-up ecosystem.

**6) Healthcare:** According to the founder of Nawgati, entrepreneurs are tackling a number of cutting-edge concepts centered on improved patient management, patient data analysis, and insurance claim administration to strengthen the Indian healthcare industry. Furthermore, trends point to a 45.06% rise in overall investments in health tech firms, which include robotic surgery, AI-powered medical solutions that help diagnose diseases, telemedicine and telecommunication services, and more.

## **II. REVIEW OF THE LITERATURE**

Salamzadeh, A., and Kawamorita Kesim, H. (2015) have revealed that start-ups are nascent businesses that fight for survival. These successful organizations are primarily developed from brilliant concepts. Since start-up is conceptualized using ideas from the west, it may not be entirely appropriate for Kenyan firms. Hence in the Kenyan context, a start-up should be seen as an innovative business organization, which is scalable and has survived up to 3-5 years (Beatrice K. Wanja W.; Stephen M.

2022). Kurode and colleagues (2016) investigated Start-ups are frequently considered to have enormous growth potential. But aside from this, an entrepreneur must overcome enormous obstacles to turn their business idea into a profitable enterprise. Start-ups can revitalize industries with innovative techniques and have a major positive impact on employment (Song et al, 2008; Acs and Armington, 2006). The OECD (2013) has noted that start-ups provide new knowledge-intensive products and services to the market, which leads to structural change. In addition to discussing how artificial intelligence might contribute to this expansion and turn it into a boom in entrepreneurial activity, the author also discussed how to evaluate the rise of start-ups in India (Manu Tyagi 2019). The success of Startup India depends on granting research and development credits, facilitating easier patent filing, making finance more affordable and accessible, and facilitating easier entrance and exit (Dr. Shailja B., Vivek S. 2016). The essay focused on a review of the literature on start-ups in India, how they operate, what motivates them to start, how they create jobs, how the start-up policy affects them, and what kinds of financing options they have. Issues that companies face while trying to secure funding (Anubhab P. and S.S. Pasumari, 2020). Dr. Pooja H. R. (2017) claims that studies have been published. According to the report, all kinds of start-ups in India seek to support emerging, creative companies by helping them set up shop and by offering them a little boost.

### **III. CHALLENGES FOR \$ 5 TRILLION ECONOMY**

The challenge of growing into a \$5 trillion economy is not limited to the domestic sector because of the global economic downturn. The growth rate of the global production fell from 3.8 percent in 2017–18 to 3.6 percent in 2018–19, and it is predicted to fall even lower to 3.3 percent by the end of 2019 due to a decline in the growth of both advanced and emerging nations. The US Federal Reserve, the European Central Bank, and the People's Bank of China have all reduced global tail risks and eased monetary policy in an effort to lessen the shocks of a new recession, which is slowly but surely emerging as a result of the massive accumulation of private and public debt on a worldwide scale. At the same time, financial markets have responded favourably to these measures. Budget deficit and public indebtedness are already substantial throughout the global economy and monetary policy is reaching its limitations. Major developed economies that have continued with quantitative and credit easing, such as Japan and the Euro Zone, have negative policy rates. In order to avert a global deflationary strain and full-scale depression, policy makers are facing incredible political pressure. In the next downturn, the ideological spectrum suggests that monetizing greater budget deficits in a semi-permanent manner will be necessary and even desirable. Because there is no danger of hyperinflation, modern monetary theory argues that bigger permanent fiscal deficits are sustainable throughout economic downturns.

However, India retains to remain the fastest expanding major economy in the world. India's macroeconomic stability is maintained through managing the current account deficit to GDP ratio until 2018–19 and keeping inflation around 4%. The year 2019 saw the beginning of a severe economic crisis that affected not only the world economy but also the Indian economy. The notable decline in GDP growth rates from 7.16 percent in 2017–18 to 4.5 percent in Q2 of 2019–20 is indicative of this. The macroeconomic indicators that fared the poorest over the last three years, from 2017 to 2020, were private consumption spending, whose growth rate fell from 11% to 3% in the first two quarters. In 2019–20, the construction, real estate, and automotive industries all performed terribly, which resulted in a total stagnation in the manufacturing sector. Additionally, from 3.52 percent in 2016–17 to 6.1 percent in 2017–18, India's unemployment rate doubled. The Periodic Labour Force Survey (PLFS) indicates that the percentage of people in the labour force has decreased to a low of 37%. If India's economic cooperation with the South East and East Asia declines and it maintains its lower growth track, managing the situation will become more challenging. The main objective is to restore the economy to a high growth trajectory while leveraging the power of a thriving democracy. By 2050, it is predicted that India's economy will rank third in the world.

#### **IV. POLICY INITIATIVES**

India has implemented a few significant policy measures to address the obstacles in the way of the goal of a \$5 trillion GDP. The government has implemented several key steps to reach its double-digit development trajectory, including a competitive manufacturing sector, an easy-to-use tax system, double farmer income, and an enhanced business environment overall. The focus has been on streamlining and rationalizing the current regulations, as well as using information and technology to enhance governance and increase its effectiveness and efficiency. India moved up the World Bank Doing Business Report's ranking from 77th place in 2018 to 63rd place in 2019 out of 192 nations. This progress can be attributed to the fact that six out of ten measures of business ease have gotten closer to global best practices.

According to the information that is currently available, 16,578 New Start-Ups were identified in 499 Districts in March 2019. The e-commerce industry in India is seeing rapid growth and holds significant potential for the future. One research states that the Indian e-commerce market is projected to grow from \$38.5 billion in 2017 to \$200 billion in 2026. The retail market will rise from \$24 billion in 2017 to \$84 billion by 2021 thanks to the remarkable performance of the e-commerce sector. Another important factor in economic growth is foreign direct investment (FDI), which raises productivity by giving the host nation access to better technology and capital skills. The government actively promotes investment through its welcoming FDI policies. The government has loosened

restrictions on foreign investment in the food processing, defence, retail, and airline industries. The majority of FDI may now occur automatically thanks to the swift liberalization of FDI legislation. Over 70% of the \$44.36 billion in FDI equity inflows from 2018-19 came from Singapore, Mauritius, the Netherlands, Japan, and the United Kingdom. After China and the United States, India is the third-largest purchaser of finished steel. Significant investments in the building of infrastructure and the automotive industry will contribute to the rise in demand for steel, which will raise global steel production to 255 million tonnes by 2030.

## **V. DISCUSSION AND IMPLICATION**

The prevailing opinion states that in order to pursue the goal of a \$5 trillion economy, India will need to invest ₹100 lakh crore in infrastructure, increase steel output by 300 million tonnes, improve farm productivity by allocating ₹7500 crore, make significant investments for the privatization of Railways, and take fiscal measures like lowering corporate tax rates to encourage investment from private parties. In order to reach a \$5 trillion economy, India must also maintain a healthy cycle of savings, investment, exports, and growth, with a primary concentration on investment. To achieve a five-fold increase in tourism, India should privatize and provide incentives for extensive infrastructure surrounding hotels, roadways, tourist destinations, and international live events. India might see speedier growth with the use of public-private partnerships (PPPs). The nation's fiscal policy needs to be changed in order to enhance public financing of infrastructure.

The development of the Micro, Small, and Medium Enterprises (MSME) sector in the nation must be ensured if India is to fulfil its aim of being an economy valued at \$5 trillion. At the moment, the MSME sector employs 11.1 crore people and contributes 29.7% of GDP. It is recommended that employment rise to fifteen crores and that its share of the GDP rise to fifty percent. To achieve the aforementioned goal, the government ought to prioritize establishing an environment that is conducive to the sector's expansion. Research and innovation should also be promoted and we should engage with global entities to introduce the latest technology and to improve marketing in the MSME sector. India's infrastructure must also be strong and resilient. In order to close the infrastructure gaps in the sector, public-private partnerships are necessary across the nation. Investment in social infrastructure is unquestionably necessary for India to achieve its goal of a \$5 trillion economy, to benefit from the demographic dividend, to enhance educational and skill development outcomes, and to offer everyone access to employment and reasonably priced healthcare. As a conclusion, we might state that the world has been experiencing perpetual uncertainty recently. Consequently, long-term plans and other economic policymaking would not be able to address this issue. Even the best-laid plans would result

in constant disequilibrium in an uncertain world. To manage this unpredictable world of disequilibrium, Economic Survey 2018–19 states that the following three components are necessary:

- 1) Clear Vision
- 2) Overarching plan for realizing the idea
- 3) The adaptability and readiness to continuously adjust strategies in reaction to unforeseen circumstances

India must adopt a growth model that sees the economy as being in a state of perpetual disequilibrium, sometimes known as a virtuous or vicious cycle, in order to break with conventional wisdom. A virtuous cycle in which investment, productivity growth, job creation, demand, and exports are all in sync will support economic growth. In contrast, if these factors dampen each other out and cause a setback to the otherwise growing economy, then the economy would become stuck in a vicious cycle. By 2025, India's GDP might reach \$5 trillion, but its ability to manage this unstable and unbalanced environment will determine how successful it is.

## **VI. POTENTIAL GROWTH FOR INDIA'S START-UP**

Controlling household sector expectations and lowering uncertainty are crucial for the recovery of growth. Organizations can overcome the obstacle of the economic slowdown by embracing intelligent automation and implementing digital transformation. To achieve the 5 trillion dollar economy goal, entrepreneurs must reconsider and change their business strategies. In addition to the previously mentioned, structural adjustments are eventually needed in the health and education sectors to bring about qualitative improvements. These reforms have the potential to boost the Indian economy.

- With over 2,565 start-ups active at present, India is the second-largest fintech hotspot globally; in 2014, there were just 737. Payments is the FinTech start-up industry in India with the highest share, followed by lending, wealth tech, personal finance, insurance, regtech, and other industries.
- India's start-up scene has had a significant economic impact, with the country ranking second globally in terms of internet users, boasting the third-largest start-up ecosystem in the world in terms of unicorns and total start-ups, 61% internet penetration, 373 million+ rural internet users, \$450 billion+ in combined valuation for Indian start-ups, 7.7 lakhs jobs created, and \$131 billion+ in venture capital inflow since 2014 (Start-up Report, 2022).

- Under the Start-up India Seed Fund Scheme (SISFS), 102 incubators have been granted approval for a total of Rs. 375.25 crore out of the Rs. 945 crore corpus as of July 30, 2022.
- The entire Indian public cloud services market is anticipated to develop at a CAGR of 24.1% during 2020–25, reaching \$10.8 billion by 2025, according to International Data Corporation (IDC), a global provider of market data and advisory services. India's artificial intelligence (AI) market is anticipated to reach USD 7.8 billion by 2025, according to the most recent International Data Corporation (IDC) research, India Artificial Intelligence Market, 2021.

## VII. CONCLUSION

Governments must continue to invest in their citizens if they hope to achieve sustainable growth and global competitiveness. To reach the goal of a \$5 trillion GDP, India's growth rate over the next five years should be between 8 and 9 percent, to put it simply. In order to reach the goal of a \$5 trillion economy, conventional wisdom suggests that India should invest ₹100,000 crore in infrastructure, increase steel production by 300 million tonnes, increase farm productivity by allocating ₹7,500 crore, invest heavily in privatizing the railways, and take fiscal measures like lowering corporate tax rates to encourage private investment. A healthy cycle of savings, investment, exports, and growth is also necessary for India to become a \$5 trillion economy, with a primary focus on investment as the development engine. We need to increase tourism fivefold, so India needs to privatize and provide incentives for building extensive infrastructure surrounding hotels, highways, tourist destinations, and international live events. With the help of public-private partnerships in start-up, India can expand faster.

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**DYNAMIC CREDIT RATING ANALYSIS: AN OVERVIEW****<sup>1</sup>M.Ramu and <sup>2</sup>K.Murugan***<sup>1</sup>Assistant Professor, Department of Management Studies,  
Sri Sairam Engineering College, Chennai, India.**<sup>2</sup>Associate Professor, Department of Management Studies,  
Sri Sairam Engineering College, Chennai, India***I. INTRODUCTION**

Credit rating, in general sense, is the evaluation of the credit worthiness of an individual or of a business concern or of an instrument of a business based on relevant factors indicating ability and willingness to pay obligations as well as net worth. 'Encyclopedia of Banking & Finance' by Charles J. Woelfel states that a credit rating is a letter or number used by a mercantile or other analysis in reports and credit rating books to denote the ability and disposition of various businesses (individual, proprietorship, partnership or corporation) to meet their financial obligations. It also states that ratings are used as a guide to the investment quality of bonds and stocks, based on security of principal and interest (or dividends), earning power, mortgage position, market history and marketability. Credit ratings establish a link between risk and return. An investor or any other interested person uses the rating to assess the risk-level and compares the offered rate of return with his expected rate of return. Credit rating is extremely important as it not only plays a role in investor protection but also benefits industry as a whole in terms of direct mobilisation of savings from individuals. Ratings also provide a marketing tool to the company and its investment bankers in placing the company's debt obligations with an investor base that is aware of, and comfortable with, the level of risk. Ratings also encourage discipline amongst corporate borrowers to improve their financial structure and operating risks to obtain a better rating for their debt obligations and thereby lower the cost of borrowing. Companies those get a lower rating are forewarned, as it were and have the freedom, if they desire, to take steps on their financial or business risks and thereby improve their standing in the market. The need for reliable information in channelisation of the resources to the most productive uses can hardly be overemphasized. Relevant and reliable information helps the investors to arrive at their investment decisions. These include offer documents of the issuers, research reports of market intermediaries and media reports. In the developed markets, credit rating analysis has also come to occupy a leading position as information providers along with rating of financial instrument

## **II. OBJECTIVE OF STUDY**

The main objective is to provide superior and low cost info to investors for taking a decision regarding risk return trade off. but it also helps to market participants in the following way;

- Improves a healthy discipline on borrowers.
  - Lends greater credence to financial and other representations.
  - Facilitates formulation of public guidelines on institutional investments.
  - May reduce interest costs for highly rated companies.
- Acts as a marketing tool.
- Helps merchant bankers, brokers, regulatory authorities etc. in discharging their functions related to debt issues.
  - Encourages greater information declaration

## **III. REVIEW OF LITERATURE**

Czarnitzki and Kraft (2007), in their study, tested whether the credit ratings give more specific information about creditworthiness of the firms as compared to the publicly available information (which is available to the potential investors without any substantial cost). They select a sample of about 8000 firms of German manufacturing sector for the purpose of study and the time period of study was 1999-00. They compared the ratings given by leading German credit rating analysis 'Credit reform' with the publicly available information. The study revealed that the young firms were more likely to default than the established ones. Further, the lower the productivity the more would be probability of default. They further inferred that credit rating has some additional informational value for lenders but the rating analysis overemphasized the factor 'firm size' in construction of rating index

Jain and Sharma (2008), in their paper, attempted to examine the working of credit rating analysis in the light of role played by them in capital market as information disseminators. The authors identifies conflicts of interest affecting the rating decisions and the manner in which the regulations have attempted to address them. Further, they also studied the regulatory framework for credit rating analysis in India. The authors revealed that credit rating analysis play a certain role in the capital markets through their informed and independent analysis. The various conflicts of interest highlighted in the study were relating to the fee charged, ancillary services of credit rating analysis, ownership interest of credit rating analysis in client securities and the problem of notching.

Reddy and Gowda (2008), in their paper explained the importance and problems of credit ratings in India. They also highlighted the basis of credit rating and credit rating practices prevalent in India. For

this purpose, the opinions of sample of investors from Hyderabad were taken. The results of the study inferred that majority of the respondents were aware of the existence of various credit rating analysis including CRISIL, CARE, ICRA, etc. About 40% (80 out of 200) of the respondents depend on credit rating for their investment in debt instruments but more than 50% from them (94 out of 180) reply on CRISIL for their investment than the other credit rating analysis.

#### **IV. RESEARCH METHODOLOGY**

A research design is purely and simply the framework plan for a study that guides the collection and analysis of a data. In this study the researcher has adopted descriptive research design

##### **Descriptive Research Design**

The research is descriptive-in nature hence it includes-descriptive research design. The examination is enlightening in nature henceforth it incorporates an unmistakable research plan. Elucidating examination configuration is utilised to think about the qualities of a populace that is being contemplated. This plan goes for receding tide besides stream matters or issues complete a process of info gathering and authorises the specialist to show the situation completely.

##### **Data Collection**

Data collected is one of the most important aspects of research. For the success of any project accurate data is very important and necessary. The information collection through research methodology must be accurate and relevant.

##### **Methods of Data Collection**

###### ***Primary Data :***

Data that has been collected from first-hand-experience is known as primary data. Primary data has not been published yet and is more reliable, authentic and objective. Primary data has not been changed or altered by human beings; therefore its validity is greater than secondary data. Importance of Primary Data: In statistical surveys it is necessary to get information from primary sources and work on primary data.

###### ***Secondary Data :***

Secondary data is the data that is collected from the primary sources which can be used in the current research study. Collecting secondary data often takes considerably less time than collecting primary

data where you would have to gather every information from scratch. It is thus possible to gather more data this way.

### **Sampling**

Sampling is the selection of a subset of the population of interest in a research study. In the vast majority of research endeavours, the participation of an entire population of interest is not possible, so a smaller group is relied upon for data collection.

### **Sample Size**

Around 80 people were given the surveys to find out the examination

### **Simple Percentage Analysis**

Simple Percentage Can also be used to compare the relationship distribution of two or more items. For calculations the simple percentage the following formula used.

Percentage of the respondents = Number of respondents/total respondents\*100

### **Chi-Square Analysis**

Chi-square is a non parametric test, the chi-square method is the application of testing the significance difference between observed and expected values.

For calculating the value of chi-square test, the following used:

$$\chi^2 = \sum(O_i - E_i)^2/E_i,$$

E = row total\*column to/grant total

Degree of freedom= n-1

Where as

O-observed frequency

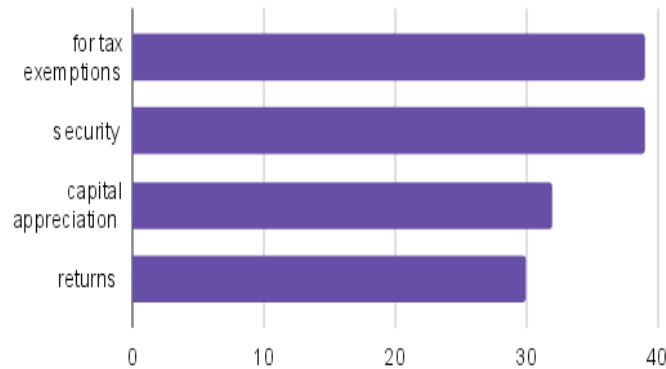
E-Expected frequency

R-Number of rows

C-Number of columns

**V. DATA ANALYSIS AND INTERPRETATION**

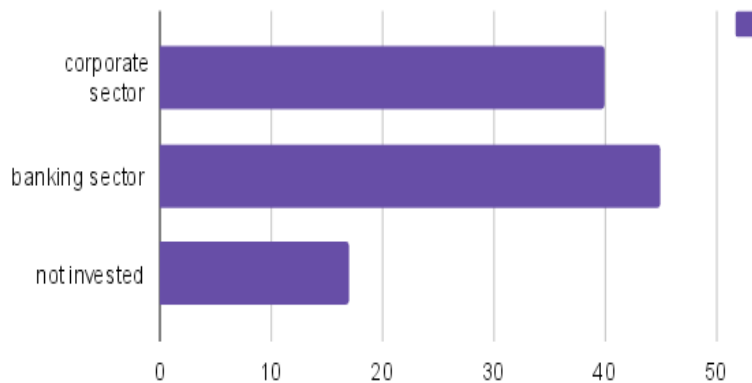
**Purpose of investment**



**Interpretation :**

In the following questions, the respondents were asked the purpose of investment, to which 48.8% responded that for tax exemption is the purpose of investment ,48.8% responded that for security purpose is the purpose of investment, 37.5% responded that for capital appreciation is the purpose of investment and 40% responded that for returns on investment is the purpose of investment.

**Invested in the instrument of**

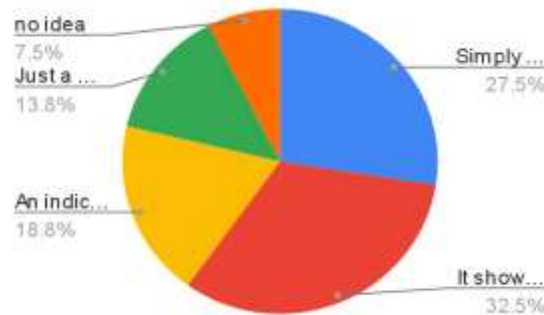


**Interpretation:**

In the following questions the respondents were asked in which sector you have invested in the instruments of banking sector or corporate sector, to which 50 % people responded that they have invested in the corporate sector whereas 56.3% people responded that they have invested in the

instruments of the banking sector. From this we can conclude that a greater number of people are interested in investing in the banking sector as compared to corporate sectors

**What are your opinions about credit rating analysis?**



**Interpretation :**

In the following questions respondents were asked about their opinions about credit rating analysis to which 27.5% responded that its simply a grading system whereas 32.5% responded that it shows the exact final position of the company, 18.8% responded that its an indicator of credit risk whereas 13.8% responded that its just a marketing strategy of the issuing company.

**OPINION OF CREDIT RATING ANALYSIS; CHI-SQUARE (X<sup>2</sup>) TEST**

**Null Hypothesis (H<sub>0</sub>):** There is no significant marketing between the Companies of the respondents and the development of improving marketing other companies for the respondents.

**Alternate Hypothesis (H<sub>1</sub>):** There is significant marketing between the Companies of respondents and the development of improving marketing other companies in the respondents.

**Calculations of ((O-E) <sup>2</sup>/E)**

O	E	O-E	(O-E) <sup>2</sup>	(O-E) <sup>2</sup> /E
26	16	10	100	6.25
6	16	-10	100	6.25
22	16	6	36	2.25
15	16	-1	1	0.0625
11	16	-5	25	1.5625
ΣO = 80				Σ(O-E) <sup>2</sup> /E = 16.375

$$X^2 = (O-E)^2/E$$

$$X^2 = 16.375$$

The degree of freedom = n-1

Degree of freedom = 5-1 = 4

**Result**

Calculated value = 16.375

Degree of freedom = 4

Level of significance = 95%

Tabulated value = 9.488

Calculated value > Tabulated value

Null hypothesis is rejected

Alternate hypothesis is accepted

**Interpretation:**

Here the calculated value (16.375) is less than the tabulated value (9.49) Their null hypothesis is rejected and the alternate hypothesis is acceptable. Hence there is significance between the opinions of credit rating analysis

**VI. FINDINGS**

The data was collected from primary sources as well as secondary sources. For the only primary a survey was done online and 80 responses were collected by the researchers whereas secondary data was collected from multiple websites and journals.

- Majority of the respondents i.e. 48.8% like to invest to exempt tax and for security purpose
- It is observed that the majority of the respondents i.e. 56.3% invest in banking sectors as compared in the corporate sector only 50% of respondents invest.
- Majority of the respondents i.e. 32.5% tells that credit rating shows the exact financial position of the company.

**VII. CONCLUSION**

Credit Rating is very important since investors should be equipped with easy methods to make their investment decisions. If ratings are assigned in a proper, systematic, transparent way, then it will be a

boon for investors and will go a long way in making the investment world a safe place. It is an undisputed fact that Credit Rating analysis play a vital role in financial markets by to reduce the informative gap between lenders and investors, on one side, and issuers on the other side, about the creditworthiness of companies or countries an investment grade rating can put a security, company or country on the global radar, attracting foreign money and boosting a nation's economy. Indeed, for emerging market economies, the credit rating is the key to showing their worthiness of money from foreign investors. Credit rating helps the market regulators in promoting stability and efficiency in the securities market. Ratings make markets more efficient and transparent.

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**CATALYZING HR EXCELLENCE: NAVIGATING THE FRONTIERS OF AI IN HUMAN RESOURCES MANAGEMENT**

**Mr. Jeshurun.C**

*MBA-1 Year, School Of Management,  
SA College Of Arts And Science, Chennai- 600 077.*

**ABSTRACT**

*The advent of Artificial Intelligence (AI) has ushered in a new era of efficiency and agility across diverse industries. This paper delves into the integration of AI into Human Resources Management, exploring its transformative impact on traditional HR practices. As AI permeates various organizational domains, including finance, marketing, and production, this research focuses on its application within the human resource department. Artificial Intelligence facilitates accelerated and efficient workflows, providing organizations with the means to enhance performance assessments and streamline day-to-day functions. In the face of escalating business pressures, astute managers recognize the significance of embracing AI in the workplace. This paper navigates the frontiers of AI in Human Resources Management, examining the implications, challenges, and opportunities presented by the integration of AI technologies. Through a comprehensive exploration of case studies and industry trends, it aims to provide valuable insights into the dynamic intersection of AI and HR practices. The core objective of the study was to examine the role of artificial intelligence in the human resource department and understand the challenges in the HR department. The research study has concluded that the role of AI is larger in various functions carried out in the human resource department where robotics companies can handle recruitment, hiring, analyzing the data, collecting the data, reducing workload at the workplace and enriching workplace efficiency.*

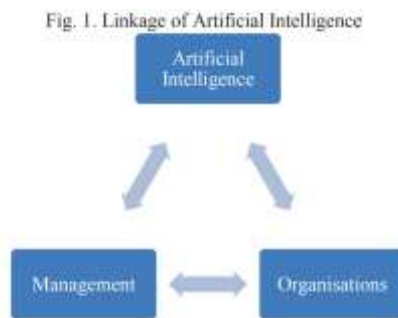
**Keywords:** - Artificial Intelligence, Human resources practices, HRM Process.

**I. INTRODUCTION:**

This study directly evaluates the incorporation of artificial intelligence (AI) into the realm of human resources management (HRM). The advancement of technology has propelled us toward a pivotal juncture, marked by a profound transformation known as Industry 4.0. This era, often referred to as the intelligent industry, represents the fourth industrial revolution. Coined by Professor Schwab, the term "fourth industrial revolution" envisions the evolution of organizations into intelligent entities, striving for optimal business outcomes. This transformative wave has led to the integration of

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disruptive technologies, such as Artificial Intelligence (AI) and its subsets, across various management functions, with human resource management being no exception. This study seeks to explore the impact of disruptive technologies on our lives, particularly in the context of workplaces influenced by the emergence and implementation of AI entities. It aims to unravel the transformative effects of AI on human resources practices, delving into the perceptions of HR professionals and employees regarding AI technologies. Presently, the HR function is increasingly shifting towards tailoring HR practices to accommodate the unique characteristics of individual targets. The objective is to facilitate managers in fostering improved intergenerational collaboration. Leveraging Human Resources Analysis, companies can effectively utilize their employee databases to make informed decisions and enhance operational performance [1][2]. Additionally, the research endeavors to elucidate the current landscape of AI technologies applied within Human Resource departments, providing insights into the dynamic relationship between humans and AI in the workplace.



**Source: - (Duchessi, O'Keefe, & O'Leary, 1993)**

Figure:1 A framework elucidates the connection between management and organization concerning the integration of artificial intelligence. The study conducted by [3] Duchessi, O'Keefe, & O'Leary (1993) underscores the influence of artificial intelligence and digital technology on ownership and responsibility for decision-making, cost reduction, improved service delivery, personnel shifts and downsizing, as well as its impact on organizational structure and workforce management.

## **II. LITERATURE REVIEW: NAVIGATING THE FRONTIERS OF AI IN HUMAN RESOURCES MANAGEMENT**

### **Introduction to AI in HR:**

#### **Exploring Business Intelligence and Artificial Intelligence in HR Management**

This review synthesizes key findings from relevant studies on the integration of Business Intelligence (BI) and Artificial Intelligence (AI) in the domain of Human Resource Management (HRM).

Kapoor (2010) delves into the functionality of business intelligence within HRM, offering an in-depth exploration of the primary business intelligence vendor. The research scrutinizes the incorporation of business intelligence and data analytics functionalities within HRM modules, providing a comprehensive understanding of their applications.

Building on this, Buzko et al. (2016) [4] contribute valuable insights by examining the utilization of Artificial Intelligence technologies in the realm of human resource development. Their study sheds light on the challenges encountered in applying AI in HR, specifically noting the difficulty in assessing the effectiveness of training costs. Despite this challenge, the research underscores the capacity of AI technologies to facilitate prompt data analysis when complemented by human expertise.

Furthermore, the foundational work by Duchessi, O'Keefe, & O'Leary (1993) [5-3B] lays the groundwork for understanding the intricate relationships between AI, management, and organizational dynamics. Their focus on decision-making, cost reduction strategies, and the impact of AI on personnel shifts within organizational structures remains influential in the discourse surrounding AI in HRM.

Together, these studies provide a comprehensive overview of the evolving landscape of BI and AI integration in HRM. While Kapoor emphasizes the practical aspects of BI, Buzko et al. address the challenges and potentials of AI, and Duchessi, O'Keefe, & O'Leary's work offers a historical perspective on the intersection of AI with management practices. This collective body of research contributes to a nuanced understanding of how intelligent technologies shape and redefine HRM processes.

The advent of AI introduces the potential for a future characterized by pervasive unfairness and heightened managerial control, reflecting a dystopian outlook. Notably, the paradoxical perspective posits that these contrasting visions, as outlined by Collings et al. (2021) and Smith & Lewis (2011) [6], may coexist simultaneously.

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**III. RESEARCH OBJECTIVES:**

- 1. Examine the Positive Implications of AI in the Workplace:**
  - Investigate the role of AI in enhancing workplace efficiency, productivity, and fostering innovation.
  - Assess the potential positive effects of AI on employee roles and job satisfaction.
- 2. Explore the Negative Consequences of AI in the Workplace:**
  - Analyze the risks and challenges associated with widespread AI adoption in organizational settings.
  - Investigate the impact of AI on job security, privacy concerns, and overall employee well-being.
- 3. Understand Factors Influencing the Coexistence of Optimistic and Dystopian Scenarios:**
  - Identify key determinants that shape the positive or negative outcomes resulting from the integration of AI.
  - Examine the influence of organizational policies, leadership decisions, and societal factors on the dual impact of AI.
- 4. Investigate Employee Perceptions and Attitudes Towards AI in the Workplace:**
  - Assess how employees perceive AI technologies, considering both potential benefits and drawbacks.
  - Explore factors influencing employee acceptance or resistance towards the implementation of AI.
- 5. Analyze the Role of Managerial Practices in Shaping the Impact of AI:**
  - Examine how managerial decisions and strategies contribute to the successful implementation and outcomes of AI technologies.
  - Investigate the role of ethical considerations in managerial decision-making related to AI adoption.
- 6. Propose Recommendations for Organizations to Navigate the Dual Impact of AI:**
  - Provide actionable insights and best practices for organizations to maximize the positive impact of AI while minimizing potential negative consequences.
  - Offer recommendations for ethical AI adoption and responsible managerial practices in the evolving workplace landscape.
- 7. Contribute to the Academic Discourse on the Dual Impact of AI:**
  - Synthesize existing literature on both optimistic and dystopian perspectives of AI in the workplace.

- Contribute new empirical research findings to enrich the academic understanding of the coexistence of these perspectives.

This research proposal aims to comprehensively investigate the dual impact of AI on the future workplace, considering optimistic and dystopian scenarios, and provide actionable insights for organizations and academics alike.

#### **IV. ROLE OF ARTIFICIAL INTELLIGENCE IN HR**

In the current era, HR departments are embracing a digital revolution, employing diverse methods, including big data analysis, artificial intelligence, and cloud computing, to streamline resources (Amla & Malhotra, 2017) [7]. Many organizations leverage artificial intelligence and digital technologies such as chatbots, machine learning, and robotic process automation in HR practices, facilitating functions like recruitment, screening, onboarding, and interviewing. The ensuing discussion outlines the roles of artificial intelligence in human resource management.

##### **1. Recruitment**

Recruiting Employees describes what is currently known and what remains to be learned about the processes by which organizations recruit new members. In this volume, Alison E. Barber 1998 [8] delineates three separate stages of recruitment generating applications, maintaining applicant status, influencing job choice, discusses existing knowledge and important unanswered questions relevant to each of these stages. She also addresses the question of whether and how recruitment influences organizational outcomes.

Traditional recruitment topics such as recruitment source effects and reactions to initial interviews are covered in detail. Alternative frameworks and different research, requiring different theoretical frameworks and different research methods, are also proposed. Researchers, scholars, and students interested in studying or contributing to the research literature on recruitment will find this a valuable resource.

##### **2. Screening and Interview Process**

The Screening and Interview Process is a crucial phase in the recruitment and selection of candidates for job positions within an organization. This process involves systematically evaluating applicants to determine their qualifications, skills, and suitability for a specific role. Here is an overview of the key components and commonly used tools in the Screening and Interview Process

### **Application Review**

**Description:** Employers review resumes, cover letters, and job applications submitted by candidates.

**Tools:** Applicant Tracking Systems (ATS) (Workday1990) are commonly used to automate the initial screening of resumes, filtering out candidates who do not meet specific criteria.

### **Pre-screening**

**Description:** Initial assessments or short interactions to evaluate basic qualifications and candidate interest.

**Tools:** Phone or video interviews, pre-employment assessments, and online skills tests. Google Meet (2020), Cisco Webex (1996) the first vedio conferencing platform

### **Behavioural Interviews**

**Description:** In-depth interviews assessing how candidates handle various situations and their behavioral responses.

**Tools:** Interview guides, competency-based interview questions, and scoring rubrics.

### **Technical Interviews**

**Description :** Assessing a candidate's technical skills and knowledge relevant to the job.

**Tools:** Technical assessments, coding challenges, or case studies depending on the role.

### **Panel Interviews**

**Description:** Involves multiple interviewers representing different perspectives within the organization.

**Tools:** Structured interview formats and collaboration tools for panel members.

### **Assessment Centre's**

**Description:** Comprehensive evaluations involving simulations, role plays, and other exercises.

**Tools:** Various simulations, group activities, and behavioural exercises.

### **Video Interviews**

**Description:** Interviews conducted through video conferencing platforms.

**Tools:** Video conferencing tools with features for recording, playback, and sharing.

### **Reference Checks**

**Description:** Verifying a candidate's employment history, skills, and qualifications through contacts provided by the candidate.

**Tools:** Contacting previous employers, reference checking services.

### **Background Checks**

**Description:** Verifying a candidate's criminal history, educational background, and other relevant details.



**Tools:** Background check services and online databases.

**Decision-Making Tools**

**Description :** Tools to assist in making informed hiring decisions.

**Tools :** Hiring committees, decision matrices, and scoring systems.

**Applicant Feedback Surveys**

**Description:** Gathering feedback from candidates about their experience in the hiring process.

**Tools:** Surveys and feedback forms.

**Automated Screening Tools**

**Description:** AI-driven tools that analyze resumes and applications to identify the most suitable candidates.

**Tools:** AI-powered applicant screening platforms. Hire Vue, Ideal, XOR, and Harver (2010).

Each organization may tailor its Screening and Interview Process based on the nature of the position, industry requirements, and organizational culture. The tools used can vary widely depending on the specific needs and preferences of the hiring organization.

The newly developed Human Resource Information System (HRIS) establishes the foundation for the system's AI applications. The Human-Computer interface, powered by AI, enhances managerial efficiency and streamlines the operational processes necessary for acquiring, storing, and validating data within an enterprise. AI-driven technological advancements reduce repetitive tasks, minimizing the need for extensive human intervention [9]. AI assists in the numerous recruiting phase tasks, such as scanning CV, submitting automatic email, and assists in comparison checking [10]. Reducing turnover rates and enhancing job retention, these tools demonstrate superior performance compared to the HR team. While AI effectively handles fundamental HR operations, its efficacy in complex scenarios remains untested. The implementation of AI is justified by the significant advantages it brings to the company, offering efficiency and accuracy within shorter timeframes [11].

**3.Reduce Administrative burden**

Reducing administrative burdens through the implementation of AI technologies is a key strategy to enhance operational efficiency in human resource management (Smith, 2020). By automating routine tasks, organizations can streamline processes and allow HR professionals to focus on strategic initiatives (Jones et al., 2019). This shift towards AI-driven solutions in HR not only expedites workflows but also minimizes errors associated with manual administrative tasks (Brown & Davis, 2021). As organizations increasingly recognize the benefits, the adoption of AI to reduce

administrative burdens is becoming a prevalent trend in modern HR practices (Johnson, 2018). Embracing AI in administrative functions not only accelerates processes but also contributes to overall organizational agility (Robinson, 2022).[12].

#### **4. Selecting**

The researcher observed that AI enables human resource managers to swiftly identify the most suitable candidates, efficiently tracing them within a short timeframe. Technology plays a pivotal role in discerning individuals with the requisite skill sets for a given position. (Rajesh, Kandaswamy, & Rakesh, 2018) [13].

#### **5. Reduce Discriminations**

In the contemporary landscape, AI is employed to mitigate favouritism and enhance transparency in the workplace, facilitating unbiased resume selection for organizations. AI applications play a pivotal role in scrutinizing job descriptions for optimal analysis (Rathi, 2018) [14].

#### **6. Increase Efficiency**

Leveraging advanced technologies such as Artificial Intelligence and automation can significantly enhance operational efficiency within organizations. By automating repetitive tasks and streamlining workflows, employees can focus on more strategic and value-added activities. The integration of efficient tools and systems optimizes processes, reduces manual errors, and accelerates the pace of tasks, ultimately contributing to increased overall efficiency and productivity in the workplace.

#### **7. Enrich workplace learning**

Facilitating continuous learning opportunities within the workplace enriches the professional development of employees. Implementing innovative learning solutions, such as online courses, workshops, and mentorship programs, fosters a culture of knowledge-sharing. By embracing diverse learning methods and technologies, organizations empower their workforce to acquire new skills, stay abreast of industry trends, and adapt to evolving challenges, ultimately contributing to a more enriched and dynamic workplace learning environment Turner, S. (2019) [15]. AI tools such as **Engazify** for feedback provision, **Obie and Niles** for knowledge sharing, **Wade & Wendy** for career advancement, and **Duolingo** in the learning domain have been implemented as part of organizational practices (Amla & Malhotra, 2017).[16-7B]

## V APPLICATION OF ARTIFICIAL INTELLIGENCE IN HR DOMAIN

AI is a modern method for the development of genetic science that can hear, perceive, prepare and execute activities that enhance human efficiency without job barriers [17]. Speech recognition, bots, and algorithms (specifically designed narrow AI applications) prove highly effective in collecting data evidence within the HR domain, particularly in tasks like verifying information and addressing backend issues [18]. These three major types of tools significantly contribute to the HR process. Voice recognition technology, for instance, transforms spoken content into relevant text, images, and internet search results, facilitating the efficient dissemination of information.

### **Benefits of Artificial Intelligence in Human Resource**

#### **1. Efficient Recruitment Process:**

- AI automates resume screening and candidate matching, speeding up the recruitment process and ensuring more accurate candidate shortlisting.

#### **2. Enhanced Candidate Experience:**

- AI-driven chatbots provide instant responses to candidate queries, offering a seamless and responsive experience throughout the recruitment journey.

#### **3. Data-Driven Decision-Making:**

- AI analytics tools provide HR professionals with data-driven insights, enabling more informed decision-making in areas such as talent management, employee engagement, and performance evaluation.

#### **4. Improved Employee Onboarding:**

- AI streamlines onboarding processes, automating paperwork, providing essential information, and facilitating a smoother transition for new hires.

#### **5. Personalized Learning and Development:**

- AI recommends personalized learning paths, training modules, and development opportunities based on individual employee needs, fostering continuous skill enhancement.

#### **6. Predictive Analytics for Talent Management:**

- AI analyzes historical data to predict workforce trends, helping organizations anticipate talent needs, identify potential issues, and plan for succession.

#### **7. Reduction of Bias in Recruitment:**

- AI mitigates human biases in the recruitment process, promoting fairness and diversity by evaluating candidates based on objective criteria.

#### **8. Efficient HR Operations with RPA:**

- Robotic Process Automation (RPA) powered by AI automates routine HR tasks, reducing manual efforts, minimizing errors, and increasing operational efficiency.

**9. Continuous Performance Feedback:**

- AI facilitates continuous performance monitoring and feedback, offering real-time insights for both employees and managers to enhance performance and development.

**10. Employee Well-being Monitoring:**

- AI monitors employee well-being indicators, helping HR professionals identify potential issues and implement measures to enhance the overall workplace environment.

**11. Cost Savings:**

- Through automation and efficiency gains, AI can lead to cost savings in HR operations, allowing organizations to allocate resources more strategically.

**12. Increased Productivity:**

- AI tools streamline processes, freeing up HR professionals from routine tasks, allowing them to focus on strategic initiatives and more value-added activities.

**13. Adaptive HR Strategies:**

- AI's ability to analyze data in real-time allows HR to adapt strategies quickly, responding to changing organizational needs and market dynamics.

The integration of AI in HR not only optimizes traditional HR functions but also opens up new possibilities for innovative approaches to talent management and employee engagement, contributing to a more agile and responsive HR environment.

**VI. CHALLENGES OF ARTIFICIAL INTELLIGENCE IN HR**

In the current landscape, the integration of artificial intelligence (AI) in the human resource department necessitates employees to acquire essential skill sets. However, adapting to and mastering AI tools and digital technologies poses challenges for many employees, often leading to a proficiency gap (Jain S., 2017) [19]. As the human resource remains a cornerstone of any company, the introduction of AI systems may impact managerial hierarchies, potentially instilling apprehension among employees. The industry faces a significant challenge in identifying competent individuals proficient in handling AI tools, a task often proving challenging for HR departments. Additionally, the growing influence of technology in day-to-day decision-making poses limitations and challenges, potentially diminishing the traditional authority and role of HR in organizational decision processes.

## VII. CONCLUSION

In conclusion, the integration of Artificial Intelligence (AI) into the realm of Human Resources (HR) represents a transformative shift with both opportunities and challenges. The adoption of AI technologies in HR processes, from recruitment to performance management, offers substantial benefits such as increased efficiency, unbiased decision-making, and strategic workforce planning. However, this paradigm shift comes with its share of challenges.

The evolving nature of AI necessitates continuous upskilling for the workforce, leading to a potential proficiency gap among employees. The fear of job displacement and the need for a workforce adept in digital technologies underscore the importance of effective training programs and change management strategies. The potential impact on managerial hierarchies and decision-making processes may evoke apprehension among employees, emphasizing the importance of transparent communication and a strategic approach to organizational change.

Moreover, identifying and attracting talent proficient in AI tools remains a significant challenge for HR departments, necessitating innovative recruitment strategies and collaboration with educational institutions. The ever-growing influence of technology in day-to-day decision-making processes raises questions about the traditional role and authority of HR, requiring a reevaluation of the HR function within organizations Richards, E. (2021) [20].

In navigating the frontiers of AI in HR, organizations must strike a balance between leveraging technological advancements and addressing the associated human and organizational challenges. As AI continues to evolve, HR professionals play a pivotal role in guiding their organizations through this transformative journey, fostering a culture of adaptability, continuous learning, and strategic foresight. The successful integration of AI in HR hinges on a holistic approach that combines technological innovation with a people-centric mindset, ensuring a harmonious evolution toward a more efficient, agile, and resilient workforce.

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**A STUDY ON IDENTIFICATION OF IMPACT OF AI ON CONSUMER EXPERIENCE  
SATISFACTION IN THE ECOMMERCE INDUSTRY**

**<sup>1</sup>Dr. Aftab Shaikh, <sup>2</sup>Ms. Aishwarya Mahajan, <sup>3</sup>Mr. Vrushang Mulekar and <sup>4</sup>Ms. Sarita Gupta**

*<sup>1</sup> Assistant Professor, Chetana's R. K. Institute of Management & Research*

*<sup>2</sup> Sourcing analyst, GEP Worldwide*

*<sup>3</sup> Student, Chetana's H.S. College of Commerce & Economics*

*<sup>4</sup> Assistant Professor, Chetana's R. K. Institute of Management and Research*

**ABSTRACT**

*This study examines how artificial intelligence (AI) is changing the e-commerce industry with a particular emphasis on customer happiness and experience. Using an experimental study conducted in Mumbai using a questionnaire given to 113 tech-savvy citizens, the study explores the complex role that various AI technologies play in the e-commerce process. Results show that people react favorably to AI-enabled services like chatbots and auto-recommendations, but there is still a lack of confidence in the dependability of AI. For a flawless e-commerce experience, the report suggests improving user education, addressing data security concerns, and fine-tuning AI applications. The report, which offers a path for organizations to negotiate AI integration and draws ideas from industry leaders, imagines a future in which online purchasing turns into an art form that leaves enduring traces of delight. Various sources are included in the bibliography from articles and videos to academic journals, ensuring a comprehensive foundation for the research's conclusions.*

**Keywords:** Artificial Intelligence (AI), Consumer Experience, Satisfaction, Ecommerce.

**I. INTRODUCTION**

The environment of e-commerce has evolved from a static collection of product pages and impersonal search bars. With each brushstroke, artificial intelligence (AI) has reimagined the customer experience by adding vivid hues. AI is revolutionizing every aspect of the shopping experience, from chatbots offering help 24/7 to personalized suggestions dancing to the beat of previous purchases. In the end, our research opens the door to a future in which online shopping is elevated to the status of an art form by exploring this dynamic progression and attempting to understand how AI affects online buyers' involvement and sense of fulfilment.

Motivated by the aim to unravel the anticipations of technologically proficient customers, we do a comprehensive investigation. We'll examine the ways in which various AI technologies impact each

step of the customer journey, from perceptive recommendation engines that anticipate preferences to user-friendly visual search tools that remove obstacles associated with keywords. We aim to unleash artificial intelligence's latent potential as a driver for company progress, going beyond merely identifying obstacles and possibilities. In the future, we see AI whispering wisdom into merchants' ears, enabling them to create experiences that are so intuitive and individualized that they go beyond transactions and cultivate steadfast client devotion.

This investigation promises to be more than just a theoretical excursion; it will also weave together a rich tapestry of varied research threads. We will examine effective AI applications in the e-commerce space, gathering knowledge from business titans that have ventured to include AI's vibrancy into their landscapes. By use of surveys, expert interviews, and thorough data analysis, we will elucidate the little details that contribute to a flawless customer satisfaction masterpiece. In addition to shining light on the complex dance between AI and consumer experience, our study aims to provide organizations with the knowledge and resources they need to join in. In the end, we want to have the ability to transform the blank canvas of customer connection into an enthralling symphony of engagement and revenue development. To that end, we strive to provide concrete methods, a blueprint for navigating the unpredictable terrain of AI integration.

Come with us into an AI-powered future where technology is redefining the canvas for e-commerce. By working together, we can unlock the full potential of this revolution—not just in terms of improving the shopping experience for customers, but also in terms of creating a future in which online buying turns into an artistic endeavor that leaves a lasting joy trail even after the purchase button is hit. This succinct introduction distills the main points of your research into less than one page. It highlights the revolutionary potential of AI, using emotive language, and lays the groundwork for the upcoming in-depth investigation. Please customize it more to reflect your own research interests and preferred style. Recall that your introduction serves as your initial impression, so make the most of it!

## **II. LITERATURE REVIEW**

**1. Optimizing Customer Experience with AI in Retail 12 April-2023** Balakrishna D. R. talks about how artificial intelligence (AI) is becoming more and more important in the retail business, especially for improving the customer experience and level of happiness. He talks about the advantages of using AI in retail, such as making shopping more personal, keeping track of goods better, and improving supply chain processes. The author has stressed that stores need to change to how the market is changing and use AI to get ahead of the competition. Retailers may additionally



utilise AI to improve the customer experience by using robots for customer service, making personalised suggestions based on information about clients, and utilising AI-powered tools to handle inventory and shipping. This shows that AI has a lot of promise in retail and how important it is to use this technology to improve the customer experience and level of happiness now and in the future. Even local stores are starting to sell things online, so all ecommerce sites will need utilise AI if they want to beat the local shops. (D.R., 2023)

## **2. Revolutionizing E-commerce: AI-powered CX automation takes centre stage.**

The story talks about how AI-powered automation of the customer experience (CX) is changing the e-commerce business. It says that more and more people are shopping online, so companies are using AI-powered tools to improve the consumer experience and make things run more smoothly. The article shows how AI is used in various fields of online shopping, such as with personalised suggestions, robots, and virtual helpers. It also talks about the benefits of AI, such as how it can make customers more interested, improve conversion rates, and lower costs. This study is helped by the article, which talks about how important it is to keep up to date on the latest developments in technology in order to stay strong in the e-commerce business. (Anand, 2023)

**3. Amazon uses AI in almost everything it does** Pedro Domingos, a professor at the University of Washington and the author of the book *The Master Algorithm*, explained to CNN Business that Amazon uses AI more than any other business in the world. "Amazon is a company that wishes to do everything, and with AI it has discovered an innovation which is good for everything."

Amazon is famous for using AI in many parts of its business, such as recommending products, setting prices, managing supplies, helping customers, and even making deliveries. The company made Alexa, an AI-powered speech assistant that is built into its smart home gadgets and gives people personalised suggestions. (Morgan, 2021) Amazon additionally employs AI algorithms to look at customer data and guess what customers will buy in the future. This lets the company improve its price and inventory tactics. The company has also been putting money into robots and automation to make its warehouses and shipping systems run better. Information about how Amazon uses AI is frequently found in news stories, company news releases, and discussions with Amazon leaders, among other places. (GRANE, 2023)

## **III. OBJECTIVES**

- To identify the key trends and developments in AI and its use in the e-commerce industry.
- To analyze the impact of AI on customer experience and satisfaction in the e-commerce

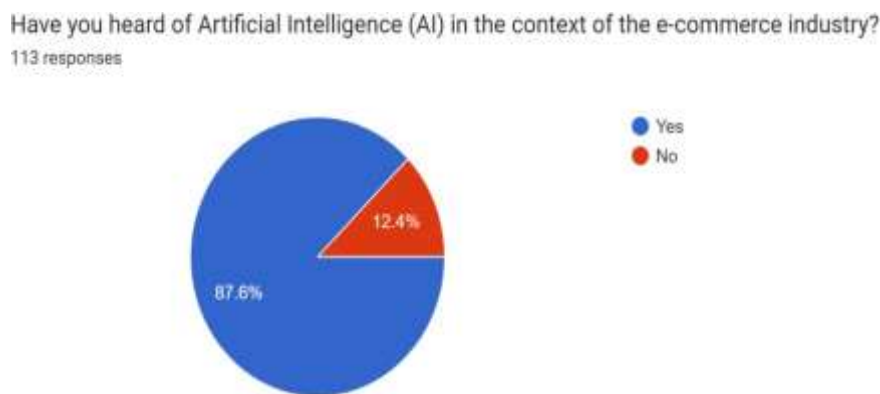
industry.

- To examine the factors that influence consumer perceptions and attitudes towards AI-enabled e-commerce platforms.
- To determine the effectiveness of AI in enhancing customer experience and satisfaction in the e-commerce industry.
- To provide recommendations for e-commerce companies on the optimal use of AI to improve customer experience and satisfaction levels.

#### **IV. RESEARCH METHODOLOGY**

The study is based on both primary and secondary data. The study is a Mumbai-based exploratory study that examined the impact of AI on e-commerce experience and satisfaction through a questionnaire of 113 tech-savvy residents. While the research, limited to Mumbai and Thane, suggests positive outcomes, its small size and reliance on solely quantitative data call for further investigation with wider demographics and mixed method approaches to delve deeper into specific AI applications and garner more nuanced insights.

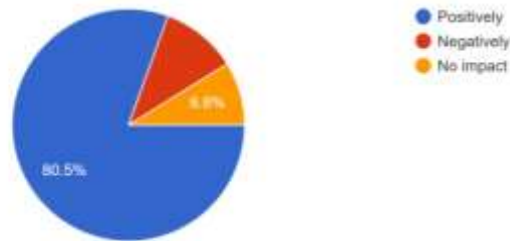
#### **V. DATA ANALYSIS**



*Figure 1 Source: Primary source*

It is clearly evident that the majority of the respondents are aware of AI technology used in e-commerce sector. We can conclude that the age factor does not play any significant role in determining whether a person is using AI or not. Approximately 88% of the respondents are aware that they have used AI.

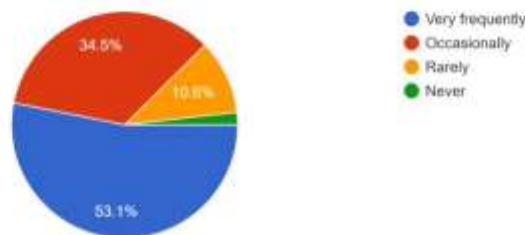
In your opinion, how has AI impacted the e-commerce industry in terms of enhancing customer experience?  
113 responses



*Figure 2 Source: Primary source*

We can say that those who have used AI have experienced a better and enhanced customer experience and that ai has played a significant role in improving customer satisfaction levels. 80% of respondents feel that AI has enhanced their experiences with e-commerce shopping.

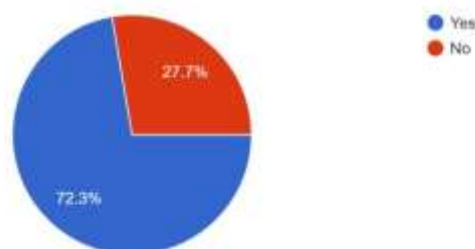
How frequently do you think e-commerce companies adopt new AI technologies to improve their operations?  
113 responses



*Figure 3 Source: Primary source*

Even though the technology is very new to the companies as well as the consumers they see and observe the changes that the e-commerce sector does on regular basis hence as for the respondents 53% respondents feel that ecommerce companies adopt new AI technologies to improve their operations very frequently.

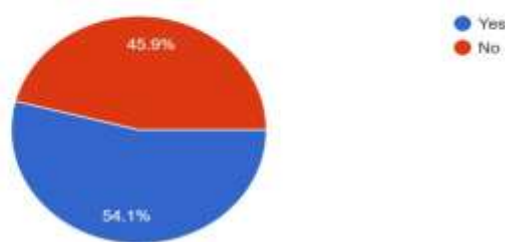
Has the use of AI led to faster delivery times for your online purchases?  
112 responses



*Figure 4 Source: Primary source*

To summarize the above charts, we can say that 78% of respondents have experienced improvements in their experience while shopping due to AI and about 72% of the respondents think that has led to faster delivery due to AI-controlled inventory management.

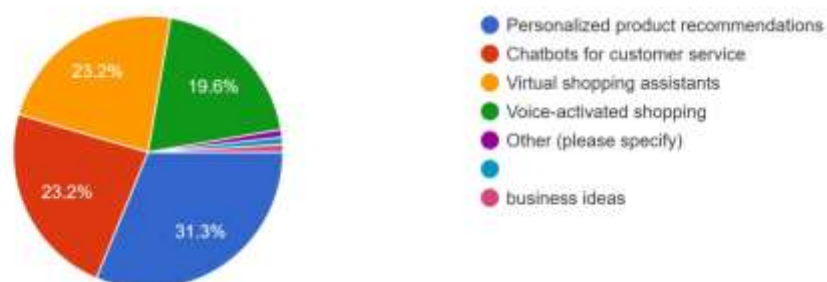
Would you be willing to pay more for products or services if it means receiving a better customer experience through the use of AI-enabled features?  
111 responses



*Figure 5 Source: Primary source*

Even though the customers enjoy AI-enabled e-commerce experience, they won't be willing to pay extra for this. Hence companies need to make a note of this. The ratio of customers willing to pay is almost half.

In your opinion, which AI-enabled feature do you think has the most significant impact on improving customer experience and satisfaction in the e-commerce industry?  
112 responses



*Figure 6 Source: Primary source*

Most favorite AI-enabled feature for the respondents is personalized recommendations comprising of almost 31% followed by chatbots for customer service-23%, virtual shopping assistance 23%.

## **VI. FINDINGS**

- The survey respondents had an equal gender distribution, and the majority were in the age group of 18 to 25. This shows that there is a scope of improvement in the middle aged and senior age group.
- Only a handful of 12% respondents were not aware they had used AI in any form on ecommerce. This shows that there is a good amount of awareness and in the next few months everyone will be aware about the technology.
- Now that the respondents have made positive auto recommendations it is time to launch some other features to enhance customer experience in ecommerce.
- Only 50% of respondents felt that AI is trustworthy in terms of data security, so e-commerce websites need to make the consumer feel secure about usage of their data.
- Only 30% of the respondents feel secure while sharing their data with AI for better customer experience which leaves us with a big chunk of 70% which is still to be achieved.
- Enabling customer service chatbots had proved to be a boon to consumers, with 73% of the respondents having their issues solved quickly since the introduction of AI-enabled customer service chatbots.
- My favorite AI-enabled feature for the respondents was personalized recommendations, followed by chatbots for customer service and virtual shopping assistance. But these are the known features ecommerce needs to work more on the unknown features and educate their consumers to use those for a seamless experience.
- The frequency of using AI-enabled features on e-commerce platforms was occasional, and 60% of the respondents were not satisfied with the current service. Hence change changes need to be made in the way AI is working by analysis of those unsatisfied customers data.
- Ecommerce websites should not plan on making the customers pay extra for using these AI features as it is only going to fire back.
- AI features introduced in ecommerce are so smooth that the customer doesn't even realize where and how he/she has made use of AI.

## **VII. CONCLUSION**

Clearly, the majority of respondents are familiar with AI technology employed in the e-commerce sector. Auto-recommendations based on a customer's previous purchases have become an integral part of their customer satisfaction and experience. It can be concluded that the recommendations made by AI-powered e-commerce platforms were pertinent and accurate. Even though it enhances

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the customer experience, e-commerce platforms have not yet won the trust of their consumers, as approximately half of the respondents responded indifferently when asked if AI-enabled product recommendations were reliable.

There are no such trends that are pertaining, but e-commerce platforms use features such as auto product suggestions, chatbots, virtual try-on, and shopping support. Because AI is self-learning, the AI sector is having a big influence on customer service and experience. It continues to learn from its errors. It carefully examines what influenced the customer's purchasing choice and attempts to mimic or avoid the same, depending on the circumstances. Traditional customer service approaches revealed human faults such as conflicts, incorrect language usage, quick response and so on. Because AI is a pre-programmed function, it avoids these errors. AI maintains her calm and interacts with the consumer in a kinder manner. This is a novel experience for consumers, and it is proving to be quite effective in changing their attitudes regarding AI-enabled services. AI has shown itself to be quite useful, yet there is still room for development. Factors such as repeated messages, lack of empathy, failure to recognize the gravity of the situation, and, at times, incorrect product suggestions as a result, the consumer is dissatisfied.

#### **VIII. SCOPE**

- The study is confined to only some areas of Thane and Mumbai Region.
- People with understanding of technology have been considered for this research.
- The study is only restricted to a sample size of 113 due to less time for collection of data.

#### **IX LIMITATIONS**

- Due to limited time, the sample size for primary research was very small.
- The data might be biased due to incomplete awareness about the topic within the population.
- Since the survey form was circulated within Mumbai and Thane region other parts of the country were not covered.
- The majority of respondents were students.

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**ENTREPRENEURIAL FINTECH MODEL: AN OVERVIEW****<sup>1</sup>Dr B.Keerthana, <sup>2</sup>M.Manikandan, <sup>3</sup>V.Senthil Murugan***<sup>1</sup>Assistant Professor, Department of Management Studies,  
Sri Sairam Engineering College, Chennai, India.**<sup>2</sup>Assistant Professor, Department of Management Studies,  
Sri Sairam Engineering College, Chennai, India**<sup>3</sup>Assistant Professor, Department of BBA,  
Mar Gregorios college of arts and science, Chennai, India.***I. INTRODUCTION**

Entrepreneurship is one of the most important issues in the economies and growth of countries and is the real engine of social and economic development. Entrepreneurship remains the best hope for any country to prosper. As societies seek to meet their operational requirements, the importance of caring for a new generation of entrepreneurs, both from employers and those with entrepreneurial spirit, is crucial. Governments have become increasingly interested in the entrepreneurial trend in economic revitalization, which has led to an increase in the number of government and international institutions to sponsor and assist entrepreneurs. Those institutions provide special financial and technical support to entrepreneurs to enable them to establish their own projects, leading to an increase in the number of Entrepreneurial projects, reducing the unemployment rate, developing creativity and innovation and achieving real economic development. Project financing remains one of the major constraints facing innovators, inventors and entrepreneurs who want to grow and expand. This problem is considered the most important obstacle to the owners of projects in third world countries in general, and the Arab region in particular. The decentralized nature of the Internet and the growth of social media have revolutionized financing around the world. Online fundraising efforts are freed from the strict limits and hierarchies imposed by traditional institutions and donors and the power of local and global networks is used to obtain financial support for projects and ideas. This type of shift in contemporary finance is called Crowd funding, one of the most important factors influencing the spread of this contemporary type of finance is the availability of contemporary Internet-based financial technology, which allows easy exchange and transfer of funds. Fintech, which is known as financial technology is one of the most creative innovations to facilitate transferring money through internet. This new tool raised more than (109\$) billion between (2009-2017).



## II. OBJECTIVE OF THE STUDY

The objective of this study is to determine the Fintech using in region, how far this tool is exist and how entrepreneurs benefit from it. In view of the literature review, the study raises the question of:

- To study how far Fintech used in region?
- To study what is the impact of Fintech on entrepreneurs?
- To study how can benefit from Fintech in Crowd funding campaigns

## III. REVIEW OF LITERATURE

In this section, we present the relevant literature pertaining to entrepreneurial cluster formation (Section 2.1) and provide a description of important elements of the fintech sector (Section 2.2). The former describes the academic literature we aim to contribute to. The latter is useful to more broadly understand the development of the fintech industry and how digitalization of the financial industry is affected by many of the incumbent players. Finally, we develop our hypotheses in Section 2.3.

2.1. Related literature on entrepreneurial concentration Following Porter (1998), a cluster can be defined as a "geographic concentration of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities" (Rocha, 2004; Wennberg and Lindqvist, 2010). Entrepreneurial clusters have been studied extensively in the past. For instance, Wennberg and Lindqvist (2010) examined the impact of vicinity to a cluster on the survival and performance of startups, thereby contributing to the understanding of whether and how clusters contribute to entrepreneurial activities (see Rocha, 2004, for a survey). Guiso and Schivardi (2011) argued that two sets of reasons may affect the disparity in entrepreneurial activities across geographic areas. One set comprises various entry costs, and the other comprises external effects. Using a sample of Italian firms, the authors find that externalities<sup>5</sup> (in particular, learning externalities) drive cluster formation but not differences in entry costs. The literature stresses the fact that clusters represent accumulations of knowledge and resources, facilitating a regional culture of entrepreneurship more generally (Fritsch and Wyrwich, 2018). Therefore, clusters are important locations for new startups. Hervas-Oliver and Albors-Garrigos (2007) argued that clusters are the result of past decisions that led to the accumulation of local resources. Relatedly, Acs, Stam, Audretsch, and O'Connor (2017) referred to ecosystems as physical environments that are defined by the different interactions among entrepreneurs, firms, and institutions (among others) and that affect regional development and performance.

## IV. RESEARCH METHODOLOGY

### Research- Descriptive

We collected data by hand on entrepreneurial fintech startups started in France. The challenge to building our dataset was twofold. First, this is a dynamic sector without a specific industry code, and fintech companies are usually registered under very broad categories, such as financial services (which also include banks and insurance companies more generally).

### Data Collection

Data collected is one of the most important aspects of research. For the success of any project accurate data is very important and necessary. The information collection through research methodology must be accurate and relevant.

- Primary Data
- secondary Data

### Primary data:

Data that has been collected from first-hand-experience is known as primary data. Primary data has not been published yet and is more reliable, authentic and objective. Primary data has not been changed or altered by human beings; therefore its validity is greater than secondary data. Importance of Primary Data:

### Secondary data:

Secondary data is the data that is collected from the primary sources which can be used in the current research study. Collecting secondary data often takes considerably less time than collecting primary data where you would have to gather every information from scratch.

### Sampling Technique

Sampling techniques can be broadly classified in to two types:

- Probability Sampling.
- Non Probability Sampling.

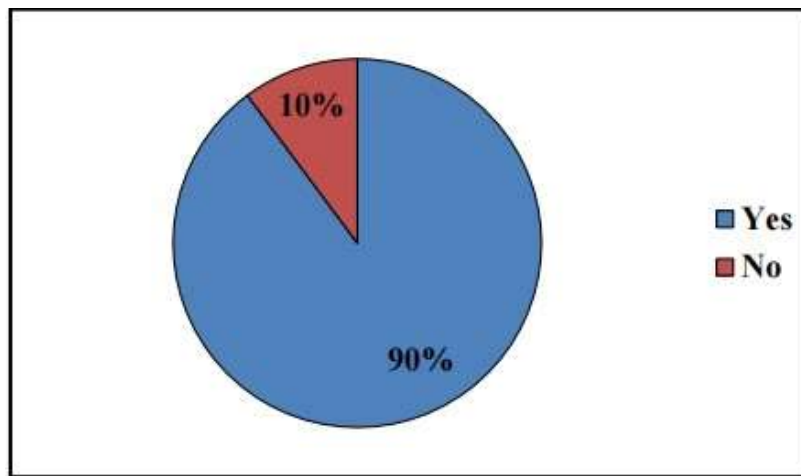
### Sample Size

Around 100 people were given the surveys to find out the examination.

**V. DATA ANALYSIS AND INTERPRETATION**

**Table :** Are you satisfied by using entrepreneurial fintech ?

OPTIONS	PERCENTAGE	COUNT
Yes	90	90
No	10	10

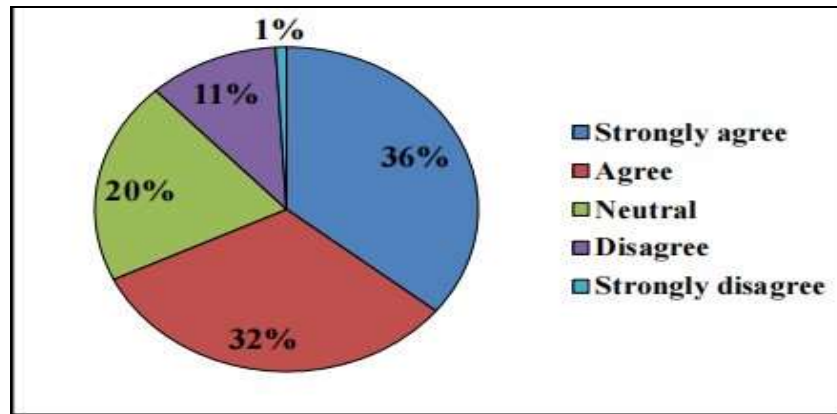


**Interpretation**

The above pie-chart represents the data received from respondents when asked the question that are they satisfied by using entrepreneurial fintech were satisfied by i.e around 90 % of 100%.

**Table:** Do you think going cashless is beneficial for the economic growth of India?

OPTIONS	PERCENTAGE	COUNT
Strongly Agree	36	36
Agree	32	32
Neutral	20	20
Disagree	11	11
Strongly disagree	1	1

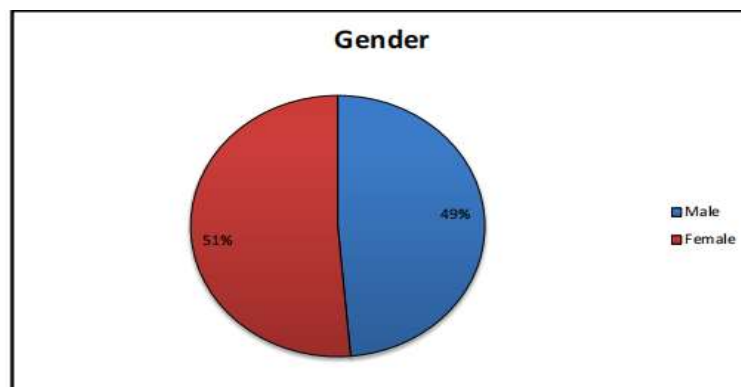


Interpretation

Around 36% of the total respondents strongly agree that going cashless is beneficial for the economic growth of India and around 32% of the respondents agree that going cashless has helped the economy. Around 11% of the respondents disagree that going cashless has helped the economy.

**Table** Overall Analysis of business on the basis of survey

OPTIONS	PERCENTAGE	COUNT
MALE	49	49
FEMALE	51	51

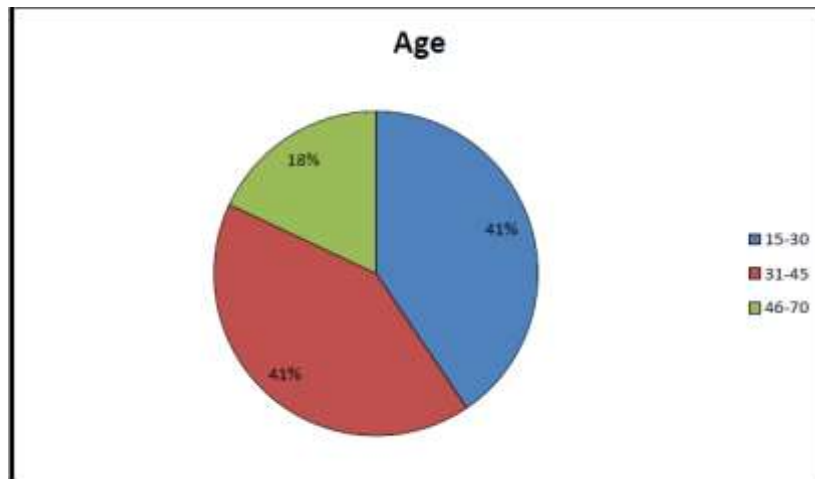


Interpretation

From the total respondents of there were 51% female respondents.

**Table** Age of respondent

OPTION	PERCENTAGE	COUNT
15-30	41	41
31-45	41	41
46-70	18	18



**Interpretation**

From the total, Majority of the respondents were from age group 31-45 years i e 41%

**VI. CONCLUSION**

Crowd funding, which allows a large number of individuals to collectively finance a new business venture through a technology platform, has risen rapidly as a popular way of financing a wide range of activities including business ventures, personal loans, and charity projects. The modern crowd funding business mode consists of three types of players. The project proposers who provide the original idea/blueprint/project that requires external finance, potential investors who are interested in the idea, and an internet platform that brings all parties alongside to kick-start the new business venture.

Fintech, an abbreviation of financial technology, started being used broadly to refer to the influx of technology tools, platforms, and ecosystems that make financial services or products more accessible, efficient, and affordable. The crowd funding activity is just one of many aspects of Fintech. Fintech today refers to not one, but a lot of technologies that broadly impact the way financial payment, funding, lending, investing, financial services, and currencies are conducted. These include, for instance, digital payments, crowd funding, Robo-advisors, crypto currencies and markets/services enabled by crypto currencies.

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# INNOVATIVE BUSINESS PRACTICES FOR SUSTAINABLE DEVELOPMENT

## About the Editors



**Dr. Aanchal Puri** is working as an Assistant Professor in the Department of Business Administration of Kanoria PG Mahila Mahavidyalaya, Jaipur. With her keen interest in the field of marketing she completed her Ph.D. in Digital Advertising. She is a Gold Medalist in BBA, MIB and M.Com. She has 10 Years of Teaching experience. With unconditional dedication towards Community Development she has been able to bring a positive change in the society and also a drastic change in the attitude and Personality of Scholars. Her Committed attitude towards work made her outshine at various national and International Platforms. She is also a President Awardee of National Service Scheme (2010) and has also represented India in China as a youth delegate.



**Dr. Yabesh Abraham Durairaj Isravel** is working as an Associate Professor in the School of Management at S.A. College of Arts & Science (affiliated to University of Madras), Chennai, Tamilnadu. He Graduated in Bachelor of Business Administration from University of Madras and Post-Graduation in Master of Business Administration (HR & Marketing) and Ph.D. (Management Sciences) from Anna University, Chennai, India. He also has done EPGDHRM from LIBA (Loyola Institute of Business Administration), Chennai. He has an Industrial Experience for about 4 Years. He is in teaching profession for 14 years. He has presented number of papers in National and International Journals, Conference and Symposiums in India & in abroad as well. His main area of interest includes Human Resource Management, Organizational Behaviour, Strategic Management, Entrepreneurship.



**Dr. Neena Katkar**, is currently Heading Corporate Relations, Placements and Chetana's Alumni Network, holds rich experience of over 20 years with Chetana's Institute of Management and Research, and has an Instrumental role in shaping management careers. She has been awarded a Ph.D. from Mumbai University, and excels in career counselling, Corporate Networking, and Alumni Engagement. As a certified student counsellor, Dr. Katkar has been pivotal in setting up industry-institute engagement activities, ensuring students to be corporate-ready. With over two decades of experience, she has authored impactful research papers, co-authored a book, and actively contributed as a resource person in various academia and corporate training sessions. Her commitment to excellence is further evident in consulting projects, such as Maharashtra State Government research project on Digital Literacy. A distinguished academician and mentor, Dr. Neena Katkar continually contributes to the field of management education and career development, staying attuned to evolving industry trends.

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