

Volume 6, Issue 2 (XXIX)  
April - June 2019

ISSN 2394 - 7780



International Journal of  
**Advance and Innovative Research**  
(Conference Special)

Indian Academicians and Researchers Association  
[www.iaraedu.com](http://www.iaraedu.com)



# National Seminar

On

CONTEMPORARY INDIAN BUSINESS PRACTICES  
IN THE DIGITAL ERA  
(NSCIBP – 2019)

ORGANIZED BY

Department of Management  
School of Management, Pondicherry University  
Karaikal Campus, Puducherry

22<sup>th</sup> March 2019



Indian Academicians and Researcher's Association



## **About the University**

The Pondicherry University, since its inception in 1985, continues to be a leading University situated in the southern part of the country and focused on both quality teaching and innovative research of high standards in a wide range of disciplines. The University has three campuses. The main campus is located at Puducherry with 800 acres of lush green Wi-Fi enabled area, housing 15 Schools, 51 Departments and Centres, 158 PG & Research programmes and the other two campuses are located at Port Blair and Karaikal. The University has 97 affiliated colleges, offering Under Graduate and Post Graduate courses in the Faculties of Arts, Science, Commerce, Engineering Technology, Fine Arts, Law, Management and Medicine. The University has been accredited with 'A' by NAAC with regard to student friendly environment, good infrastructure, modern amenities, excellent teaching and supportive non-teaching fraternity.

## **School of Management**

The school of Management is one of the popular schools of excellence in the campus, primarily focuses on the Business related courses since its very inception in 1986. This is the most diversified school with seven departments catering to the needs of business world under the different specialized courses. It is an exquisite blend of vibrant student community across the globe. It is an epitome of discipline, sincerity, hard work and overall achievement in the whole campus.

## **Department of Management, Karaikal Campus**

With an objective of promoting Insurance sector, the Department of Management, Karaikal campus started offering sectoral M.B.A. in Insurance Management and Ph.D in Management from the academic year 2009-10. The Department is committed to the development of youth as managers and capable citizens for occupying key positions across the world in the field of insurance as well as insurance verticals. The departments consistent in achieving in over 90 per cent placements every year

## **About IARA**

Indian Academicians and Researchers Association ( IARA ) is an educational and scientific research organization of Academicians, Research Scholars and practitioners responsible for sharing information about research activities, projects, conferences to its members. IARA offers an excellent opportunity for networking with other members and exchange knowledge. It also takes immense pride in its services offerings to undergraduate and graduate students. Students are provided opportunities to develop and clarify their research interests and skills as part of their preparation to become faculty members and researcher. Visit our website [www.iaraedu.com](http://www.iaraedu.com) for more details.

## **About the Seminar**

The most significant ideas and developments that have impacted business management in the first decade of the 21<sup>st</sup> century and also the most productive management research areas in the decade that changed the world order had a profound impact on global business. The current wave of globalization has been the driving force behind the most far-reaching and a powerful change in business, and the information technology has indisputably been the facilitator. Everyone today is convinced that the technology is going to hold the key to future digitalization. The achievements in the banking today would not have made possible without IT revolution and digital marketing and digital India. It is the modern era consumer are changing from the traditional marketing to on-line marketing or e-marketing which has opened through the technology of computers and internet where a consumer can buy the product through online marketing, e-commerce portal and payment are made digitally. Benefits to consumers through lower price points and better shopping experience, access to new technology and capital from international players for existing retailers, Hence it is decided to organize a One-day National Level Seminar on "Contemporary Indian Business Practices in the Digital Era". This seminar is expected to witness highly intellectual's discussions on the theme among the resource persons and delegated seminar fraternity.

## A BRIEF ABOUT ORGANIZING COMMITTEE

### **CHIEF PATRON**

**Prof. Gurmeet Singh**

Vice-Chancellor, Pondicherry University, Pondicherry

### **PATRONS**

**Prof. S. BalaKrishnan**

Director, SEI&RR

**Prof. Rajeew Jain**

Director, C& CR

**Dr. B. Chithra**

Registrar (i/c)

### **CO-PATRONS**

**Prof. G Anjaneya Swamy**

Dean, School of Management

**Prof. S. Amilan**

Center Head, Karaikal Campus

### **SEMINAR CONVENER**

**Dr. S.A. Senthil Kumar**

Head, Department of Management, Karaikal Campus

### **ORGANIZING SECRETARY**

**Dr. Byram Anand**

Assistant Professor

### **CO-ORDINATORS**

Dr. M. Dharmalingam, Associate Professor

Dr. D. H. Malini, Assistant Professor

Dr. C. Madhavaiah, Assistant Professor

Members: Research Scholars and Students

### **ADVISORY COMMITTEE**

Prof. B. Rajashekar, Central University of Hyderabad

Prof. Badiuddin Ahmed, Maulana, Azad National Urdu University, Hyderabad

Prof. D. Chennappa, Osmania University, Hyderabad

Prof. M. Punniya Moorthy, NIT, Tiruchirapalli

Prof. Lalitha Ramakrishna, Pondicherry University, Pondicherry

Prof. Chitra Siva Subramaniam, Pondicherry University, Pondicherry

Prof. R. Venkatapathy, Bharathiar University, Coimbatore

Prof. K. Janardhanam, Bangalore Central University, Bangalore

Prof. R. Thenmozhi, University of Madras, Chennai

Prof. B. Rajashekar, M.S. University, Tirunelveli

Prof. P. Varalaxmi, Kakatiya University, Warangal

## **Guest Editors of Special Volume**

**Dr. S. A. Senthil Kumar**

Professor and Head, Department of Management  
School of Management, Pondicherry University  
Karaikal Campus  
Puducherry

**Dr. Byram Anand**

Assistant Professor, Department of Management  
School of Management, Pondicherry University  
Karaikal Campus  
Puducherry

**Released on 30<sup>th</sup> May, 2019**

International Journal of Advance and Innovative Research

Volume 6, Issue 2 ( XXIX ): April - June 2019

ISSN 2394 - 7780

Copyright @ 2019 Indian Academicians and Researchers Association, Guwahati  
All rights reserved.

No part of this publication may be reproduced or transmitted in any form or by any means, or stored in any retrieval system of any nature without prior written permission. Application for permission for other use of copyright material including permission to reproduce extracts in other published works shall be made to the publishers. Full acknowledgment of author, publishers and source must be given.

The views expressed in the articles are those of the contributors and not necessarily of the Editorial Board or the IARA. Although every care has been taken to avoid errors or omissions, this publication is being published on the condition and understanding that information given in this journal is merely for reference and must not be taken as having authority of or binding in any way on the authors, editors and publishers, who do not owe any responsibility for any damage or loss to any person, for the result of any action taken on the basis of this work. All disputes are subject to Guwahati jurisdiction only.

# International Journal of Advance and Innovative Research

---

Volume 6, Issue 2 ( XXIX ): April - June 2019

---

Editor- In-Chief

**Dr. Tazyn Rahman**

## Members of Editorial Advisory Board

**Mr. Nakibur Rahman**

Ex. General Manager ( Project )  
Bongaioan Refinery, IOC Ltd, Assam

**Dr. Alka Agarwal**

Director,  
Mewar Institute of Management, Ghaziabad

**Prof. (Dr.) Sudhansu Ranjan Mohapatra**

Dean, Faculty of Law,  
Sambalpur University, Sambalpur

**Dr. P. Malyadri**

Principal,  
Government Degree College, Hyderabad

**Prof.(Dr.) Shareef Hoque**

Professor,  
North South University, Bangladesh

**Prof.(Dr.) Michael J. Riordan**

Professor,  
Sanda University, Jiashan, China

**Prof.(Dr.) James Steve**

Professor,  
Fresno Pacific University, California, USA

**Prof.(Dr.) Chris Wilson**

Professor,  
Curtin University, Singapore

**Prof. (Dr.) Amer A. Taqa**

Professor, DBS Department,  
University of Mosul, Iraq

**Dr. Nurul Fadly Habidin**

Faculty of Management and Economics,  
Universiti Pendidikan Sultan Idris, Malaysia

**Dr. Neetu Singh**

HOD, Department of Biotechnology,  
Mewar Institute, Vasundhara, Ghaziabad

**Dr. Mukesh Saxena**

Pro Vice Chancellor,  
University of Technology and Management, Shillong

**Dr. Archana A. Ghatule**

Director,  
SKN Sinhgad Business School, Pandharpur

**Prof. (Dr.) Monoj Kumar Chowdhury**

Professor, Department of Business Administration,  
Guahati University, Guwahati

**Prof. (Dr.) Baljeet Singh Hothi**

Professor,  
Gitarattan International Business School, Delhi

**Prof. (Dr.) Badiuddin Ahmed**

Professor & Head, Department of Commerce,  
Maulana Azad Nationl Urdu University, Hyderabad

**Dr. Anindita Sharma**

Dean & Associate Professor,  
Jaipuria School of Business, Indirapuram, Ghaziabad

**Prof. (Dr.) Jose Vargas Hernandez**

Research Professor,  
University of Guadalajara, Jalisco, México

**Prof. (Dr.) P. Madhu Sudana Rao**

Professor,  
Mekelle University, Mekelle, Ethiopia

**Prof. (Dr.) Himanshu Pandey**

Professor, Department of Mathematics and Statistics  
Gorakhpur University, Gorakhpur

**Prof. (Dr.) Agbo Johnson Madaki**

Faculty, Faculty of Law,  
Catholic University of Eastern Africa, Nairobi, Kenya

**Prof. (Dr.) D. Durga Bhavani**

Professor,  
CVR College of Engineering, Hyderabad, Telangana



**Prof. (Dr.) Shashi Singhal**

Professor,  
Amity University, Jaipur

**Prof. (Dr.) Alireza Heidari**

Professor, Faculty of Chemistry,  
California South University, California, USA

**Prof. (Dr.) A. Mahadevan**

Professor  
S. G. School of Business Management, Salem

**Prof. (Dr.) Hemant Sharma**

Professor,  
Amity University, Haryana

**Dr. C. Shalini Kumar**

Principal,  
Vidhya Sagar Women's College, Chengalpet

**Prof. (Dr.) Badar Alam Iqbal**

Adjunct Professor,  
Monarch University, Switzerland

**Prof.(Dr.) D. Madan Mohan**

Professor,  
Indur PG College of MBA, Bodhan, Nizamabad

**Dr. Sandeep Kumar Sahratia**

Professor  
Sreyas Institute of Engineering & Technology

**Dr. S. Balamurugan**

Director - Research & Development,  
Mindnotix Technologies, Coimbatore

**Dr. Dhananjay Prabhakar Awasarikar**

Associate Professor,  
Suryadutta Institute, Pune

**Dr. Mohammad Younis**

Associate Professor,  
King Abdullah University, Saudi Arabia

**Dr. Kavita Gidwani**

Associate Professor,  
Chanakya Technical Campus, Jaipur

**Dr. Vijit Chaturvedi**

Associate Professor,  
Amity University, Noida

**Dr. Marwan Mustafa Shamot**

Associate Professor,  
King Saud University, Saudi Arabia

**Prof. (Dr.) Aradhna Yadav**

Professor,  
Krupanidhi Group of Institutions, Bengaluru

**Prof.(Dr.) Robert Allen**

Professor  
Carnegie Mellon University, Australia

**Prof. (Dr.) S. Nallusamy**

Professor & Dean,  
Dr. M.G.R. Educational & Research Institute, Chennai

**Prof. (Dr.) Ravi Kumar Bommiseti**

Professor,  
Amrita Sai Institute of Science & Technology, Paritala

**Dr. Syed Mehartaj Begum**

Professor,  
Hamdard University, New Delhi

**Dr. Darshana Narayanan**

Head of Research,  
Pymetrics, New York, USA

**Dr. Rosemary Ekechukwu**

Associate Dean,  
University of Port Harcourt, Nigeria

**Dr. P.V. Praveen Sundar**

Director,  
Shanmuga Industries Arts and Science College

**Dr. Manoj P. K.**

Associate Professor,  
Cochin University of Science and Technology

**Dr. Indu Santosh**

Associate Professor,  
Dr. C. V.Raman University, Chhattisgarh

**Dr. Pranjal Sharma**

Associate Professor, Department of Management  
Mile Stone Institute of Higher Management, Ghaziabad

**Dr. Lalata K Pani**

Reader,  
Bhadrak Autonomous College, Bhadrak, Odisha

**Dr. Pradeepta Kishore Sahoo**

Associate Professor,  
B.S.A, Institute of Law, Faridabad

**Dr. R. Navaneeth Krishnan**

Associate Professor,  
Bharathiyan College of Engg & Tech, Puducherry

**Dr. Mahendra Daiya**  
Associate Professor,  
JIET Group of Institutions, Jodhpur

**Dr. Parbin Sultana**  
Associate Professor,  
University of Science & Technology Meghalaya

**Dr. Kalpesh T. Patel**  
Principal (In-charge)  
Shree G. N. Patel Commerce College, Nanikadi

**Dr. Juhab Hussain**  
Assistant Professor,  
King Abdulaziz University, Saudi Arabia

**Dr. V. Tulasi Das**  
Assistant Professor,  
Acharya Nagarjuna University, Guntur, A.P.

**Dr. Urmila Yadav**  
Assistant Professor,  
Sharda University, Greater Noida

**Dr. M. Kanagarathinam**  
Head, Department of Commerce  
Nehru Arts and Science College, Coimbatore

**Dr. V. Ananthaswamy**  
Assistant Professor  
The Madura College (Autonomous), Madurai

**Dr. S. R. Boselin Prabhu**  
Assistant Professor,  
SVS College of Engineering, Coimbatore

**Dr. A. Anbu**  
Assistant Professor,  
Acharya College of Education, Puducherry

**Dr. C. Sankar**  
Assistant Professor,  
VLB Janakiammal College of Arts and Science

**Dr. G. Valarmathi**  
Associate Professor,  
Vidhya Sagar Women's College, Chengalpet

**Dr. M. I. Qadir**  
Assistant Professor,  
Bahauddin Zakariya University, Pakistan

**Dr. Brijesh H. Joshi**  
Principal (In-charge)  
B. L. Parikh College of BBA, Palanpur

**Dr. Namita Dixit**  
Associate Professor,  
ITS Institute of Management, Ghaziabad

**Dr. Nidhi Agrawal**  
Assistant Professor,  
Institute of Technology & Science, Ghaziabad

**Dr. Ashutosh Pandey**  
Assistant Professor,  
Lovely Professional University, Punjab

**Dr. Subha Ganguly**  
Scientist (Food Microbiology)  
West Bengal University of A. & F Sciences, Kolkata

**Dr. R. Suresh**  
Assistant Professor, Department of Management  
Mahatma Gandhi University

**Dr. V. Subba Reddy**  
Assistant Professor,  
RGM Group of Institutions, Kadapa

**Dr. R. Jayanthi**  
Assistant Professor,  
Vidhya Sagar Women's College, Chengalpattu

**Dr. Manisha Gupta**  
Assistant Professor,  
Jagannath International Management School



**Journal - 63571**

## UGC Journal Details

**Name of the Journal :** International Journal of Advance & Innovative Research

**ISSN Number :**

**e-ISSN Number :** 23947780

**Source:** UNIV

**Subject:** Multidisciplinary

**Publisher:** Indian Academicians and Researchers Association

**Country of Publication:** India

**Broad Subject Category:** Multidisciplinary

### CONTENTS

---

#### *Research Papers*

- RESHAPING OF MARKETING WITH ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING** 1 – 5  
Bhanu Chander, Kumaravelan, Naidu and Chelli Ashok
- CROP INSURANCE SCHEMES AND CLAIMS SETTELEMENTS IN INDIA** 6 – 14  
Prof. Perumalla Varalaxmi
- HEALTH INSURANCE FOR POOR IN INDIA** 15 – 19  
V. Deepa, Dr. S. A. Senthil Kumar and Dr. M. Dharmalingam
- A STUDY ON CONSUMER BEHAVIORAL INTENTION TOWARDS USAGE OF MOBILE WALLETS** 20 – 24  
Dr. P. Kishore Kumar
- A STUDY ON AWARENESS AMONG PUBLIC ABOUT GOODS AND SERVICES TAX (GST) IN INDIA** 25 – 27  
Dr. P. Kishore Kumar and Dr. V. Vikram
- CONSUMER ADOPTION OF DIGITAL PAYMENT APPLICATIONS- AN EMPIRICAL STUDY USING MODIFIED TECHNOLOGY ACCEPTANCE MODEL** 28 – 32  
Dr. Padmanabhan N S
- TALENT MANAGEMENT: A STRATEGIC DIMENSION IN HRM** 33 – 35  
Dr. Syeda Ruksana and Prof. Badiuddin Ahmed
- DIGITAL BANKING - NEW HORIZONS IN A CASH-LIGHT INDIA “TECHNOLOGY TRANSFORMS THE LANDSCAPE OF BANKING”** 36 – 41  
Dr. D. Jayarama Reddy and Prof. C. R. Reddy
- THE IMPACT OF TIME, PRICE AND ATTITUDE ON CONSUMER BEHAVIOUR INTENTION TOWARDS ONLINE FOOD DELIVERY SERVICES** 42 – 47  
Dr. Veldandi Ramchander Rao
- PROGRESS OF MICRO INSURANCE IN INDIA – AN ASSESSMENT** 48 – 54  
Dr. S. Balakrishnan and Dr. I. Grace Gnanadeepam
- FINANCIAL LITERACY AMONG THE BENEFICIARIES OF PRADHAN MANTRI JAN DHAN YOJANA (PMJDY) – THE CASE OF SATHANGUDI VILLAGE IN MADURAI DISTRICT OF TAMILNADU** 55 – 61  
Dr. S. Rameshkumar and B. Varadharajan

|   |           |
|---|-----------|
| <b>ANALYSIS OF DEMOGRAPHIC PROFILES OF HOME LOAN CONSUMERS WITH REFERENCE TO INSURANCE PRODUCTS</b>   | 62 – 65   |
| Dr. Satyanarayana Rentala and Abhinay Nedunuru  |           |
| <b>SMART PHONE USAGE BEHAVIOUR AMONG STUDENTS OF MANONMANIAM SUNDARANAR UNIVERSITY</b>  | 66 – 69   |
| S. Jeya Davyson Immanuel, Dr. G. Suguna and Dr. N. Rajalingam   |           |
| <b>JOB SATISFACTION OF FACULTY MEMBERS WORKING IN PRIVATE ENGINEERING COLLEGES</b>  | 70 – 77   |
| Sankarasubbu.K  |           |
| <b>DEBT BURDEN OF THE CULTIVATOR HOUSEHOLDS IN THE REFORMS PERIOD A VILLAGE LEVEL MICRO STUDY AT THE KHAMMAM DISTRICT OF -TELANGANA STATE</b> | 78 – 81   |
| K. Jal Abhijith Dev   |           |
| <b>A STUDY TO IDENTIFY THE INFLUENCE OF BUSINESS IN TOURISM SECTOR OF TIRUNELVELI DISTRICT</b>  | 82 – 86   |
| R. Lalitha and Dr. N. Rajalingam  |           |
| <b>A SURVEY OF MACHINE LEARNING ALGORITHMS IN IOT BASED WIRELESS SENSOR NETWORK FOR CROP YIELD PREDICTION IN PRECISION FARMING</b>            | 87 – 95   |
| Prem Kumar. B, Dr. G. Suresh Kumar, Dr. G. Kumaravelan and Vinoda. N  |           |
| <b>A COMPARATIVE STUDY ON GREEN COMPUTING AWARENESS AMONG ARTS AND ENGINEERING STUDENTS</b>   | 96 – 100  |
| S. T. Suvaitharan and Dr. N. Rajalingam   |           |
| <b>IMPLICATIONS OF GST MECHANISM – A BRIEF REVIEW</b>   | 101 – 105 |
| Shaik Jakeera Begum and N. Aparna   |           |
| <b>DETERMINANTS OF EXPORT PERFORMANCE: A COMPARATIVE ANALYSIS OF INDIAN AUTOMOBILE INDUSTRY AND INDIAN INFORMATION TECHNOLOGY FIRMS</b>       | 106 – 111 |
| Tinku Barik and Dr. Byram Anand   |           |
| <b>INDIA'S DIGITAL FINANCIAL INCLUSION: UNDERSTANDING OF THE YOUNG CONSUMER'S ATTITUDE TOWARDS DIGITAL PAYMENT METHODS</b>                    | 112 – 114 |
| Dr. N. Prabhakar, Dr. Byram Anand   |           |
| <b>A STUDY ON E-HEALTH CARE IN INDIA; PROBLEMS AND PROSPECTUS</b>   | 115 – 121 |
| Gadila Vakula Devi, Dr. Byram Anand and Krishna Prasada Rao   |           |
| <b>IMPLIMENTING GST IN SECTOR OF SMALL BUSINESS OF WHOLESALERS &amp; RETAILERS</b>  | 122 – 126 |
| Vanama Lakshmi Haritha  |           |
| <b>INFLUENCE OF WORKPLACE SPIRITUALITY ON COUNTERPRODUCTIVE BEHAVIOUR WITH MEDIATION EFFECT OF PERCEIVED ORGANISATIONAL SUPPORT</b>           | 127 - 130 |
| Vishnu Prasanna J and Madhavaiah C  |           |

---

**RESHAPING OF MARKETING WITH ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING**

---

**Bhanu Chander<sup>1</sup>, Kumaravelan<sup>2</sup>, Naidu<sup>3</sup> and Chelli Ashok<sup>4</sup>**Research Scholar<sup>1,3</sup> and Assistant Professor<sup>2</sup>, Department of Computer Science and Engineering, Pondicherry University, KaraikalResearch Scholar<sup>4</sup>, Department of Management, Pondicherry University, Karaikal

---

**ABSTRACT**

*Marketing function is growing rapidly with progressions in e-Commerce, digital and mobile moreover with changing customer demographic. In marketing field, marketers must have ideal understanding of their customers and most excellent ways to connect with target audience. Data plays major role in marketing however in practice whole customer data turns to lot of embarrassment to understand. For modelling customer segments, identify perfect communication strategy for individual, relevant content modelling, marketers cannot be successful without understanding enormous quantity of data. Although, with help of Artificial intelligence and Machine learning procedures marketers can directly access and apply whole customers information to make meaningful connections with their target audience. Furthermore, marketing professionals endlessly retrained and continuously supervise the movement of the field. Working with artificial intelligence as well as machine learning is no longer science fiction but fast becoming a reality means it might be essential for continued existence.*

*Keywords: Artificial intelligence, Machine learning, Marketing, Automation, Sales*

---

**1. INTRODUCTION- MARKETING, ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING**

In day by day life we use outsized amount of concoction goods and services such as clothes, electronic gadgets, food items, kitchen products, home decorations etc. these mentioned services and goods reached to us by business houses who take care about manufacture, create and guarantee that these only to sold, hence they make users/abusers/clients aware of their products and place them at users/clients well-located marks. This looks like a big process combination of planning, designing, pricing, promotion moreover for sale and warehousing they make use of wholesalers or retailers. The combination of what we discussed above is pronounced as marketing. As time changes marketing view also changed for example there is no need of products formed and developed where they used. Even in small towns you can found products and services which are manufactured at the corners of world. Here one clear statement regarding manufacturers who makes efforts for their products must be reach and in-demand to the definitive customer's/client's of entire the world. When people buy any electronic gadgets from any electric retail shop there must be ample varieties available to the customers in terms of brand name, shape, design, cost and color etc. This means manufactures evaluate the needs of the customers regarding their preferences, experiences and preparation the products consequently. Moreover present modern era manufactures ensure that customers are aware about the products and its features. As consequence marketing refers to the process of ascertaining consumers need and supply mixture of goods and services to the final clients/consumers to satisfy those needs [1, 4, 6].

Every part of marketing action such as planning, designing, packaging, transportation and sales and promotion comes into one combined operation called marketing efforts or integrated marketing which involves -- developing manufactured goods must convince requirements of the clients/consumers, while pricing products keep in mind target clients purchase power and conformity to pay, delightful promotional dealings so that clients/consumers to know about the manufacture goods availability, features and quality, pleasing measures after sales services to satisfy the client's needs, packaging of product which make more attractive and motivate clients to buy the product, finally the most important goal of all these pains is to receive turnover through maximization of customer satisfaction. This involves that, if the customers are satisfied, they will prolong to buy, and numerous fresh customers will be added [1-2].

Artificial intelligence (AI) has been a charming observation of science invented story for decades. Artificial intelligence is making computers think like intelligent people means AI can principally characterize the machine has capability to solve a problem without human participation. At some stage, AI makes good judgment for us to need finding a way to generate highly developed intellectual as a tool to move forward our species. At present AI's in three categories (1) Weak AI – works on some special situations, Weak AI in marketing domain uses in Amazon, Google, Flip cart, Deep-Stack and Google AlphaGo etc. (2) Strong AI – which can able to mimic human level intelligence, Strong AI uses marketing through voice recognition, patter recognition, Automotive works, language processing, content segmenting and visual recognition. (3) Artificial Super intelligence – capable to making scientific logical works which is surpass human intelligence. Nowadays

both weak AI and Strong AI plays significant role in marketing field, trying to change its base right from strategy to sales. AI illuminating that data can able to learn from past, store results in its memory and generate suitable solution for itself. Machine learning (ML) detain the approach to stylish level on condition that data essential for a machine to train and transform suitable when exposed to new-fangled data and fabricate more valuable results. Simply, ML is adopting computational processes in favor of civilizing machinery performance through detecting consistencies in training data and it refers to learning from ancient times experience to enhance the future performance. ML is widely applicable in marketing fields for know about customer behavior, requirements, segmenting customers, predicting customers turn, sentimental analysis and computer vision for product recognition and marketing. Moreover, ML procedures are used in generous size of exercises slot in classification, density estimation and regression in heterogeneity of employment territories such as bio-informatics, speech recognition, visualization and fraud detection [2-3].

## 2. WHY AI AND ML FOR MARKETING

At present new exhilaration instant AI in marketing than practice, Marketing fields that shows there interest to adopt AI technology, till now taking steps to make it happen. Out of 100 companies not more than 25 companies have implemented 2-3 AI results at system as an interior part of particular production. This above stated lines surely indicates that it is not too late for markets to put into practice AI, appliances of AI in marketing be fast growing in enlargement to the ample mixture of modernization software along with services presently accessible for brands to execute. Means forthcoming 2-3 years may possibly a titling point in the perforation of AI in marketing. Adding AI in marketing is a procedure of leveraging clients/customers data toward predicts the clients/customers next movement moreover improve customer voyage while shopping. AI proposes route to fulfill the distance among data science and execution by examine via scrutinize large chunks of data/information which was once an intractable procedure [1, 4-6].

Every day vast amount of data is creating; one famous quote form data scientists that “Data will not go in sleep mode” means data creation/generating will not stop its growing its size continuously. Storage of this data is a tremendous problem, by 2020 entire world will have over 50 Zetta-bytes of data here 1 Zetta-byte = 1 trillion Tera-bytes. The development of big data and highly developed systematic solutions has made it feasible for marketers to manufacture a comprehensible picture of their target clients/customers/audiences than prior. Artificial intelligence is capable of progress both structured and unstructured data as a result of extra speed as well as accurateness than humans. It is a key point of attention for companies under pressure to systematize their customer data in a trouble-free way. Marketers power the capability of ML to create associations among data points in order to increase approaching into their customer support. AI and ML can scrutinize speech to decide sentiment from spoken language, create visual renderings to explain social media styles moreover critical situations data can construct forecasts [1, 2, and 6].

| Traditional Four Ps Marketing | Professional Marketing  |
|-------------------------------|-------------------------|
| Product                       | Distribution            |
| Price                         | Exposure                |
| Promotion                     | Impression              |
| Placement                     | Recall                  |
|                               | Attitude shift          |
|                               | Response                |
|                               | Lead Qualification      |
|                               | Engagement              |
|                               | Sales                   |
|                               | Channel                 |
|                               | Customer lifetime value |
|                               | Influence               |

**Table: Difference between Traditional and Professional Marketing**

## 3. RESHAPING MARKETING WITH AI AND ML

❖ **Programmatic Advertisement:** Programmatic advertisement is nothing but computerized digital media exchange via machineries. Generally, media exchange is a labor-intensive procedure which involves synchronization of understanding, pricing, and placement along with several fine points in advertisement that creates ineffectiveness on behalf of marketers. But programmatic gives a solution for companies by computerize process with insights fueled by customers/clients data; markets are able to produce extremely targeted and custom-made advertisement at balance. Various AI procedures are available for programmatic usage, platforms like mobile phones advertisement 76.78% and 72.34% of online advertisement

implemented and utilizing AI and ML. Moreover advances in AI and ML used for customer segmentation, behavioral analysis, and customer change guesses and optimizations of innovative assets are beginning to observe acceptance as well [6-9].

- ❖ **Customers churn:** Customer churn shows the number of customers who ruined their service or correlation by way of business. Markets must do something to do not lose their customers, Machine learning assist to analyze this data on a much superior scale [10].
- ❖ **Transparency, distrust and fraud:** Marketers are continuously spending vast amount of money in programmatic advertisements but there are some disputes in ad brand, brand safety and primary facts regarding these disputes is brands and experiencing uncontrolled fraud. Inclusion of AI/ML solves many of these discussed disputes by improved pattern recognition, context of web contents and insights into the sentiment those can provide predictive analysis which can guide advertisers into marketing smarter partnerships. Natural language processing, fuzzy logic and pattern recognition techniques used for translate and recapitulate performance indicators that are advance applicable to marketers [6].
- ❖ **Sentiment Analysis:** Generally in retail stores make easy for marketers to understand whether customer/client is happy with product with help of facial expressions, gestures, tone and body language but this will lost in digital communication like when customer send a message or mail. AI/ML can evaluate text to determine whether sentiment is positive or negative based on that marketer responds to customer queries [6, 10]
- ❖ **Retargeting:** Retargeting ads be outline of digital advertising narrowly associated with machine learning, which is better than search, sending emails and display ads etc. automated retargeting ads done through recently purchased goods, search history and browser cookies. But consumer/client some time frustrated with them, integration of ML/AI reshapes ads to enjoyable.
- ❖ **Dynamic price changing:** When you purchasing train and airline tickets, the cost of tickets depends on how advance you purchasing it. Means dynamic pricing allows marketers to offer flexible prices for the products and services for a particular period of time. ML procedures dynamic pricing based on customer/clients choices.
- ❖ **Improved Audience insights:** The customers who purchase your manufactures not always from the same group. There is need for segmenting customers into separate groups that will give a better choice to engagement with customers. Machine learning can give valuable information regarding your customers accordingly marketers target them.
- ❖ **Image recognition and computer vision in Marketing:** Image recognition as well as computer vision put forward marketers to an ample variety of probable choices. Marketing utilizes these two AI based technologies in shape of convolution neural networks (CNNs) to facilitate computer systems toward scrutinize/examine image based data more competently than normal NNs through clustering groups of pixels together. Recently image recognition and computer vision exceptionally constructive tool for marketers to realize given consumers favorites for visuals in digital marketing efforts [6-9].
- ❖ **Chatbots Intelligence:** Chatbots be text-based chatty appliances where individual customers have a discussion with a bot and it automatically responds sufficient answers. AI made chatbots programmed in specific way to learn from previous customer conversation, they can understand complex request to improve interactions over time. Rule based chatbots responds to users correct input commands whereas AI based chatbots power with ML, NLP to enable human like conversations.
- ❖ **Social Media:** The crush of social media resting on marketing is unquestionable and it is crucial factor that necessitate to integrating with AI. Each one hour thousands of images shared in social media which will make big issue for marketers to pinpoint their brand images with quotations which share by them. As an effect of using image recognition as well as computer vision applications, marketers track and analyze behaviors like which brand name customers are posting on, how they apply those brands on a daily basis lives, the role brands take part in truthful exchanges, and more importantly that provide informed insights 6-9].
- ❖ **Robotic Process Assistants (RPA):** Employees with routine works will feel bored and increase the wastage of time usage of RPA overcome this problem. RPA chatbots used to handle administrative tasks like setting remainder, pulling information from web sources and summarizes them, scheduling meetings etc.



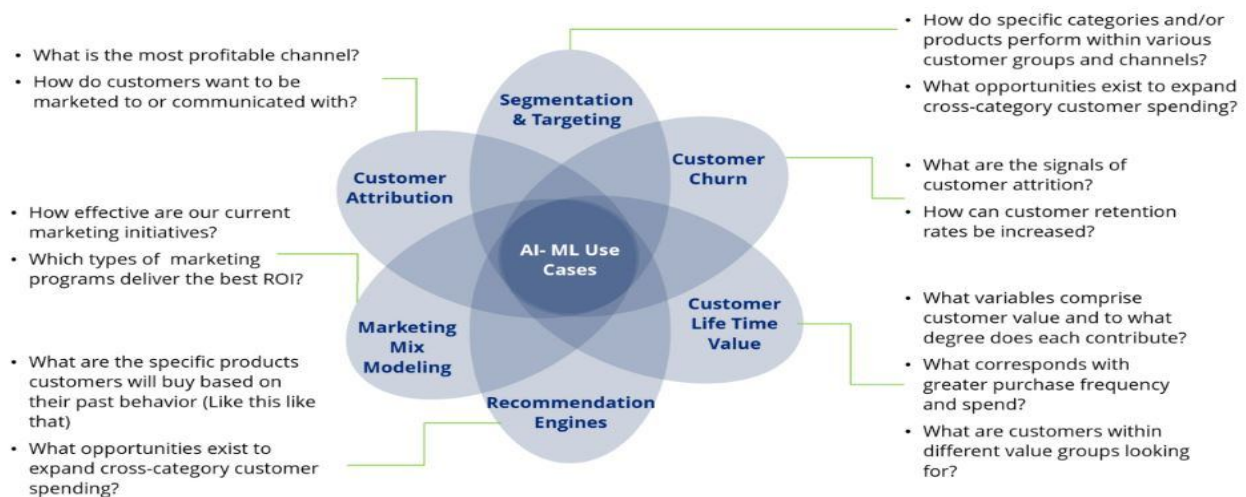


Figure: AI/ML use cases in Marketing (Source: Ref-11)

#### 4. AI AND ML MARKETING TOOLS

Data-driven marketing is the future of professional marketing. AI and ML tools as Robotic process automation bots, data-driven administrative, classify and scrutinize visual assets, and content making. If educated a standard ML/AI tool to do a profession as a human-being, it's still superior, cheaper and quicker than hiring a human without break. Given time and enough data, it will learn to do the job. Testing, E-mail sorting, lead scoring, meeting scheduling, social media messages creation, social media monitoring are some AI/ML based marketing tools experiments [4].

|   |  |
|---|--|
| <b>Astro-</b> Management Emails<br><b>Smart Kai-</b> Intelligent optimized social media posting<br><b>Monkey Learn-</b> Automating business process, manual data processing.<br><b>PaveAI-</b> Turns your Google analytics data into imminent AI<br><b>MarketMuse-</b> AI-driven Assistance for building content strategies.<br><b>Sitecore-</b> Wb-content and customer experience management<br><b>Clara -</b> Assistant for scheduling, rescheduling<br><b>Cloudsight-</b> image classification for digital vision | <b>Persado-</b> Create key-words, Connects emotionally with ideal customers.<br><b>Albert-</b> Cross channels, distribution and Data analytics<br><b>Rocketfuel-</b> Predictive capabilities of Social media, direct advertisement<br><b>Strikessocial-</b> Youtube adv, media plans, deep insight<br><b>Blueshift-</b> entire customer journey, right actions for each user<br><b>Clarifai-</b> advanced image recognition, best visual sights<br><b>Onespot-</b> distribute, sequence content at scale<br><b>Acrolinx-</b> read all your content provide instant guidance to progress it |
|---|--|

#### 5. CONCLUSION

The Marketing-AI is rapidly growing and turns to be broadly adopted in marketing. AI changes ability of marketers more effectively moreover managing AI solutions is become even more crucial skillfulness set. For marketers it serves as helping hand by reducing their manual workloads, effective personalization decisions, ensuring easy targeting, make simpler work plan taken as a whole AI provides the marketers to be familiar with what works and what does not and in conclusion guide to well-groomed and proficient marketing environment.

#### REFERENCES

##### JOURNAL PAPERS

1. James canella, Artificial intelligence in marketing, 2018
2. Avinaash M, Dr, Jayam, Artificial intelligence the marketing Game changer, International journal of pure and applied mathematics, Volume 119 No. 17 2018, 1881-1890.
3. Bhanu chander, A Analysis for Machine learning in WSN, International Journal of Engineering & Technology, 7 (4.6) (2018) 185-192.

- 
4. Nicole Williams, A Marketers Guide and Marketing tools of AI, Sales and Marketing tech, August 17, 2017.
  5. Jim Sterne, How to get started with AI and ML for Marketing, May 14, 2018
  6. Jim Sterne, Artificial intelligence for Marketing, (Wiley, 2017).
  7. Bughin, J., McCarthy, B., & Chui, M. (2017, August 28). A Survey of 3,000 Executives Reveals How Businesses Succeed with AI. Retrieved December 12, 2017
  8. Barker, S. Ad Fraud - How AI Will Rescue Your Budget (Working paper). Retrieved April 5, 2018.
  9. Gregoriadis, L., & Nutley, M. The State of Programmatic Advertising (Rep.). Retrieved February, 2018.
  10. <https://www.quicksprout.com/2018/09/24/10-ways-machine-learning-is-reshaping-marketing/>
  11. Yasim Kolayathali, Machine learning For Marketing, <https://towardsdatascience.com/machine-learning-for-marketers-78bff070cbd6>.

## CROP INSURANCE SCHEMES AND CLAIMS SETTLEMENTS IN INDIA

Prof. Perumalla Varalaxmi

Professor, University P. G. College, Kakatiya University, Khammam

**ABSTRACT**

Agriculture is backbone of the country with nearly 2/3rds of its one billion population depend on agriculture for their livelihood. India is a land of many climates and variety of soils affording scope for diversity of agriculture. Climate is the most important single factor in crop production and determines the appropriate timing for important agricultural operations like sowing, transplanting, irrigation, fertilizer application and use of pesticides. It is often called "gamble with monsoon". Certain varieties of soils are suited best for certain crops and hence knowledge of soil variety is important in identifying crops, which can produce good yields.

Agriculture is treated equal with risk and uncertainty. Agriculture contributes to 26% of the GDP and any change has a multiplier effect on the economy as a whole. Economic growth and agricultural growth are inextricably linked to each other. Crop insurance helps in stabilization of farm production and income of the farming community. It helps in optimal allocation of resources in the production process.

Indian Government has been concerned about the risk and uncertainty prevalent in agriculture. In his article, an attempt is made to study the crop insurance scheme and its claim settlements.

The various schemes that are available for the crop Insurance are

1. Pilot crop Insurance Scheme ( PCIS)-1979 implemented till 1984-85
2. Comprehensive Crop Insurance scheme (CCIS) implemented till 1997
3. Experimental crop Insurance scheme -1997-98
4. National Agricultural Insurance scheme-1999-2000 ( Replaced by CCIS )
5. Weather based crop Insurance schemes – 2003

Hence an attempt is made to study the crop Insurance schemes and claim settlements in India

**Keywords:** Agriculture Insurance, crop Insurance, claim settlements, crop schemes

**Introduction**

Agriculture is treated equal with risk and uncertainty. Agriculture gives to 26% of the GDP of the economy as a whole. Indian administration has been anxious about the risk and uncertainty ubiquitous prevalent in agriculture. Crop insurance unlikely to change, fails or decline of farm manufacture and revenue of the cultivation society

A number of crops and crop varieties are grown in the country. The following are considered as major crops:

|                  |   |
|------------------|---|
| Food crops       | Paddy, Wheat, Jowar, Bajra, Maize, Gram, Redgram, Peas etc. |
| Oilseeds         | Groundnut, Mustard, Soyabean, Sunflower etc.                |
| Cash crops       | Cotton, Sugarcane, Tobacco etc.                             |
| Vegetable crops  | Onion, Potato, Tomato etc.                                  |
| Plantation crops | Coffee, Tea, Rubber etc.                                    |
| Fruit crops      | Citrus, Banana, Apple, Mango etc.                           |

In the context of the paucity of resources, the country cannot afford the huge recurring expenditure on the administration of crop insurance together with the subsidies that may become unavoidable. Such funds could be more advantageously utilized for raising agricultural productivity and reducing crop variability. Since insurance represents the assumption of risks by the insurance agency through consideration of a large number of individual risks, it is to be preferred only if the cost of such assumption is lower than the cost of prevention of risks. under the proposed crop insurance scheme the farmers are expected to get back by way of indemnities what they pay by way of premium, the underlying purpose could be served better and at less cost to the government and the farmers could be encouraged to save on a recurring basis in the form of deposits in the banks and are provided praise on free-thinking terms, especially in times of crop fail.

Unlike experiments on crop insurance on a limited, ad-hoc and scattered scale started from 1972-73. In 1972-73, the General Insurance Department of Life Insurance Corporation of India introduced a Crop Insurance Scheme on H-4 cotton. It sustained up to 1978 and covered only 3110 farmers for a premium of Rs.4.54 lakhs against claims of Rs.37.88 lakhs.

But these schemes were discontinued due to the following reasons:

1. They need contact with individual farmers for collection of premiums and /or for determination of yields and hence required very large machinery for implementation, which the insurance company could not afford with the premium charged.
2. They involved controlled conditions of cultivation and hence were unsuitable for large scale implementation.
3. They did not provide for optimum spread of risks between different agro-climatic regions and hence had to face heavy incidence claims.
4. They did not go hand-in-hand with Extension projects launched by the government, and hence could not derive the advantage of the measures introduced in such areas for ensuring improved productivity and loss minimization.
5. Care was not taken to avoid high-risk areas. There were no arrangements to coordinate the working of the schemes in the interest of the insurance company.
6. Complete dependence on the Fertilizer Companies for all field services, including yield assessment service, placed insurance company at a disadvantage, when the interests of the two parties are differed.

### **Methodology**

#### **Need of the study**

Indian administration is worried about the risk and improbabilities widespread in agriculture the adverse deaths of farmers in Andhrapradesh, Maharashtra are in a liability entrap and the overwhelming effect it had on their families. In this article, an attempt is made to study the crop insurance scheme and its claim settlements in India

#### **Objectives of the study**

1. To identify the crop insurance schemes in India
2. To know the problems of crop indemnity
3. To settlement of crop insurance
4. To know the claims settlements and compensation paid to farmers

#### **Data collection method**

The present paper is based on secondary data. Secondary data is collected through web site like ministry of Agriculture, statistical data is collected from Indiatat.com, Journals and Magazines , Agricultural Insurance – IC 71 (III book) , IRDA

#### **Limitations of the study**

1. The study is secondary in nature , the reliability test is not done it may be biased

#### **Types of Agricultural Insurance**

Crop insurance, constrained to field crops, is generally considered identical with agricultural insurance. Covers a wide gamut of activities like horticulture, plantation, poultry, aquaculture, sericulture, etc

Some of the Agriculture Insurance Schemes presently available in the country are:

- |                                      |  |                             |                                |
|--------------------------------------|--|-----------------------------|--------------------------------|
| i). Crop insurance                   | ii). Horticulture/Plantation insurance | iii).Cattle insurance       | iv).Sheep/Goat insurance       |
| v).Pig insurance                     | vi). Poultry insurance                 | vii). Sericulture insurance |                                |
| viii) Apiculture insurance           | ix).Fresh water fish insurance         | x). Aquaculture insurance   | xi).Farmer's Package insurance |
| xii).Agricultural Pump-set insurance |  |                             |                                |

The organizations transacting Agricultural Insurance in India:

- i) General Insurance Corporation of India
- ii) National insurance Corporation of India
- iii) New India Assurance Company Limited
- iv) Oriental Corporation of India

v) United India Corporation of India.

As per the IRDA norms, every new insurer in the general insurance industry shall do at least a minimum amount of business in the social sector, which includes crop and agriculture sector.

#### **Crop Insurance as Risk administration:**

Crop insurance is means of defending the farmers against worries of crop yield arising out of virtually all natural factors beyond their control

Crop production unlike almost any other activity has to be carried on in the face of repeated doubts arising out of diverse natural and social elements. Normally the greatest impact of all these elements falls on crop production.

#### **Crop Insurance Schemes**

The “individual approach “ basis necessitates reliable and accurate data of crop yield of individual farmers for sufficiently long period , for fixing of premium on actuarially sound basis.

##### **1. Pilot Crop Insurance Scheme (PCIS)-1979**

The important features of the scheme were:

- a) The design was based on “Area Approach”.
- b) The plan covered Cereals, Millets, Oilseeds, Cotton, Potato, Gram and Barley.
- c) Loaned farmers only, on voluntary basis.
- d) The peril was collective between the GIC and the State Government in the ratio of 2:1.
- e) The utmost computation insured was 100% of the crop loan; which was later increased to 150%.
- f) 50% financial support was to farmers by the State Government & the Government of India on 50:50 bases.

##### **2. Comprehensive Crop Insurance Scheme (CCIS)**

The Scheme is linked to short term crop credit and implemented on Homogeneous Area approach. 15 states and 2 UTs implemented the Scheme until Kharif 1999 are 1.Andhra Pradesh 2.Assam 3.Bihar 4.Goa 5.Gujarat 6.Himachal Pradesh 7.Karnataka 8.Kerala 9.Madhya Pradesh 10.Maharashtra 11.Meghalaya 12.Orissa 13.Tamilnadu 14.Tripura 15.West Bengal 16.Andaman & Nicobar Islands and 17.Puducherry.

#### **Main Features of the Scheme**

- a) It covered farmers availing crop loans from Financial Institutions for growing food crops & oilseeds on compulsory basis. The coverage was restricted to 100% of crop loan subject to maximum of Rs.10, 000/- per farmer / season.
- b) The premium rates were 2% for Cereals and Millets and 1% for Pulses and Oil seeds. 50% of the premium payable by Small and Marginal farmers is subsidized equally by Central and State Governments.
- c) The premium and claims were shared by Central & States Government in 2:1 ratio.
- d) The Scheme was optional to State Government.
- e) The scheme is a multi agency effort, involving Government of India, Departments of State Governments, Banking Institutions and GIC.

##### **3. National Agriculture Insurance Scheme (NAIS) (1999-2000)**

A new crop insurance scheme called Rashtriya Krishi Bima Yojana (RKBY) under the National Agricultural Insurance Scheme (NAIS). The risks covered under the NAIS are:

- Fire & Lightning
- Storm, Cyclone, Hailstorm, Typhoon, Tempest,
- Hurricane, Tornado
- Flood, Inundation & Landslide
- Drought, Dry spells
- Pests / Diseases

Exclusions: War, nuclear risks, malicious damage.

7.51 Crore farmers have been covered over an area of 12.2 crore hectares insuring a sum of Rs.70, 696 crore. Claims paid Rs.7207 crore against premium income of Rs.2226 crore benefiting more than two crore farmers in the implementation of NAIS.

#### 4). Weather Based Insurance in India

In India, weather-based insurance was first introduced in 2003 by ICICI Lombard for groundnut and castor farmers of Mahboobnagar district in Andhra Pradesh, followed by the pilot rainfall insurance scheme by IFFCO-Tokio General Insurance (ITGI) in 2004-05 in Andhra Pradesh, Karnataka and Gujarat.

#### Benefits of Crop Insurance

- i). It cushions the surprise of terrible crop loss by assuring farmers a minimum of protection.
- ii). Crop Insurance spreads the crop losses over space and time.
- iii). It gives farmers greater self-assurance in making greater investments in agriculture.
- iv). It improves the position of farmers in relation to agricultural credit.

#### Problems associated with Crop Insurance

1. Crop indemnity, like all insurances is essentially a mutual or cooperative enterprise in which all the insured farmers participate jointly in sharing their common risks.
2. Crop insurance in the public sector has not been a success, be it a developed or developing country. The reasons have its roots in the main difficulties that most countries are faced with. India is no different from most of the developing countries.

#### The major problems of Crop insurance may include

1. **Limited financial resources:** Agriculture is a gamble with monsoon and year after year vast areas of country are exposed to drought and / or floods. Systemic risks leading to catastrophic losses are common in agriculture and the limited resources/ subsidies / claim support, the government has been providing may not be adequate to sustain a broad based scheme in adverse years.
2. **Political will required to charge fair premiums and enforce impartial loss adjustments:** In a country like India, it may not be easy to take hard and unpleasant decision with regard to charging actuarial premium rates, impartial loss adjustment etc. Political interference is hard to prevent in implementation of crop insurance.
3. **Great moral and physical hazards:** A general 'contract' is based on good faith, but an insurance contract is based on 'utmost good faith'. No insurance schemes, be it a crop or general, can ever afford to ignore moral and physical hazards in its field.

#### Claim insurance settlements under different schemes

Form the above table below<sup>2</sup> – it is observed that paddy was sown in 427.57 lakhs hectare and area insured 105.04 lakhs hectare in 2012-13, in 2013-14 paddy was sown in 444.75 Lakhs hectare and area insured is 93.93.LH in 2014-15 paddy was sown in 444.75LH and area insured was 96.5 LH and in 2015-16 paddy was sown in 444.75 LH and area insured was 114.93 LH .Wheat was sown in 304.95 LH with an area insured 64.59 LH in 2013-14 what sown in 313.85 LH with an area insured 79.69 LH, in 2014-15 sown 313.85 LH with an area insured is 78.83 LH in 2015-16 it is sown in 313.85 LH and area insured is 87.82 LH. Oil seeds sown in 290 LH with area insured is 98.35 LH in 2013-14 oil seeds are sown 301.11 LH with are insured as 112.11 Lh, In 2014-15 sown was 301.11 LH and area insured was 301.11 LH and area insured was 101.41 LH in 2015-16 oilseeds was sown in 301.11 LH and area insured was 132.51 LH . the over all in 2012-13 the area sown was 1943.99 LH with area insured was 444.03 LH in 2013-14 area sown was 2008.59 LH with an are insured 427.23 LH in 2014-15 the area sown was 2008.59 LH and are insured was 444.41 LH, in 2015-16 the area sown was 2008.59 LH and the area insured was 524.49 LH

Crop –wise Gross area Sown and Insured under all insurance schemes in India from 2012-13 to 2015 -16sTable-2 (see annexure)

From the below table-3 it is observed funds released by the central government under various schemes for crop insurance in India in different five years plans from 1997 to 2016 for NAIS from 1999 to 2000 was Rs 21273.35 crores, for WBCIS since Kharif 2007 was Rs 3826.16 crores and MNAIS scheme since Rabi 2010-11 was Rs 1531.03 crores, CPIS scheme since 2009-2010 was Rs 2.95 crores and PMFBY since kharif 2016 was Rs 28386.91 crores

Funds released by central government under various schemes for crop insurance in India from 1997-2002 to 2016-17 in different five years plans Table -3 ( see annexure)

From the table –4 below it is observed that Maharashtra 109.52 lakh farmers were insured, with 66.78 Lakh hectare with a sum insured of Rs 20942.67 crores, Rajasthan 53.05 lakh farmers were insured with an area of 74.62 Lakh hectare with a sum insured 12207 crores, Madhya Pradesh 34.72 lakh farmers were insured with an area insured 73.59 Lakhs Hectare and the sum insured was Rs 19041.24 corers. the overall India the no. of farmers insured are 363.04 crores with an area of 374.83 Lakhs hectare and the sum insured was Rs 128984.99 crores under PMFBY in kharif 2016 ,

State –wise number of farmers, Area and sum Insured Under pradhan Mantri Fasal Bima Yojana In India in kharif 2016 Table-4 (see annexure)

From the below table -5 it is observed that in 2012-13 the no. of farmers covered in kharif was 10649354 and 6141677 in rabi with a total 16791031 with an area of 15693700 hectare in kharif and 8691157 hectare in Rabi with a total of 24384857 hectare with a sum insured 4290779, with a total premium of 132644 lakhs, claims reported are 470056 lakhs Rupees the total no. of farmers benefitted are 2613107. In 2013-14 the no. of farmers covered 11254942 with 15983340 hectare of area with total sum insured are 3353878 lakhs with a total premium of 113173 lakhs and the no. of Farmers benefitted are 2738903. In 2014-15 the no. of farmers covered in kharif are 7729333 with a area of 6785416 area hectare with a sum insured of 1492021 lakhs with a total premium of 51936 lakhs . In 2015-16 the no. of farmers are 238594749 with an area of 353369458 hectare with a sum insured of 37682975 lakhs with a total premium of 37682975 lakhs with a claims reported 3588295 lakhs and the no. of farmers benefitted are 59973512 in National agricultural insurance scheme (NAIS) under trends in area, sum insured, premium and claims in India from 2012-13 to 2015-16

National agricultural insurance scheme (NAIS) under trends in area, sum insured , premium and claims in India from 2012-13 to 2015-16 Table:-5 ( see annexure)

From the table- below-6 it is observed that the in 2012-13 the no. of farmers insured are 12279 lakhs with sum insured are 7843.9 lakhs with a gross premium of 40.57 lakhs with a claims reported are 76.8 lakhs under coconut palm insurance scheme (CPIS) in 2013-14 are 1390 lakhs framers insured with sum insured of Rs 8694.6 lakhs with a premium of 70.87 lakhs with a claims reported 95.49 lakhs. In 2014-2015 the no. of farmers insured are 2845 lakhs with sum insured are 2500 lakhs with a gross premium of 17.6 lakhs with a claims reported are 30.75 lakhs under CPIS scheme from 2012-13 to 2014-15

Number of Farmers / sum Insured, gross premium and claim reported under coconut palm insurance scheme in India from 2012-13 to 2014-15 Table:-6 (see annexure)

From the below table it is seen that in 2012-13 the no. of farmers covered are 3008835 lakhs with area insured are 2981434.94 hectare the sum insured are 697466.85 lakhs with a premium of 29537.17 lakhs with claims reported are 67406.36 lakhs claims paid are 64294.56 lakhs and the numbers of farmers benefitted are 714050 lakhs . In 2013-14 the no. of farmers covered are 5358738 lakhs with area insured are 5527856.21 hectare the sum insured are 1223224.11 lakhs with a premium of 46328.66 lakhs with claims reported are 138226.21 lakhs claims paid are 133162.04 lakhs and the numbers of farmers benefitted are 1765694 lakhs In 2014-15 the no. of farmers covered are 9095373 lakhs with area insured are 10638480.86 hectare the sum insured are 1880712.76 lakhs with a premium of 62547.61 lakhs with claims reported are 117167.49 lakhs claims paid are 110675.88 lakhs and the numbers of farmers benefitted are 2387140 lakhs by modified national agricultural insurance scheme (MNAIS) from 2012-13 to 2014-15

Season / scheme wise sum insured, premium and claims paid by modified national agricultural insurance scheme (MNAIS) from 2012-13 to 2014-15 : table -7 ( see annexure)

### **Future outlook for Crop Insurance in India**

This is not to say that the Scheme has no scope for further improvement. Some of the directions for future may include:

- i) The NAIS which still to have agriculturally important States, such as Punjab, Haryana, Rajasthan etc in its fold and more crops and sections of farmers yet to be reached, may struggle to penetrate beyond 10% to 15% of cropped area.
- ii) A dynamic and rapidly changing agriculture will stress the capability of public sector to adapt in the future. It would require private sector to achieve substantial market penetration.

- iii) Separate schemes addressing special needs of hilly regions, areas with sharp variations in micro-climate, are required.
- iv) Farms increasingly aware of the risks of production. Prefer comprehensive risk package; both yield and price/revenue and coverage of post harvest losses.
- v) Demand for custom-made covers will increase both from corporate and big farms. Micro-insurance is going to be the 'mantra' to reach out to rural households.
- vi) Need for package policies and integration of insurance services with credit institutions.
- vii) The demand for coverage of perennial horticulture crops against comprehensive risk, covering gross value of produce, will have to be met.
- viii) Subsidy is essential. The pattern will have to change to reflect cross section of variations.
- ix) The government will have to support the front-end (premium, administrative costs etc.), leaving the back-end (claims) to insurers. It's a sure way of not only limiting its liabilities, but also a direction for development of agricultural insurance on professional lines.
- x) The government will have to provide reinsurance protection for catastrophic losses.
- xi) Need for streamlining agricultural relief through insurance and a degree of compulsion of participation.
- xii) An exclusive Organization is to be created for implementation of agricultural insurance. At the same time services of other agencies, such as financial institutions, marketing agencies, NGOs etc. are to be used to reduce costs of delivery and service.

#### FINDING FROM THE STUDY

- The scheme was based on "Area Approach The risk was shared between the GIC and the State Government in the ratio of 2:1. 50% subsidy was provided for insurance charges payable by Small / Marginal farmers by the State Government & the Government of India on 50:50 bases.
- The premium rates were 2% for Cereals and Millets and 1% for Pulses and Oil seeds. 50% of the premium payable by Small and Marginal farmers is subsidized equally by Central and State Governments Under NAIS, premium rates are 3.5% of sum insured for bajra and oilseeds, 2.5% for other Kharif crops, 1.5% for wheat and 2% for other Rabi crops. Small and marginal farmers are entitled to a premium discount of 10%.
- In the case of commercial / horticultural crops, actuarial rates are being charged. Premium (with a cap at 8-10% for food crops and oilseeds and 12% for commercial crops) but to make the scheme attractive, premium actually charged from farmers has been restricted to "at par" with the NAIS.
- The Government is relieved of present irregular financial burden of providing relief. Very high administrative costs: An exclusive agency with sufficient network to administer the Scheme on its own would involve very high administrative costs and the resultant high costs of insurance.
- in 2015-16 the area sown was 2008.59 LH and the area insured was 524.49 LH , CPIS scheme since 2009-2010 was Rs 2.95 crores and PMFBY since kharif 2016 was Rs 28386.91 crores
- In 2014-15 the no.of farmers covered are 9095373 lakhs with area insured are 10638480.86 hectare the sum insured are 1880712.76 lakhs with a premium of 62547.61 lakhs with claims reported are 117167.49 lakhs claims paid are 110675.88 lakhs and the numbers of farmers benefited are 2387140 lakhs by modified national agricultural insurance scheme (MNAIS) from 2012-13 to 2014-15 The government will have to provide reinsurance protection for catastrophic losses. Need for streamlining agricultural relief through insurance and a degree of compulsion of participation.

#### REFERENCES

1. Binswanger, H P (1980): "Attitudes toward Risk: Experimental- Measurement in Rural India", *American Journal of Agricultural Economics*, 62: pp 174-82.
2. Government of India (2004): "Report of Joint Group" on *Review of Crop Insurance*, Ministry of Agriculture, GoI, New Delhi.– (2007):
3. "Report of the Working Group on Risk Management in Agriculture for the Eleventh Five Year Plan (2007-12)", Planning Commission, GoI, New Delhi, India.



4. World Bank (2007): "India: National Agricultural Insurance- Scheme: Market Based Solutions for Better Risk Sharing", Report No 39353.
5. Report of the committee to review the implementation of crop insurance schemes in India, Department of Agriculture and cooperation , Ministry of Agriculture , GOI, May , 2014
6. K.N.Rao, S.P Kulkarni (2006), , Agriculture Insurance –IC71 Insurance Institute if India, Mumbai

#### Web sites

1. Indiatat.com accessed on 29-06-2017 from Pondicherry university library
2. [http://farmers.gov.in/insurance .html](http://farmers.gov.in/insurance.html) accessed on 24-06-2017

#### Annexure – tables of Analysis

Crop –wise Gross area Sown and Insured under all insurance schemes in India from 2012-13 to 2015 -16sured  
Table-2

| Crops                | 2012-2013       |              |                      | 2013-2014        |              |                      | 2014-2015        |              |                      | 2015-16          |              |                      |
|----------------------|-----------------|--------------|----------------------|------------------|--------------|----------------------|------------------|--------------|----------------------|------------------|--------------|----------------------|
|                      | Gross Area Sown | Area Insured | %age of Area Insured | Gross Area Sown* | Area Insured | %age of Area Insured | Gross Area Sown* | Area Insured | %age of Area Insured | Gross Area Sown* | Area Insured | %age of Area Insured |
| Paddy                | 427.57          | 105.04       | 24.57                | 444.75           | 93.93        | 21.97                | 444.75           | 96.5         | 23.5                 | 444.75           | 114.93       | 25.84                |
| Wheat                | 304.95          | 64.59        | 21.18                | 313.85           | 79.69        | 26.13                | 313.85           | 78.83        | 25.46                | 313.85           | 87.82        | 27.98                |
| Coarse Grains        | 251.45          | 51.22        | 20.37                | 254.97           | 44.41        | 17.66                | 254.97           | 50.35        | 23.67                | 254.97           | 59.61        | 23.38                |
| Sugarcane            | 54.43           | 3.18         | 5.85                 | 55.26            | 3.05         | 5.6                  | 55.26            | 1.46         | 2.67                 | 55.26            | 2.29         | 4.14                 |
| Cotton               | 118.81          | 13.45        | 11.32                | 119.07           | 12.71        | 10.7                 | 119.07           | 15.32        | 12.92                | 119.07           | 14.49        | 12.17                |
| Jute and Mesta       | 8.55            | 0.05         | 0.63                 | 8.28             | 0.04         | 0.46                 | 8.28             | 0.69         | 8.18                 | 8.28             | 0.04         | 0.43                 |
| Oilseeds             | 290.97          | 98.35        | 33.8                 | 301.11           | 112.11       | 38.53                | 301.11           | 101.41       | 35.96                | 301.11           | 132.51       | 44.01                |
| Pulses               | 219.59          | 66.07        | 30.09                | 237.79           | 64.7         | 29.46                | 237.79           | 65.35        | 26.27                | 237.79           | 71.19        | 29.94                |
| Vegetables           | 55.05           | 7.34         | 13.33                | 56.08            | 10.24        | 18.61                | 56.08            | 21.05        | 37.92                | 56.08            | 20.54        | 36.62                |
| Fruits**             | 37.66           | 5.6          | 14.88                | 41.6             | 1.25         | 3.31                 | 41.6             | 2.27         | 40.08                | 41.6             | 3.97         | 9.54                 |
| Others               | -               | -            | -                    | 175.83           | -            | -                    | 175.83           | 8.17         | -                    | 175.83           | 17.11        | 9.73                 |
| Area under All Crops | 1943.99         | 444.03       | 22.84                | 2008.59          | 427.23       | 21.98                | 2008.59          | 441.41       | 22.51                | 2008.59          | 524.49       | 26.11                |

Source: indiatat.com accessed on 29-06-2017 accessed from Pondicherry University

Funds released by central government under various schemes for crop insurance in India from 1997-2002 to 2016-17 in different Five years plans

Table -3

| Plans/Years           | (Rs. in Crore)              |                           |                              |                        |                           | Total   |
|-----------------------|-----------------------------|---------------------------|------------------------------|------------------------|---------------------------|---------|
|                       | NAIS (Since Rabi 1999-2000) | WBCIS (Since Kharif 2007) | MNAIS (Since Rabi 2010-2011) | CPIS (Since 2009-2010) | PMFBY (Since Kharif 2016) |         |
| IXth Plan (1997-2002) | 811.49                      | -                         | -                            | -                      | -                         | 811.49  |
| Xth Plan (2002-2007)  | 2626.84                     | -                         | -                            | -                      | -                         | 2626.84 |
| Xth Plan (2007-2012)  | 5851.88                     | 1370.37                   | 87.15                        | 1.95                   | -                         | 7311.35 |
| 12th Plan (2012-2017) | -                           | -                         | -                            | -                      | -                         | -       |
| 2012-2013             | 700.00                      | 655.00                    | 194.18                       | 0.50                   | -                         | 1549.68 |
| 2013-2014             | 1600.00                     | 700.00                    | 251.02                       | 0.50                   | -                         | 2551.52 |
| 2014-2015             | 1543.56                     | 470.00                    | 584.79                       | Nil                    | -                         | 2598.35 |
| 2015-2016             | 1937.79                     | 630.79                    | 413.89                       | Nil                    | -                         | 2982.47 |
| 2016-2017             | 6201.79                     | -                         | -                            | Nil                    | 1753.41                   | 7955.21 |
| Total                 | 21273.35                    | 3826.16                   | 1531.03                      | 2.95                   | 28386.91                  | -       |

Source: indiatat.com accessed on 29-06-2017 accessed from Pondicherry University

State –wise number of farmers, Area and sum Insured Under pradhan Mantri Fasal Bima Yojana In India in kharif 2016

Table-4

| States           | No. of Farmers Insured (Lakh) | Area Insured (Lakh Hectare) | Sum Insured (Rs. in crore) |
|------------------|-------------------------------|-----------------------------|----------------------------|
| Andhra Pradesh   | 8.54                          | 6.57                        | 5187.84                    |
| Bihar            | 14.83                         | 13.11                       | 6526.00                    |
| Chhattisgarh     | 13.26                         | 17.90                       | 6764.00                    |
| Goa              | 0.01                          | 0.54                        | 5.76                       |
| Gujarat          | 11.91                         | 25.11                       | 11248.00                   |
| Haryana          | 6.96                          | 11.49                       | 6732.00                    |
| Himachal Pradesh | 0.97                          | 0.36                        | 256.07                     |
| Jharkhand        | 8.49                          | 3.40                        | 1827.83                    |
| Karnataka        | 14.34                         | 12.02                       | 5423.66                    |
| Madhya Pradesh   | 34.27                         | 73.59                       | 19041.24                   |
| Maharashtra      | 109.52                        | 66.78                       | 20942.67                   |
| Manipur          | 0.08                          | 0.09                        | 36.94                      |
| Meghalaya        | 0.00                          | 0.00                        | 0.30                       |
| Odisha           | 17.63                         | 12.57                       | 6888.61                    |
| Rajasthan        | 53.05                         | 74.62                       | 12207.00                   |
| Tamil Nadu       | 0.13                          | 0.31                        | 242.39                     |
| Telangana        | 5.81                          | 5.16                        | 3234.00                    |
| Tripura          | 0.02                          | 0.01                        | 3.57                       |
| Uttar Pradesh    | 30.11                         | 35.05                       | 13920.10                   |
| Uttarakhand      | 1.28                          | 0.79                        | 524.04                     |
| West Bengal      | 31.83                         | 15.36                       | 7972.97                    |
| <b>India</b>     | <b>363.04</b>                 | <b>374.83</b>               | <b>128984.99</b>           |

Source: indiastat.com accessed on 29-06-2017 accessed from Pondicherry University

National agricultural insurance scheme (NAIS) under trends in Area , sum insured , premium and claims in India from 2012-13 to 2015-16

Table:-5

| Season               | No. of Farmers Covered | Area (in Hect.)  | (Rs. in Lakh)   |                |               |                |                |                | No. of Farmers Benefitted |
|----------------------|------------------------|------------------|-----------------|----------------|---------------|----------------|----------------|----------------|---------------------------|
|                      |                        |                  | Sum Insured     | Total Premium  | Subsidy       | Claim Reported | Claims Settled | Claims Payable |                           |
| Kharif               | 10649354               | 15693700         | 2719906         | 87874          | 10863         | 278572         | -              | -              | 1810161                   |
| Rabi                 | 6141677                | 8691157          | 1570873         | 44770          | 4684          | 191484         | -              | -              | 802946                    |
| <b>Total 2012-13</b> | <b>16791031</b>        | <b>24384857</b>  | <b>4290779</b>  | <b>132644</b>  | <b>15547</b>  | <b>470056</b>  | -              | -              | <b>2613107</b>            |
| Kharif               | 9722158                | 14266028         | 2892425         | 97537          | 15624         | 299806         | -              | -              | 2669002                   |
| Rabi                 | 1532784                | 1717312          | 461453          | 15636          | 7011          | 1629           | -              | -              | 69901                     |
| <b>Total 2013-14</b> | <b>11254942</b>        | <b>15983340</b>  | <b>3353878</b>  | <b>113173</b>  | <b>22635</b>  | <b>301435</b>  | -              | -              | <b>2738903</b>            |
| Kharif 2014-15       | 7729333                | 6785416          | 1492021         | 51936          | 3925          | -              | -              | -              | -                         |
| Kharif Seasons Total | 179844548              | 266529436        | 28085742        | 913743         | 90700         | 2801309        | -              | -              | 44905935                  |
| Rabi Seasons Total   | 58750201               | 86840022         | 9597233         | 239552         | 49106         | 786985         | -              | -              | 15067577                  |
| <b>Grand Total</b>   | <b>238594749</b>       | <b>353369458</b> | <b>37682975</b> | <b>1153295</b> | <b>139806</b> | <b>3588295</b> | -              | -              | <b>59973512</b>           |

Source: indiastat.com accessed on 29-06-2017 accessed from Pondicherry University

Number of Farmers / sum Insured , gross premium and claim reported under coconut palm insurance scheme in India from 2012-13 to 2014-15

Table:-6

| (Rs. in Lakh) |                           |             |               |                 |
|---------------|---------------------------|-------------|---------------|-----------------|
| Years         | Number of Farmers Insured | Sum Insured | Gross Premium | Claims Reported |
| 2011-2012     | 8454                      | 5510.95     | 29.77         | 92.47           |
| 2012-2013     | 12279                     | 7843.9      | 40.57         | 76.8            |
| 2013-2014     | 13970                     | 8694.6      | 70.87         | 95.49           |
| 2014-2015     | 2845                      | 2500.56     | 17.6          | 30.75           |

Source: indiastat.com accessed on 29-06-2017 accessed from Pondicherry University

Season / scheme wise sum insured, premium and claims paid by modified national agricultural insurance scheme (MNAIS) from 2012-13 to 2014-15:

Table -7

| (Rs. in Lakh)        |                        |                           |                   |                  |                     |                                  |                  |                  |                  |                          |
|----------------------|------------------------|---------------------------|-------------------|------------------|---------------------|----------------------------------|------------------|------------------|------------------|--------------------------|
| Season               | No. of Farmers Covered | Area Insured (In Hectare) | Sum Insured       | Farmers' Premium | GoI Premium (Share) | State Government Premium (Share) | Gross Premium    | Claims Reported  | Claims Paid      | No. of Farmers Benefited |
| Kharif 2012          | 2062516                | 2239297.19                | 489692.88         | 22033.49         | 17198.93            | 17198.93                         | 56431.35         | 62144.59         | 61948.33         | 602353                   |
| Rabi 2012-13         | 946319                 | 742137.76                 | 207773.96         | 7503.68          | 5781.98             | 5652.19                          | 18937.95         | 5261.77          | 2346.24          | 111697                   |
| <b>Total 2012-13</b> | <b>3008835</b>         | <b>2981434.94</b>         | <b>697466.85</b>  | <b>29537.17</b>  | <b>22980.91</b>     | <b>22851.12</b>                  | <b>75369.30</b>  | <b>67406.36</b>  | <b>64294.56</b>  | <b>714050</b>            |
| Kharif 2013          | 2361334                | 2274451.46                | 582563.26         | 25504.09         | 19242.10            | 19273.58                         | 64022.77         | 85468.73         | 81191.24         | 962600                   |
| Rabi 2013-14         | 2997404                | 3253404.75                | 640660.85         | 20824.57         | 10772.76            | 11831.67                         | 43444.51         | 52757.48         | 51970.80         | 803094                   |
| <b>Total 2013-14</b> | <b>5358738</b>         | <b>5527856.21</b>         | <b>1223224.11</b> | <b>46328.66</b>  | <b>30014.86</b>     | <b>31105.25</b>                  | <b>107467.28</b> | <b>138226.21</b> | <b>133162.04</b> | <b>1765694</b>           |
| Kharif 2014          | 5895294                | 7085433.17                | 969658.09         | 35196.66         | 28965.20            | 31364.64                         | 95526.51         | 57063.57         | 54840.50         | 1472654                  |
| Rabi 2014-15 (P)     | 3200079                | 3553047.69                | 911054.67         | 27350.95         | 11521.28            | 11522.19                         | 50394.43         | 60103.92         | 55835.38         | 914486                   |
| <b>Total 2014-15</b> | <b>9095373</b>         | <b>10638480.86</b>        | <b>1880712.76</b> | <b>62547.61</b>  | <b>40486.48</b>     | <b>42886.83</b>                  | <b>145920.94</b> | <b>117167.49</b> | <b>110675.88</b> | <b>2387140</b>           |
| <b>Grand Total</b>   | <b>19037142</b>        | <b>20844175.57</b>        | <b>4206306.50</b> | <b>152580.21</b> | <b>102153.38</b>    | <b>107432.19</b>                 | <b>362182.34</b> | <b>342752.84</b> | <b>330862.10</b> | <b>5141706</b>           |

Source: indiastat.com accessed on 29-06-2017 accessed from Pondicherry University

---

**HEALTH INSURANCE FOR POOR IN INDIA**

---

**V. Deepa<sup>1</sup>, Dr. S. A. Senthil Kumar<sup>2</sup> and Dr. M. Dharmalingam<sup>3</sup>**Research Scholar<sup>1</sup>, Professor<sup>2</sup>, Associate Professor<sup>3</sup>, Department of Management, Pondicherry University, Karaikal

---

**ABSTRACT**

*In India, only about 27% of the population is enrolled to health insurance, most Indians pay vast amount towards their healthcare costs out-of-pocket. For the low-income people, insurance was never measured as a choice in the past. The objective of this paper is to identify the availability of various health insurance schemes and to find the reasons why it is not reaching and why it is leading to the increase of out-of-pocket expenditure. Trend analysis is conducted to predict the health insurance ESIS and CGHS by 2020. The findings showed there is increase in both the schemes and benefited to the population in India. Health care has constantly been a challenging area for India, a country with more population and larger part of this peoples living in both rural and metropolitan slums areas lower the poverty line. The introduction of new health insurance scheme by our Prime Minister Pradhan Mantri Jan Arogya Yojana for the poor sector is been invented across India. On overall, the plan of free health insurance scheme has not worked well in maximum states. Hence, the administration expected the accountability of convention health care requirements of the deprived.*

*Keywords: Health Insurance, Economically backward people, Health Insurance for Poor, Central Government Health Insurance scheme (CGHS), Employees State Insurance Scheme (ESIS), Universal Health Insurance Scheme (UHS).*

---

**1. INTRODUCTION**

Health is the most important socio-economic aspects of every individual life. The cost of health care expenditure in India is increasing at 20% every year. Health risks such as those linking to sickness, injury, and incapacity, maternity, accidents and like are considered to be highly insurable, as these risks are frequently independent. Moreover, among several risks they face poor homes, health risks are measured to be vital as they have undermining effects on household finances – directly, by compelling health spending and indirectly, by affecting the income making dimensions of households. For the low-income people, insurance was never measured as a choice in the past. They were supposed to be deprived to protect and pay a finest. The problem of expenses on health care is however unduly heavy for poor people who belongs to unorganized sector who earns low income and health care expenses are from out-of-pocket.

According to Insurance Regulatory and Development Authority of India (IRDAI), “Health insurance business or health cover means effecting of contracts which provides sickness benefits whether in-patient or out-patient, on an indemnity, reimbursement, service, prepaid, hospital, or other plans basis, including assured benefits and long term care”.

Health Insurance Association of America defines Health Insurance as "coverage that provides for the payments of benefits as a result of sickness or injury. It includes insurance for losses from accident, medical expense, disability, or accidental death and dismemberment"

According to ILO Health Insurance is defined as “the reduction or elimination of the uncertain risk of loss for the individual or household by combining a larger number of similarly exposed individuals or households who are included in a common fund that makes goods the loss caused to any one member”. In simple way, Health Insurance means, people who have the risk of a health can subsidize a small amount (premium) towards a health insurance endowment. An endowment is useful to treat the patients who have involved in that specific occurrence (e.g. hospitalization).

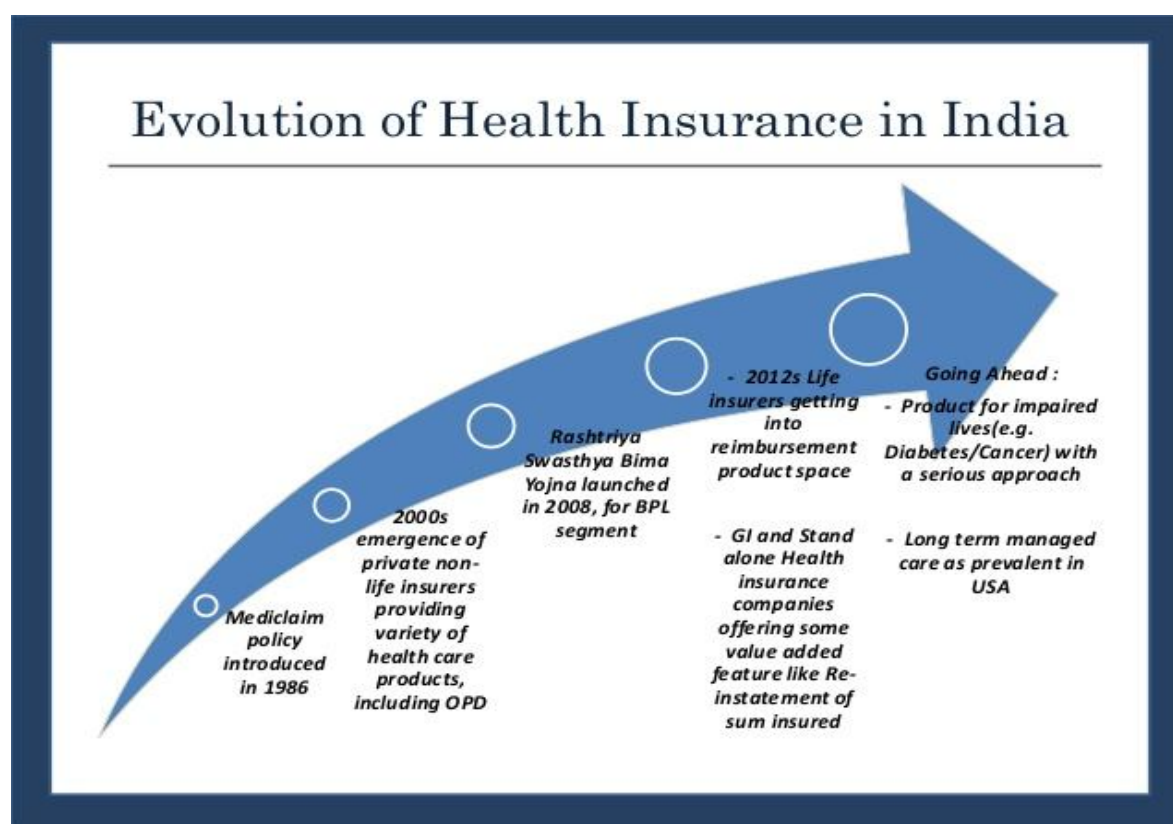
**2. EVOLUTION OF HEALTH INSURANCE IN INDIA**

In the year 1986, Mediclaim policy came into effect with the help of 4 Government sector insurance companies. In India, this policies were planned to arrange for reimbursement of medical expenditures that are incurred for the treatment insured for any kind of disease or illness or any accidental body injuries incurred as an inpatient at any clinic/hospital/nursing. A particular amount is also covered under domiciliary hospitalization. As a complementary under different categories of health insurance scheme are covered under Personal accident coverage for a specific amount. The mediclaim policy is targeted to restricted group of people like middle class and higher class people.

Later in 1991, the mediclaim policy was revised, removal of sub limits under different heads were undertaken. The range of premium from Rs. 15000 to Rs. 300000 for the sum insured was recommended. Later, according to the needs and requirements of the patients/customers the mediclaim policy was implemented like 24 hours hospitalization requirements, exclusions for pre-existing illness, etc.,

In 2000, there was an introduction of Third Party Administrators (TPAs). The TPAs were been controlled by IRDA and assigned to offer health care services. The claims servicing was now outsourced to the TPAs, at a remuneration of 6% of the premium collected. The main aim of TPAs introduction was to improve the customer services and bring out the reduction in claim ratio by greater pro-active involvement in claim areas.

The alteration of policy was done in the year 2007, to bring back the sub limits. Deletion of the sub limits resulted in steep rise in the claims. In the year 2008, Rashtriya Swasthya Bima Yojana was launched. It is a government run health insurance programme for the poor people in India. The scheme aimed to provide health insurance coverage for unorganized sector workers who fall under Below Poverty Line. Later, health insurance had great boon to this sector with various schemes from standalone, public and private health insurance companies to support the individual's health care requirements.



Source: Actuaries India report (Singh, 2015)

In India Health insurance corporations are based on three categories such as Private Insurance companies, Government Insurance companies and Standalone Health Insurance companies respectively. In current scenario, we have around 18 Private sector health insurance companies as well as 4 Public health insurance companies and 7 standalone health insurance companies that are operating in India.

List of standalone health insurance companies in India as of 03.06.2019

- “Aditya Birla Health Insurance Co. Ltd”
- “Apollo Munich Health Insurance Co. Ltd”
- “CIGNA TTK Health Insurance Co. Ltd”
- “Max Bupa Health Insurance Co. Ltd”
- “Reliance Health Insurance Ltd”
- “Religare Health Insurance Co. Ltd”
- “Star Health & Allied Insurance Co.Ltd”

### 3. SIGNIFICANCE OF HEALTH INSURANCE IN INDIA.

- Health insurance is the source of income to satisfy healthcare requirements in the current-day developing populace. Purchase of health insurance policy is beneficial to individuals and it is cover against the risks and uncertainties of life.
- Health insurance helps in providing financial assistance to health care providers in case of any illness.
- Health insurance is a part of savings for an individual which may be wiped out due to illness.
- The hospitalization with cashless minimizes the need of an individuals to meet any health possibilities in case of additional liquidity.
- The health insurance are now becoming the wildest increasing scope of market segment for the non-life insurance industry.
- Enhanced focus on publicizing of health insurance products by the insurers.

Still there is a remarkable budding for this fair as even today, only about 27% of the country's populace has been covered by health insurance policies.

### 4. VARIOUS SCHEMES OF HEALTH INSURANCE IN INDIA

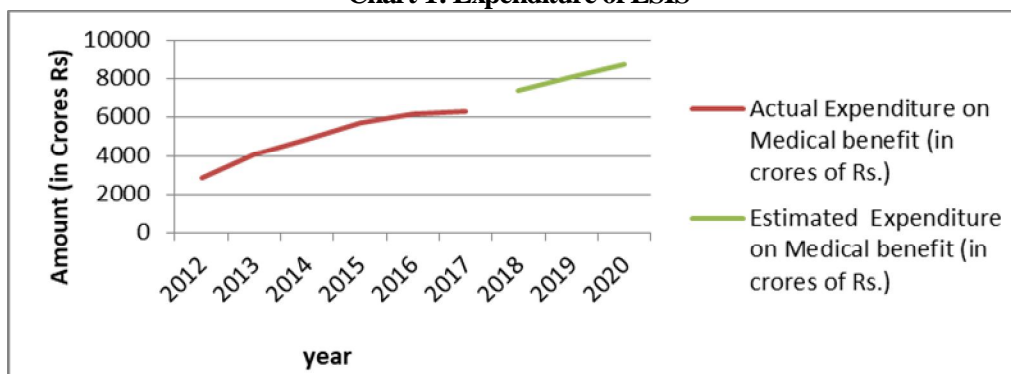
#### 4.1 Voluntary Health Insurance Schemes (VHIS)

The private sector insurance companies offer premium is set at level, which is identified on risk announcement of single or group of people and the level of reimbursements providing rather than as a percentage of perspective policy buyer's income . The private sector insurance companies try tobtring related risks and insure them for health insurance relatedexpenditures and buyers to pay affordable premium to an insurance company.

#### 4.2 Government Based Health Insurance Schemes (Mandatory Schemes)

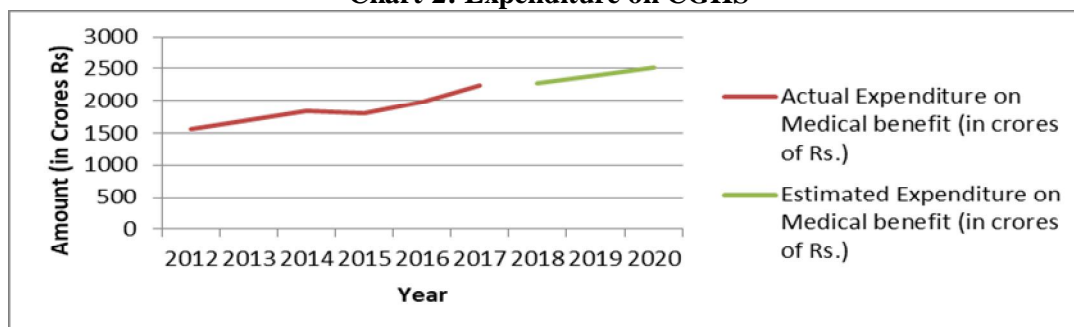
(a) **'Employee State Insurance Scheme (ESIS)'** in the year 1952, the 'Employee State Insurance Scheme' came into existence in India. This scheme is useful to industrial units employing 10 or more persons and in case of non-power using factories employing 20 or more persons. This is available with the help of ESIS facility system, NGOs, public care center, private care center etc. in order to fulfill the necessities of the employees and their family members against loss of wages due to disability, sickness, death, funeral expenses and rehabilitation allowance are also included in this scheme.

Chart-1: Expenditure of ESIS



(b) **Central Government Health Insurance Scheme (CGHS):** In the year 1954, Central Government Health Insurance scheme was introduced. The scheme provides medical care facilities for central government employees including their families.

Chart-2: Expenditure on CGHS





(c) **Universal Health Insurance Scheme (UHIS):** 'Universal Health Insurance Scheme' (UHIS), was announced in the year 2003 it intentions to fulfill the needs of all segment of the people. This scheme plays an important role because of the convenience of subsidies from the union government, in order to make it an affordable price of health insurance products.

#### 4.3) Insurance products by NGOs/Community on health insurance:

These schemes are concentrated on low income sector in our society and generally run by the Non-Government Organizations (NGOs) or charitable trusts etc. The scheme are mostly supported by from patients, grants and donations from state government as well as central governments; and provided for protective, inpatient care and ambulatory to the persons are protected under this scheme.

#### 4.4) Schemes based on Employer:

The scheme is accessible to both private sector employees as well as public sector employees. The benefits of the schemes are providing by the way of reimbursement of critical health care expenses to the employees, lump-sum payments, which are acquired for outpatient care, hospitalization.

#### 4.5) Pradhan Mantri Jan Arogya Yojana

The Prime Minister of India Shri Narendra Modi, has launched one of the world's largest publicly funded National Health Protection scheme named as Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana. The scheme was launched on September 25, 2018 on the birth anniversary of Pandit Deendayal Upadhyay. Ayushman Bharat programme dubbed 'Modicare' promises to insure 500 million poor people across the country.

This scheme is a boon for poor people and it aims to reduce the financial burden of poor and vulnerable groups arising out of catastrophic hospital for more than 10.74 crores ensure their access to quality health services. Free treatments are available at all public and empanelled private hospitals.

### 5. HEALTH INSURANCE PLANS IN INDIA

#### • Hospitalization

Hospitalization procedures are guarantee plans that pay cost of hospitalization and medical costs of the assured subject to the sum insured. The sum insured can be functional on a per member beginning in case of specific health policies or on a floater basis in case of family floater policies.

#### • Family Floater Health Insurance

Family health insurance plan covers for an complete family in one particular health insurance plan. It covers hospital payment which can be pre and post medications.

#### • Pre-Existing Disease Cover Plans

This plans covers against the disease before obtaining of health insurance policy. Pre-Existing Disease Cover Plans proposals covers against the pre-existing diseases like Diabetes mellitus, Renal failure and many more.

#### • Senior Citizen Health Insurance

This type of health insurance policies are covered for only the aged people in the family. The health insurance plan provides protection as well as it covers from any health problems during their old age. According to IRDA guideline, every single insurer provides cover up to age of 65 years.

#### • Maternity Health Insurance

Motherhood health insurance covers maternity and other additional costs during their maternity period. It includes both pre and post natal care, birth of a child. The maternity health insurance provides wide network of hospitals and ambulance expenditure.

#### • Hospital daily cash benefit plans

A sum of money is paid on daily basis for hospitalization done by the individual policy holder. The expenses for a defined number of days in the policy year and may be subject to a deductible of few days.

#### • Critical illness plans

The advantage of critical illness policy a huge amount is been covered for diagnosis for illness and medication formalities. The illness is particular in nature like illness is severe in nature and low occurrence. Under this scheme, the cost of medical expenses are costly when compared to other medical facilities such as heart attack, cancer, brain fever etc.,

#### • Disease specific special plans

Some companies offer specifically planned disease Care. These are designed possession in mind the growing rate of viral diseases like Dengue in India which has developed a cause of concern and thus afford assistance

based on medical needs, behavioral and lifestyle aspects associated with such situations. These plans aim to help customers succeed their unexpected health expenses better and at a very minimal cost.

(Number of policies in Actuals, number of persons in '000 and Premium in Rs. Lakhs)

| Sl.No                                 | Categories of Insurance                     | Indicators              | Public Insurance | Private Insurance | Total       |
|---------------------------------------|---|-------------------------|------------------|-------------------|-------------|
| 1.                                    | Government sponsored Schemes                | No. of Policies         | 229.00           | 106.00            | 335.00      |
|                                       |   | No. of Persons included | 279193.00        | 55823.00          | 335016.00   |
|                                       |   | Premium                 | 264477.00        | 44571.00          | 309048.00   |
| 2.                                    | Group Insurance Schemes                     | No. of Policies         | 394571.00        | 55929.00          | 450500.00   |
|                                       |   | No. of Persons included | 52178.00         | 18291.00          | 70469.00    |
|                                       |   | Premium                 | 1103503.00       | 368262.00         | 471765.00   |
| 3.                                    | Individual Family Floater Scheme            | No. of Policies         | 29772857.00      | 2126386.00        | 5099243.00  |
|                                       |   | No. of Persons included | 9400.00          | 6572.00           | 15972.00    |
|                                       |   | Premium                 | 314692.00        | 376487.00         | 691179.00   |
| 4.                                    | Other than Individual Family Floater Scheme | No. of Policies         | 2736880.00       | 4850470.00        | 7587350.00  |
|                                       |   | No. of Persons included | 6552.00          | 9448.00           | 16000.00    |
|                                       |   | Premium                 | 240040.00        | 327139.00         | 567179.00   |
| 5.                                    | Total                                       | No. of Policies         | 6104537.00       | 7032891.00        | 13137428.00 |
|                                       |   | No. of Persons included | 347323.00        | 90134.00          | 437457.00   |
|                                       |   | Premium                 | 1922712.00       | 1116459.00        | 3039171.00  |
| Source: National Health Policy Report |   |                         |                  |                   |             |

## 6. CONCLUSION

In India health insurance sector growing rapidly and health insurance is more useful mechanism for providing insurance to poor households. A lack of demand for buying health insurance products result of affordability, awareness it may result in borrowing finance and payment of premium. The poor situation is worse because they cannot afford to visit the private facilities that are available in Indian cities and even they don't have any alternative source of insurance scheme which can able to avail the benefits and secure them. Low income segment of the society can be improvised by health insurance products avail by both private and government health insurance sectors.

## REFERENCES

- Ahuja, R. (2004). health insurance for the poor. *Economic & Political weekly*, 39(28), 3171 - 3178.
- Ahuja, R. (2004). Health insurance for the poor: Need to strengthen Health care provision. *Economic and political weekly*, 39(41), 4501-4503.
- Ahuja, R. (2004). Health Insurance for the poor: Need to strengthen Health care provsion. *Economic and political weekly*, 39(41), 4501-4503.
- Chauhan, T. (2017). The awareness level about government reconginzed health insurance schemes among unorganized sector in East Delhi. *Imperial Journal of interdisciplinary research*, 3(8), 27-45.
- Devadasan. (2006). Health Financing: protecting the poor. *Indian Journal of community Medicine*, 31(1), 6-9.
- Dror, D. (2006). Health Insurance for the poor: Myths and Realities. *Economic and political weekly*, 41(43), 4541-4544.
- Ellis, Alam, & Gupta. (n.d.). Health insurance in India: Prognosis & Prospectus. *Economic and political weekly*, 35, 207-217.
- Padmasundari, Y. S. (2016). A study on awareness of Health Insurance benefits availed among unorganised engineering works in Coimbatore. *EPRA International journal of Economic business review*, 4(9), 154-166.
- Sarkar, S. (2007). *Health Insurance for the poor in Informal Sector* (Vol. 1). Indus Journal of Management & Social Sciences.
- Singh, N. (2015, Sep 6). *A study on Health Insurance in India*. Retrieved from slideshare: <https://www.slideshare.net/NarendraSingh4/actuaries-india-report>



## A STUDY ON CONSUMER BEHAVIORAL INTENTION TOWARDS USAGE OF MOBILE WALLETS

**Dr. P. Kishore Kumar**

Associate Professor, Department of Management, SVS Group of Institutions, Warangal

### ABSTRACT

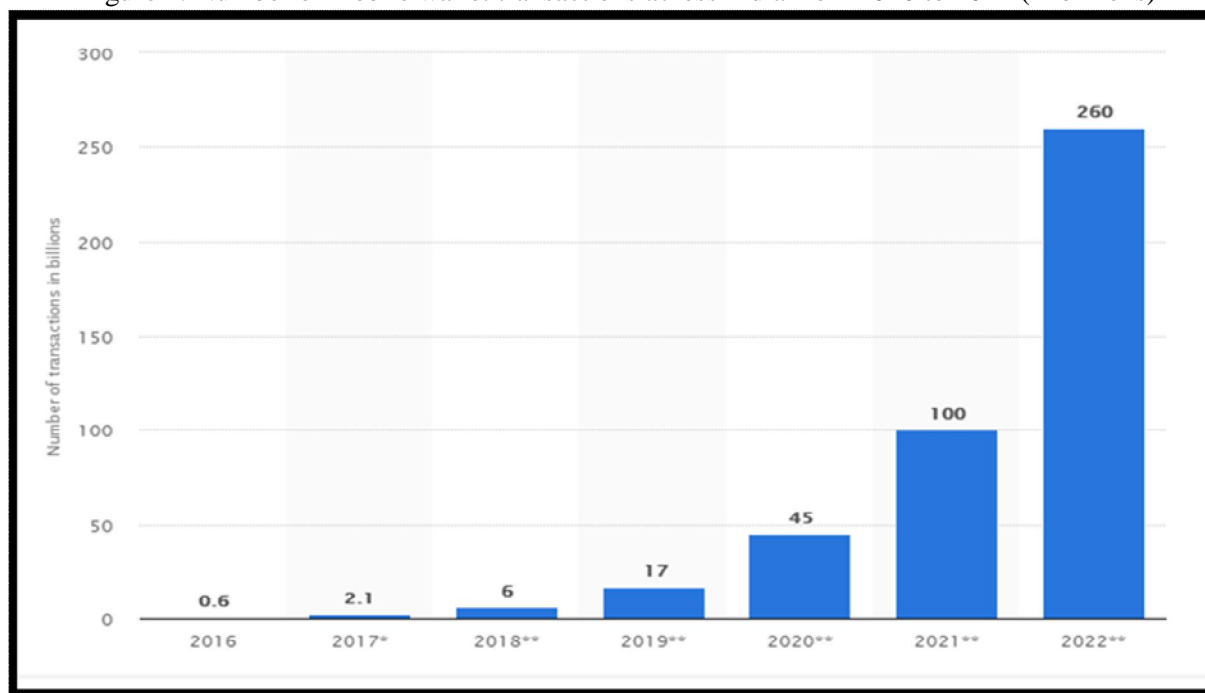
*Consumer behavioral intention towards mobile wallets had been analyzed in this paper. The impact of personal norms, social norms, ease of use on consumer attitude had been explained. It is found from this study that personal norms have positive impact on consumer attitude. The future and trends of mobile wallets had been described in this research paper.*

*Keywords: Mobile payments, mobile wallets, behavioral intention, consumer behavior, consumer attitude*

### 1. INTRODUCTION

Smartphone had influenced lifestyle and business processes in the recent decade. Earlier mobile phone is only for communicating either by voice or text. In the modern world majority of tasks are being completed by Smartphone. The mobile wallet had been playing a vital role especially after demonetization in India. Consumers are able to send and receive money through mobile wallets like Paytm and PhonePe. The mobile wallet, m-wallet, digital wallet, virtual wallet and mobile payment app mean same and these terms are used interchangeably.

Figure 1: Number of mobile wallet transactions across India from 2016 to 2022 (in billions)



(Source: <https://www.statista.com/statistics/731643/mobile-wallet-transaction-volume-india/>)

Recent statistic displays the number of mobile wallet transactions across India from 2016 to 2022. The volume of mobile wallet transactions was projected to reach about 260 billion in 2022, a significant increase from about 600 million transactions in 2016. Millions of people are using mobile wallets in the modern world. One of the best innovative products in the recent years is Smartphone and best mobile app can be assumed as mobile wallet. According to the 2017 Consumer Payments Insight Survey by the company, India is one of the top markets globally in terms of mobile wallet adoption with 55.4% survey respondents indicating that they have a mobile wallet and use it. India is followed by China and Denmark. Increasing internet speed and declining prices of Smartphone has fueled growth of mobile wallet in India.

#### 1.1 RESEARCH OBJECTIVES

1. To know the impact of personal norms, social norms and ease of use on consumer attitude towards usage of Mobile wallets
2. To know the consumer attitude influence on behavioral intention towards usage of mobile wallets.

## 2. LITERATURE REVIEW

According to [1] had explained about consumer acceptance of mobile wallet by using unified theory of acceptance and use of technology (UTAUT). It is found that security and trust had an influence on consumer attitude and intentions towards usage of mobile wallet. According to [2] described integrated model to analyze consumer behavioral intention towards mobile wallet. Some of the factors which has association with behavioral intention are social influence, perceived risk, perceived attractiveness, attractiveness of alternatives and facilitating conditions.

According to [3] Smartphone users in Korea and United States (U.S) consider mobile security is most important factor which influences perception and preference of mobile payment methods. If security is provided then Smartphone users are willing to pay more for mobile phone payment services. [4] Had stated that many mobile apps and software is being introduced in the recent years. There is also opportunity for potential risk at mobile point of sale (MPOS) during scanning and mobile payments.

[5] Had considered perceived risk, adoption readiness, perceived innovativeness and usage intention of consumers towards mobile payment services. The mobile payments services may lead to innovative financial technological solutions. [6] Had considered factors like gender, age group, preference, usage, perception and satisfaction to explain consumer preference towards mobile wallets (m-wallets) and found that all the factors have positively influenced consumer preference.

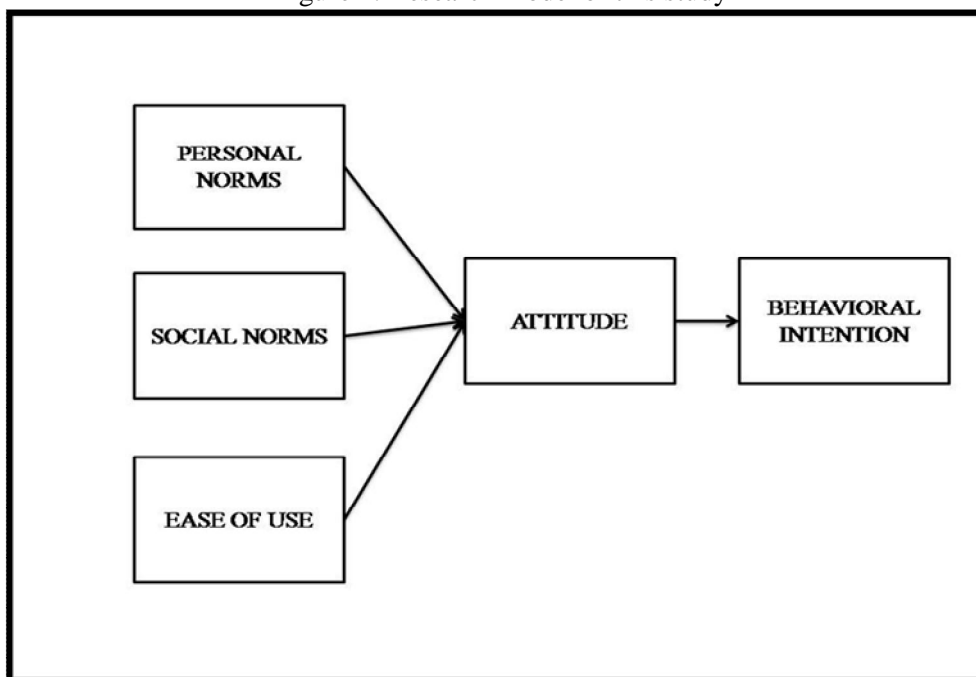
[7] Had stated that behavioral intention of consumers is influenced by factors like social influence, performance expectancy, perceived risk, perceived value, regulatory support and promotional benefits. [8] Had developed a model to study consumer acceptance towards mobile payment by expanding technology acceptance model (TAM) and innovation diffusion theory (IDT).

## 3. METHOD

Primary data had been collected through a structured questionnaire and sample size is 150. Convenient and snowball sampling had been used for data collected where respondents had completed online survey through Google forms. The respondents should have six months experience of using mobile wallets like Paytm, PhonePe and other popular wallets. The sample size for the 150 and respondents were explained about intention of survey through a small paragraph which is inserted at the beginning of the questionnaire.

The questionnaire consists of five constructs and items under each construct have been adopted from previous published scales. The items have been modified according to the theme of this study which is consumer behavioral intention towards mobile wallets. Primary data was loaded into SPSS version 20.0 software and statistical tools like descriptive statistics, one-way ANOVA and regression have been used to test the hypothesis. Secondary data had been gathered through journals, books and internet sources.

Figure 2. Research model of this study



(Source: Developed by the researcher)

**Table 1. Constructs and Items****Personal Norms (PN)**

- Myself very interested to use mobile wallets.
- The online financial transactions eliminate black money.
- I feel that I am support digital India initiative by using mobile wallets

**Social Norms (SN)**

- My family expects me to use mobile wallets like Paytm and PhonePe.
- My friends expect me to use mobile wallets.
- My friends at workplace expect me to use mobile wallet.

**Ease of Use (EU)**

- Learning to recharge mobile wallet is simple and easy task.
- Mobile wallets are easy to make financial transactions.
- I experienced that using mobile wallets is very comfortable.

**Attitude (ATT)**

- I like mobile wallet concept and app in my Smartphone.
- I think it is important for an individual to keep up with latest trends like mobile payments.
- Smartphone apps related to mobile wallet enhances comfort for an individual.

**Behavioral Intention (BI)**

- I will continue to use mobile wallet for purchasing products.
- I will motivate others to use mobile wallets.
- I will use my existing mobile wallet app for future purchases

(Source: Developed by the researcher)

**5. ANALYSIS**

The three demographic characteristics considered for this study are gender, status and age group. The common characteristic is that all those respondents have used mobile wallet for at least three times in some situation while making payment after shopping. The sample size of this study is 150. Among the total respondents 54 percent are male and 46 percent are female. Majority of the respondents approximately 39 percent are employees. From the dimension of age majority of the respondents belong to '26 to 35 Years' age group. The frequency for each characteristic of demographic variables is shown in Table 2.

**Table 2. Demographic characteristics of respondents**

| Demographic Variables |                | Frequency | Percent |
|-----------------------|----------------|-----------|---------|
| Gender                | Male           | 81        | 54.0    |
|                       | Female         | 69        | 46.0    |
| Status                | Student        | 31        | 20.7    |
|                       | Employee       | 59        | 39.3    |
|                       | Self employed  | 23        | 15.3    |
|                       | Others         | 37        | 24.7    |
| Age Group             | 18 to 25 Years | 24        | 16.0    |
|                       | 26 to 35 Years | 57        | 38.0    |
|                       | 36 to 44 Years | 33        | 22.0    |
|                       | Above 44 Years | 36        | 24.0    |

(Source: Primary Data)

H1: The gender of respondents has an impact on consumer attitude towards usage of mobile wallet.

From Table 3 it is observed that 'p' value is more than 0.05. Therefore H1 is rejected which means there is no significant impact of gender on consumer attitude towards usage of mobile wallets.

**Table 3. One-Way ANOVA between Gender and Attitude**

| ATT            |                |     |             |       |       |
|----------------|----------------|-----|-------------|-------|-------|
|                | Sum of Squares | df  | Mean Square | F     | Sig.  |
| Between Groups | 0.072          | 1   | 0.072       | 0.290 | 0.591 |
| Within Groups  | 36.888         | 148 | 0.249       |       |       |
| Total          | 36.960         | 149 |             |       |       |

(Source: Output of SPSS)

H2: The personal norms have a positive impact on their consumer attitude towards mobile wallets.

From Table 4 it is observed that 'p' value for personal norms (PN) is less than 0.05 which is benchmark value. Therefore it is concluded that H2 is accepted, hence personal norms has positive impact on consumer attitude towards mobile wallets.

| Table 4. Coefficients <sup>a</sup>                   |            |                             |            |                           |        |       |
|--|------------|-----------------------------|------------|---------------------------|--------|-------|
| Model  |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig.  |
|  |            | B                           | Std. Error | Beta                      |        |       |
| 1  | (Constant) | 3.066                       | 0.292      |                           | 10.508 | 0.000 |
|  | PN         | 0.339                       | 0.074      | 0.493                     | 4.595  | 0.000 |
|  | SN         | -0.064                      | 0.072      | -0.093                    | -0.880 | 0.380 |
|  | EU         | 0.054                       | 0.052      | 0.077                     | 1.031  | 0.304 |
| a. Dependent Variable: ATT, (Source: Output of SPSS) |            |                             |            |                           |        |       |

H3: The social norms have a positive impact on consumer attitude towards usage of mobile wallets.

H3 is rejected because 'p' value for social norms (SN) is more than 0.05 as per Table 4. Therefore it can be concluded that social norms does not have positive impact on consumers' attitude with regard to usage of mobile wallets.

H4: The ease of use of mobile wallets has a positive impact on consumer attitude.

It is found from Table 4 that 'p' value for ease of use (EU) is more than 0.05. Hence H4 is rejected and ease of use does not have positive impact on consumer's attitude towards usage of mobile wallet.

| Table 5. Coefficients <sup>a</sup>                  |            |                             |            |                           |       |       |
|---|------------|-----------------------------|------------|---------------------------|-------|-------|
| Model   |            | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig.  |
|   |            | B                           | Std. Error | Beta                      |       |       |
| 1   | (Constant) | 3.415                       | 0.356      |                           | 9.604 | 0.000 |
|   | ATT        | 0.256                       | 0.080      | 0.256                     | 3.223 | 0.002 |
| a. Dependent Variable: BI, (Source: Output of SPSS) |            |                             |            |                           |       |       |

H5: Consumer attitude towards mobile wallets positively influence behavioral intention.

According to 'p' value in Table 5 for attitude (ATT) is less than 0.05. Hence H5 is accepted. Therefore it can be concluded that consumer attitude (ATT) had a positive impact on behavioral intention towards usage of mobile wallet.

## 6. DISCUSSION

Consumers are positively influenced by personal norms towards usage of mobile wallets. The support of digitalization and comfort with electronic transfer may motivate them to use mobile wallets. The social norms are not influencing consumers to adopt for mobile wallet because spending money is more personal rather than social activity. The ease of use does not have an impact consumer attitude. Overall consumers' attitude is positively influenced by personal norms and consumer attitude has positive impact on behavioral intention.

From this research it can stated that marketing practitioners should develop campaigns from the perspective of boosting consumers with personal norms regarding usage of mobile wallets. Smart phones have drastically influenced life style of consumers in the modern world. The digital wallets or mobile wallets might become for individual during retail shopping and online shopping. Hence all the retailers need to develop a system for sending and receiving payment through mobile wallets.

## 7. FUTURE RESEARCH

Consumer attitude and behavioral intention are complex factors. In this research, only three variables like personal norms, social norms and ease of use are considered. Future researchers can consider other factors like self-efficacy, subjective norms and perceived usefulness to explain consumer attitude and behavioral intention towards usage of mobile wallet. Consumer behavioral models like technology acceptance model (TAM) and theory of planned behavior (TPB) can be used to explain consumer attitude and intention towards usage of mobile wallet. A study can also be conducted to know the preference of consumers by comparing with traditional shopping and online shopping.

---

**REFERENCES**

- [1] Shin, D. H. Towards an understanding of the consumer acceptance of mobile wallet. *Computers in Human Behavior*, 25(6), 2009. 1343-1354
- [2] Amoroso, D. L., & Magnier-Watanabe, R.. Building a research model for mobile wallet consumer adoption: the case of mobile Suica in Japan. *Journal of theoretical and applied electronic commerce research*, 7(1), 2012, 94-110.
- [3] Shin, S., Lee, W. J., & Odom, D. O.. A comparative study of smartphone user's perception and preference towards mobile payment methods in the US and Korea. *Journal of Applied Business Research*, 30(5), 2014 1365.
- [4] Taylor, E. Mobile payment technologies in retail: a review of potential benefits and risks. *International Journal of Retail & Distribution Management*, 44(2), 2016, 159-177.
- [5] Thakur, R., & Srivastava, M. Adoption readiness, personal innovativeness, perceived risk and usage intention across customer groups for mobile payment services in India. *Internet Research*, 24(3), 2014, 369-392.
- [6] Singh, N., Srivastava, S., & Sinha, N, Consumer preference and satisfaction of M-wallets: a study on North Indian consumers. *International Journal of Bank Marketing*, 35(6), 2017, 944-965.
- [7] Madan, K., & Yadav, R. Behavioural intention to adopt mobile wallet: a developing country perspective. *Journal of Indian Business Research*, 8(3), 2016, 227-244.
- [8] Chen, L. D. A model of consumer acceptance of mobile payment. *International Journal of Mobile Communications*, 6(1), 2008, 32-52.

---

## A STUDY ON AWARENESS AMONG PUBLIC ABOUT GOODS AND SERVICES TAX (GST) IN INDIA

---

**Dr. P. Kishore Kumar<sup>1</sup> and Dr. V. Vikram<sup>2</sup>**

Associate Professor<sup>1</sup> and Assistant Professor<sup>2</sup>, SVS Group of Institutions, Warangal

---

### ABSTRACT

*This paper explains the concept of goods and services tax (GST). A qualitative study was conducted to know the awareness among the public about GST. It is understood from this study that GST leads to economy growth due its principle 'One Nation One Tax'. GST helps in smooth flow of goods across the nation because of unified tax system. With support of GST it will be easy for competing in international markets.*

*Keywords: GST, Tax, Economy, Income Tax, Awareness*

---

### INTRODUCTION

The government of India had introduced goods and services tax (GST) in India from 1<sup>st</sup> July, 2017. The ultimate aim of GST is to attain one unified common market for the entire nation. Before implementing GST there are various kinds of taxes like central excise duty, service tax, additional excise duty, luxury tax, octroi and purchase tax. But with implementation of GST all the aforesaid taxes are subsumed into GST. Hence it is also referred as 'Good and Simple Tax'. The two broad components of GST in India are Central GST (CGST) and State GST (SGST). The government had provided Goods and Services Tax Network (GSTN) which provides information technology (IT) infrastructure for tax payers and other stakeholders. GST is destination-based tax system and not origin-based tax system.

### RESEARCH OBJECTIVES

1. To explain the concept of GST.
2. To know about awareness of GST among the people.

### LITERATURE REVIEW

GST is excellent tax reform and it leads to growth of economy because it brings unified tax structure. Poonam (2017) had stated that consumer's tax burden would be reduced drastically with implementation of GST. Chaurasia et al (2016) had mentioned that implementation of GST is essential for growth of Indian Economy.

Sehrawat and Dhanda (2015) had stated that GST regime the burden of taxation will be allocated fairly between services and manufacturing via lower tax rates resulting in increased tax base and minimized exemptions. It is anticipated to help in establishing an effective and transparent tax administration. GST reduces the tax burden which leads to competitiveness of Indian products in international market is expected to increase and thereby development of the nation (Garg 2014). GST will bring 'One Nation One Tax' market and electronic processing of tax payments and tax returns through GSTN will reduce corruption and tax evasion (Lourdunathan and Xavier 2017).

After conducting literature review Banerjee et al (2016) had concluded that GST will provide relief to producers and consumers by subsuming the several indirect taxes in India. GST will give more relief to industry, agriculture and trade to more comprehensive and wider coverage of input tax set-off and service tax set-off, subsuming of various state and central taxes in the GST and phasing out of CST (Beri 2011). Since Indian economy is getting more globalised over the past two decades it is important to introduce an Integrated Goods and Service Tax (GST) to replace the prevailing multiple tax structures of Centre and State taxes is very imperative in the changing economic environment (Paramashivaiah, Puttaswamy and Suresh 2016).

### GOODS AND SERVICES TAX NETWORK (GSTN)

The vision, mission and values of Goods and Services Tax Network (GSTN) are as follows:

#### VISION

National Information Utility (NIU) which provides reliable, efficient and robust IT Backbone for the smooth functioning of the Goods & Services Tax regime enabling economic agents to leverage the entire nation as One Market with minimal Indirect Tax compliance cost.

#### MISSION

- Partner with other agencies for creating an efficient and user-friendly GST Eco-system
- Provide common Registration, Return and Payment services to the Tax payers.

- Carry out research, provide Training and study best practices and other stakeholders and Consultancy to the Tax authorities.
- Collaborate and Encourage with GST Suvidha Providers (GSPs) to roll out GST Applications that providing simplified services to the stakeholders.
- Central and State Tax Administration can be Develop by Tax Payer Profiling Utility (TPU).
- Providing efficient Backend Services to the Tax Departments of the Central and State Governments on request.
- Provide common and shared IT infrastructure and services to the Central and State Governments, Tax Payers and other stakeholders for implementation of the Goods & Services Tax (GST).
- For improving Tax compliance assist Tax authorities and transparency of Tax Administration system.
- Deliver any other services of relevance to the State and Central Governments and other stakeholders on request.

### VALUES

- Inclusiveness
- Commitment
- Transparency
- Collaboration
- Accountability
- Excellence
- Efficiency
- Innovation

(Source: Adopted from <http://www.gstn.org/vision-mission-and-values/>)

The commitment of government towards GST can be understood from the above mentioned mission, vision and values in the website of GSTN.

### RESEARCH METHODOLOGY

A qualitative research was conducted by using open ended questionnaire. The sample size of the study was 30 and purposive sampling method was implemented. The responses were noted carefully and they were analyzed. The two basic questions used for data collection are (1) Are you aware of GST and (2) Do you believe GST leads to growth of Indian economy? Among the thirty respondents there are students of management courses, business owners and employees. The secondary data collected from electronic sources, journals, books, and news papers. The sample responses are shown in table 1:

**Table 1:Selected Responses on GST**

|              | <b>Response for Question 1</b>  | <b>Response for Question 2</b>  |
|--------------|---|---|
| Respondent 1 | Yes, I am aware that GST had come into effect from 1 <sup>st</sup> July of this year. | I think it leads to economy growth in the long term.                                  |
| Respondent 2 | Technically I don't know how it works but it is new tax system                        | I believe it benefits the Indian economy.   |
| Respondent 3 | I am aware of it. It helps to file tax returns very easily.                           | I think it is too early to say about it.  |
| Respondent 4 | I have learnt about it through media and it is new tax system.                        | Since everything comes under GST it will lead to development of economy.              |
| Respondent 5 | I am aware about it but presently I don't know about process of GST.                  | I am sure it will lead to development of economy therefore government implemented it. |

Source: Primary Data

---

**DISCUSSION**

Almost all the respondents have mentioned that they are aware of goods and services tax (GST). Since it is new tax structure many of the respondents are not completely aware of it technically works. The respondents also stated that GST is unified tax system and many countries have implemented. Some of the respondents had expressed that India had launched it very lately compared to other developed nations. The major source of information for gaining knowledge about GST is news papers and internet. Some of the respondents are suggesting for conducting training programs for learn GST very practically.

**CONCLUSION**

It is understood from this study that GST is magnificent tax structure because it treats entire India as single nation and single tax policy. Even though tax rates differ from nation to nation it helps both Indian companies and global companies for smooth functioning in international markets. GST also reduces the transaction costs of businesses and helps in easy flow of goods across the nation. The people in India are expecting that Indian economy soon experiences economy growth with GST.

**FUTURE RESEARCH**

GST had been implemented only few months back therefore future researchers can conduct longitudinal studies like its impact on poverty, economy growth rate and rate of tax filings. Since GST is supported by online mode like registration, payment of tax and checking status it is essential to know ease-of-use of the GSTN. It is also essential to conduct research why GST has not given expected results in some countries and why it is very successful in some countries. From November 2016 onwards the Government of India (GoI) had taken two major decisions like demonetization and implementation of GST. It is essential to study the relationship between those two factors because many countries have not implemented demonetization along with GST with a difference of less than one year. The relationship between green marketing and GST should also be studied by future researchers.

**REFERENCES**

- Banerjee, Sandeepan, Mona Banerjee, and Kishore Kumar Das. "A critical review on Goods and Services Tax in India." *Imperial Journal of Interdisciplinary Research (IJIR)* 2, no. 11 (2016): 1627 - 1634.
- Beri, Yogita. "Problems and Prospects of Goods and Services Tax (GST) in India." *Economic Affairs* 56, no. 4 (2011): 353-357.
- Chaurasia, Pradeep, Shweta Singh, and Prakash Kumar Sen. "Role of Good and Services Tax in the Growth of Indian Economy." 2nd International Conference on Recent Trends in Engineering Science and Management. New Delhi, 2016. 240-245.
- Garg, Girish. "Basic Concepts and Features of Good and Service Tax In India." *International Journal of scientific research and management (IJSRM)* 2, no. 2 (2014): 542-549.
- Lourdunathan, R, and P Xavier. "A study on implementation of goods and services tax (GST) in India: Prospectus and challenges." *International Journal of Applied Research* 3, no. 1 (2017): 626-629.
- Paramashivaiah, P, Puttaswamy, and B K Suresh. "GST in India: A Study on Benefits and Challenges." In *Introducing GST and Its Impact on Indian Economy*, by P Paramashivaiah, G Sudarsanareddy, B Shekar, B K Suresh and R Shashidhar, 76-88. Bengaluru: Nirutha Publications, 2016.
- Poonam. "Goods and Services Tax in India: An Introductory Study." 6th International Conference on Recent Trends in Engineering, Science and Management. Punjab, 2017. 574-582.
- Sehrawat, Monika, and Upasana Dhanda. "GST in India: A Key Tax Reform." *International Journal of Research - Granthaalayah* 3, no. 12 (2015): 133-141.
- Vasanthagopal, R. "GST in India: A Big Leap in the Indirect Taxation System." *International Journal of Trade, Economics and Finance* 2, no. 2 (2011): 144-146.



---

**CONSUMER ADOPTION OF DIGITAL PAYMENT APPLICATIONS- AN EMPIRICAL STUDY  
USING MODIFIED TECHNOLOGY ACCEPTANCE MODEL**

---

**Dr. Padmanabhan N S**Assistant Professor, School of Management, Rajagiri College of Social Sciences, Kochi

---

**ABSTRACT**

*Technology, over the years has transformed the competitive landscape of the financial service industry. The recent developments have created a totally new service concept and service environment. Technology has changed the very nature of selling and buying financial services. Innovations in telecommunications have led to the use of mobile devices in banking services. Digital payment applications are among the newest electronic delivery channels. The major digital payment applications include Google Pay, Paytm, Amazon pay and other mobile applications by different banks. This study examines the various factors that influence the adoption of digital payment applications. Telecom Regulatory Authority of India telecom subscription report (2019) shows that the wireless tele – density in India is approximately 90%, This opens as a huge opportunity for the mobile payments services in the country; however, customers who are using the mobile payment systems is very low. Therefore, it is imperative to have a research to find the factors that affect the consumer intention to use mobile payment systems. To get some significant insights on customers' perception and usage intention of mobile payment systems, a model based on modified Technology Acceptance Model (TAM) is validated using a sample of urban population from Ernakulam, Kerala. The predictors of consumer intention used for the study are Perceived Usefulness, Effort expectancy, Social influence and Facilitating conditions. The data was collected using convenience sampling technique from a group who lives in Ernakulam. The sample size for the study is 300. It is been found that all the independent variables positively influences the behavioral intention and intention has a positive influence on usage of mobile wallets.*

*Keywords: Consumer Adoption, TAM, Digital payment, Behaviour Intention*

---

**INTRODUCTION**

Banking and financial sector in India has witnessed a huge transformation after the arrival of fin- tech companies. These recent developments have created a very new service concept and service environment. The technology revolution coupled with the spurge in mobile telephony has attracted people towards mobile banking. Due to the extensive use of mobile devices and the necessity for convenient and apt payment, mobile payment has grown into a key mode of financial transactions (Yang, S., Lu, Y., Gupta, S., Cao, Y., & Zhang, R., 2012). If payment for goods, services, and bills are done via wireless enabled mobile device or other communication technologies it is termed as mobile payment (Dahlberg, Mallat, Ondrus, &

Zmijewska, (2008). According to Reserve Bank of India, the stake of electronic transactions in the total volume of retail payments in India has increased to around 93% in 2017-18. Moreover, the transactions via mobile banking have progressed to 92% in volume (Reserve Bank of India, 2018).

Given the growing interest towards mobile payment, the factors affecting their adoption are unclear. Several studies also pointed that there is reluctance from the side of consumer in using mobile wallets which is another emerging form of mobile payment. Diffusion of innovation explains how far a given society adopts an innovation over a period of time. In other words, the reception or penetration of a new idea or innovation comes as a corollary of diffusion process. This study was intended to find more about the changes in consumer behavior in the usage of digital payment applications over the liquid currency and the consumer adoption of the same plays a major role in that.

**LITERATURE REVIEW**

According to Zaltman & Wallendorf (1983) any novel idea, practice or device catering to the needs of a consumer can be treated as innovation. Diffusion entails the process that communicates the innovation via various channels among the members of social system (Rogers, 1983). With the emergence of new technology solutions that represent innovations to the target customers knowing the perceptions of individuals about technology adoption has become relevant (Moore & Benbasat, 1991; Rogers, 1983).

**MOBILE PAYMENTS APPLICATIONS**

Any payment where a mobile device is used in order to initiate, activate, and/or confirm this payment can be considered a mobile payment (Karnouskos, S., & Fokus, F, 2004). M – Payment applications can be either remote m- payment application or proximity m – payment application. For this study we have considered only remote m- payment applications. The transactions through remote m – payment applications may be such as 1)

purchase or mobile services from the service providers viz. ringtones, news etc. 2) payments for online purchases and 3) money transfer from one person to another (Srivastava, S. C., Chandra, S., & Theng, Y. L., 2010).

### TECHNOLOGY ADOPTION

TAM (Davis 1989) is the widely used model to study user's behaviour intention and usage of new innovation. Researchers over the years have extensively tested the TAM and subsequently made several modifications in the model. This model also has been replicated in various context and setting. Typical TAM model consists of three major constructs: perceived ease of use, perceived usefulness and computer usage. This 'usage' has been identified later as technology acceptance. Venkatesh and David (2002) added variables such as usage, intention to use, perceived usefulness, experience, social influence processes (subjective norms, voluntariness and image), and cognitive instrumental processes (job relevance, output quality, result demonstrability and perceived ease of use) and modified it as TAM2. Later, Venkatesh, et.al. (2003), developed UTAT model by integrating eight models that relate to the acceptance of information technology. Based on the new theory the new constructs are termed as Performance Expectancy and Effort Expectancy which are more relevant for modern technologies.

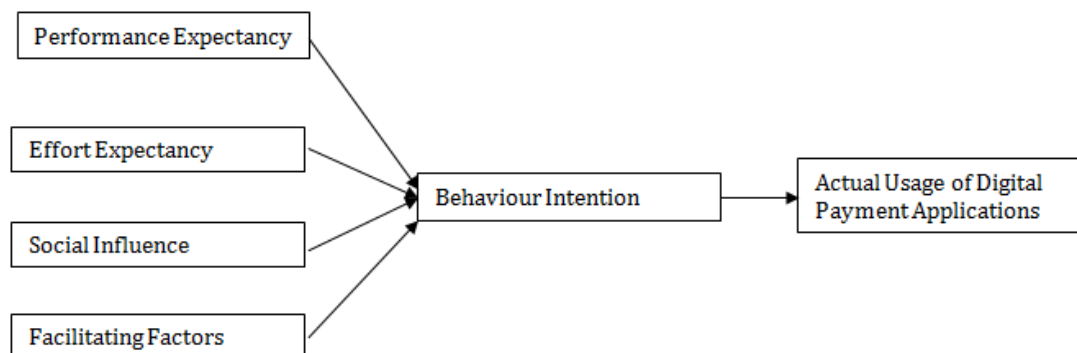
Research on adoption of mobile payment, even though is done across the world, there is a lack of proper research specific to remote m – payment applications. This is considered as a research gap as majority of the transactions done in the country is remote m – payments.

### STUDY OBJECTIVES

1. To study how Perceived usefulness affects the behavior intention of consumers to use digital payment applications.
2. To study how Effort Expectancy affects the behavior intention of consumers to use digital payment applications.
3. To study how Social Influence affects the behavior intention of consumers to use digital payment applications.
4. To study how Facilitating Conditions affects the behavior intention of consumers to use digital payment applications.
5. To study whether Behavioral Intention will have a significant influence on consumer behavior in usage of digital payment systems

### THEORETICAL FRAME WORK

After an extensive literature review on the theories of technology acceptance, the researcher identified four constructs to be used for the study viz. performance expectancy, effort expectancy, social influence and facilitating conditions. These constructs were found to be significant in understanding the behaviour intention and actual usage of mobile payment applications. Hence a theoretical frame work is developed as depicted in Fig. 1



### METHOD

This research is primarily concerned with understanding consumer behavior changes towards digital payment systems in India. This is a descriptive research and primary data for the research is collected using survey method to test its hypotheses. The instrument was adopted from previous studies and was mailed to respondents. In absence of a defined sampling framework for data collection, data was collected using convenience sampling from a group who lives in Ernakulam. The total sample size for the test was 300. The model was tested using WARP PLS.

## HYPOTHESES SETTING

The hypotheses for the study were framed after conducting a literature survey of the constructs.

Performance Expectancy (PE) is the degree to which a consumer thinks that technology will provide those gains in their transactions (Venkatesh et al., 2012). Venkatesh et al., 2003 in an earlier study has identified performance expectancy as the most influencing predictor of behaviour intention. Various other studies by Thakur (2003), Wang & Yi (2012) also proved the influence of performance expectancy on behaviour intention. In view of above studies the following hypothesis is framed

H1: There is a significant relation between Perceived usefulness and individual's intention to use digital payment services.

Effort Expectancy (EE) is termed as the degree of ease associated with the use of a technology (Venkatesh et al., 2012). Thakur (2012) found that effort expectancy has a significant influence on behaviour intention. On the contrary, Hongxia et al. (2011) proved otherwise i.e. there is no influence of effort expectancy on behaviour intention. Since ease of use serves a prominent role in consumer choice this variable is included in the study and following hypothesis is framed

H2: There is a significant relation between Effort Expectancy and individual's intention to use digital payment services.

It is always assumed that people tend to consult with their social network to reduce uncertainties and confusion towards a new technology. Social Influence is the degree to which people perceive that how the important others believe that one should use the technology. Various researchers such as Tan et al. (2014), Yang, Lu, Gupta, Cao, & Zhang (2012) have proved that social influence has a significant effect on behaviour intention. However, Shin (2010) and Wang & Yi (2012) rejected this relationship. As majority researchers have considered this as a crucial determinant of behaviour this has been included in the study. The hypothesis developed is as follows

H3: There is a significant relation between Social Influence and individual's intention to use digital payment services.

Facilitating conditions is defined as how a consumer perceives the prevailing resources and support in the performance of behaviour (Venkatesh et al., 2012). Thakur (2013) identified that facilitating conditions have an influence on behaviour intention. The hypothesis framed is

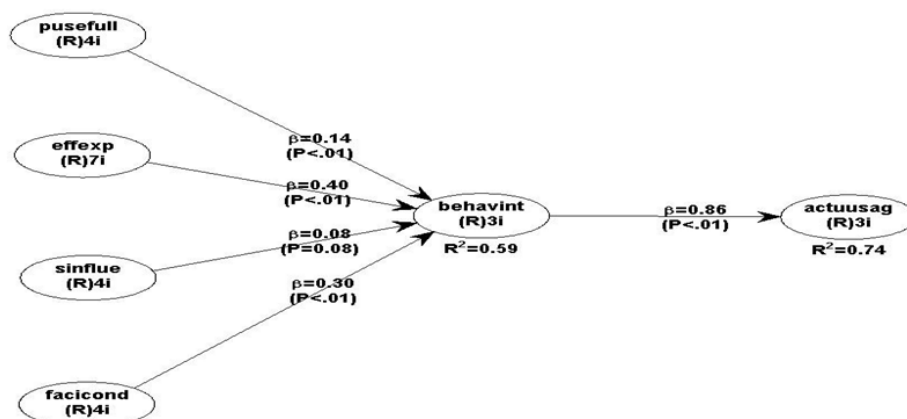
H4: There is a significant relation between Facilitating Conditions and individual's intention to use digital payment services.

The final hypothesis is as follows

H5: Behavioral Intention will have a significant influence on usage of digital payment systems

## ANALYSIS

The data collected was analysed using SPSS and WARP PLS. Initially a check of reliability was conducted and the Cronbach alpha for all the constructs were greater than 0.7 which is acceptable. The SEM model is as shown in Fig.2



The p value for all the paths are less than .01 ( $p < .01$ ) which implies that all paths are significant. Hence all the hypotheses were accepted. While considering the beta values it can be inferred that effort expectancy has a

greater influence consumer behaviour intention and hence can be termed as the most influencing predictor of behaviour intention.

### **FINDINGS**

The main aim of this research is to understand the consumer behaviour towards adoption of digital payment systems. The major findings are as follows:

- Performance expectancy has a significant positive influence on behaviour intention
- Effort Expectancy has a significant positive influence on behaviour intention
- Social Influence has a significant positive influence on behaviour intention
- Facilitating factors have a significant positive influence on behaviour intention
- Effort expectancy is most influencing predictor of behaviour intention
- Behaviour intention positively influences consumer usage of digital payment systems

### **CONCLUSION**

The emergence of digital payment systems provided a new opportunity for the company's to serve the customers. But the consumer acceptances of this system were unclear. The objective of this study was to explore the consumer behaviour especially consumer adoption of digital payment systems. It is found that performance expectancy, effort expectancy, social influence and facilitating factors have a direct influence on consumer behaviour intention and behaviour intention positively influences consumer usage of digital payment systems.

In a management perspective, companies should focus more on making the digital payment system easy to use as effort expectancy is the most influencing factor of behaviour intention. It may be concluded that given the scope of the market companies should focus on all these to have a better performance in the market.

### **REFERENCES**

- Amoroso, D. L., & Magnier-Watanabe, R. (2012). Building a research model for mobile wallet consumer adoption: the case of mobile Suica in Japan. *Journal of theoretical and applied electronic commerce research*, 7(1), 94-110.
- Calantone, R. J., Griffith, D. A., & Yalcinkaya, G. (2006). An empirical examination of a technology adoption model for the context of China. *Journal of International Marketing*, 14(4), 1-27.
- Funk, J.L. (2004) *Mobile Disruption*, New York, NY: John Wiley & Sons
- Chang, M.-L., & Wu, W.-Y. (2012). Revisiting perceived risk in the context of online shopping: An alternative perspective of decision-making styles. *Psychology and Marketing*, 29, 378– 400.
- Hongxia, P., Xianhao, X., & Weidan, L. (2011). Drivers and barriers in the acceptance of mobile payment in China. In *International conference on E-business and E-government*. May 6 – 8, Shanghai.
- Karnouskos, S., & Fokus, F. Mobile Payment: A Journey Through Existing Procedures and Standardization Initiatives, *IEEE Communications Surveys, The Electronic Magazine of Original Peer-Reviewed Survey Articles*, Fourth Quarter 2004, vol. 6, No. 4.
- Mallat, N. (2007). Exploring consumer adoption of mobile payments—A qualitative study. *The Journal of Strategic Information Systems*, 16(4), 413-432.
- Reserve Bank of India. (2018). 2012 annual report of Reserve Bank of India. Retrieved from <https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/0ANREPORT201718077745EC9A874DB38C991F580ED14242.PDF>
- Saaksjarvi, M. (2003). Consumer adoption of technological innovations. *European Journal of Innovation Management*, 6(2), 90-100.
- Srivastava, S. C., Chandra, S., & Theng, Y. L. (2010). Evaluating the role of trust in consumer adoption of mobile payment systems: An empirical analysis. *Communications of the Association for Information Systems*, 27, 561-588.
- Suoranta, M., & Mattila, M. (2004). Mobile banking and consumer behaviour: new insights into the diffusion pattern. *Journal of financial services marketing*, 8(4), 354-366.

- 
- Thakur, R. (2013). Customer adoption of mobile payment services by professionals across two cities in India: An empirical study using modified technology acceptance model. *Business Perspectives and Research*, 1(2), 17-30.
  - Yang, S., Lu, Y., Gupta, S., Cao, Y., & Zhang, R. (2012). Mobile payment services adoption across time: An empirical study of the effects of behavioral beliefs, social influences, and personal traits. *Computers in Human Behavior*, 28(1), 129-142.

---

**TALENT MANAGEMENT: A STRATEGIC DIMENSION IN HRM**

---

**Dr. Syeda Ruksana<sup>1</sup> and Prof. Badiuddin Ahmed<sup>2</sup>**Associate Professor<sup>1</sup>, Deccan school of Management, HyderabadHead<sup>2</sup>, Department of Management Studies, & Dean, School of Business Management, MANUU, Hyderabad

---

**ABSTRACT**

*Attracting and nurturing talent has become a dominant force in this present world. talent management is a business strategy, that organizations believe will enable them to retain their top talented employees. It is the process of effectively hiring the right talent and preparing them to take up top positions in future. the performance of every organization depends on the performance of their employees. The functioning of an organization largely depends on the talented employees. So the Organizations should invest in the process of development of its employees for building the competencies of work force so as to make them futuristic. In this context organizations are making more investment in introducing talent development initiatives which is currently a challenge. There is shortage of talents because of overwhelming strategies. The present study examines how talent management practices are effectively managed and successfully deployed.*

*Keywords: Employees, Talent, Challenge, Organizations.*

---

**INTRODUCTION**

Talent may be defined as an identifiable ability i.e perceived to add immediate or future value to any prescribed activity, discipline or enterprise. It is a long term strategy that plans for future talent changing work environments. It is strategic and tactical management of the flow of talent through an organization.

Talent management means attracting developing and retaining key talent. It therefore involves coordinating several human resource activities in particular workforce acquisition assessment, development and retention. According to Smilansky talent management is aimed at improving the calibre, availability and flexible utilization of exceptionally capable employees who can have a disproportionate impact on business performance.

**NEED AND IMPORTANCE OF TALENT MANAGEMENT**

The success of an organization mostly depends on the diversified and dynamic workforce of the firm. There has been an increase in the need for outstanding talented employees with an increase in the global competition. To gain and retain competitive advantage in the highly competitive world firms should design and successfully implement effective strategies and for this a firm requires the employees that are highly caliber, multi-skilled and competent. The factors that influence the need for recruiting and retaining highly talented employees include

1. The thirst to increase the turnover in accordance with the economic growth.
2. Globalization of labour force and markets.
3. Intensified competition among firms internationally.
4. Increase in the scope of corporate world.

The Need for talent management and their strategies vary from one organization to other as they depends on the culture, corporate needs and the competitor actions of firms and they differ from one organization to another.

Talent management is a strategic process that is engaged in ensuring the supply of talent in the form of right people placed in right jobs at right time in order to accomplish the strategic objectives of a firm. It is an integrated approach that facilitates firm to gain competitive advantage through strategic management of competent and talented workforce. Talent management believes that talent can add value to the organization and will result in the success of both individual and organization as well It is a change oriented approach that leads to an effective organizational change. It is a collaborative approach that involves shared accountability and responsibility among the workforce of the firm.

**TALENT MANAGEMENT A STRATEGIC APPROACH**

It can be viewed as a strategic approach to manage human capital throughout the career cycle

**ATTRACTING TALENT**

Attracting talent is the first step in the talent management cycle. Matching the right person to the right job is an acknowledged need of the organization.

---

**RETAINING TALENT**

Companies that develop successful retention strategies can win the employees. There are many strategies but they differ from organization to organization. There are five ways to retain employees

- Responsibility: show your employees you trust them by giving them responsibilities that allow them to grow.
- Respect: Employees must feel appreciated and respected
- Revenue sharing: Tie a part of your employee wages to the company's performance.
- Rewarded
- Relaxation of time.

**DEVELOPING TALENT**

Employees are career oriented so the employees, want to be challenged and developed .if they are not career oriented they will become less productive which leads to failure,

Integrated talent management wheel

Talent management wheel divides the important elements of talent management into two: talent management practices and guiding principles.

**WORKFORCE PLANNING**

It looks at the supply and demand for talent over a two year or longer period of time. Key issues are retirements, planned and unplanned attrition, varying staffing options, competencies for superior performance and strength of talent.

**TALENT ACQUISITION**

It is the ability of a company to attract and hire a key talent. Talent engagement: engagement is a leading indicator for high performance work place improved employee productivity .it also represents the extent to which the workforce identifies the company committed to it.

**TALENT DEPLOYMENT**

Talent deployment means the right people are doing right job at the right time. All these functions have to work together in order to work enthusiastic towards the objective of the organization. Being excellent in one or two areas is a good beginning, but the whole system has to work effectively.

There are seven key practices which any organization can adopt to make an enriching workplace

- **Mentoring**

Nothing accelerates the transfer of knowledge which enhances individual's development.

- **Job stretch**

Many organizations define jobs narrowly and allow little or no movement across organizational boundaries with in them. But to grow and to understand the talented people need to be constantly challenged and stretched.

- **Merit based opportunity**

Nothing frustrates talented people particularly young up comers to wait for their turn before getting an opportunity to important projects.

- **Freedom and stimulation**

There are two factors which are essential to make a workplace conducive to learning are stimulation through frequent exposure to a wide variety of people and ideas for freedom to explore and pursue individual ideas and passions.

- **Teaching and coaching**

A manager has to help others to grow, learn and realize their potential, and organizations need to acknowledge them value of teaching and coaching.

- **Diversity of talent & personality**

Here HR managers have to play a key role who not only becomes a diversity champion but also promotes it .it seems to be obvious to most observers but few leaders really know how to manage the difference.

---

**● Flattening of hierarchies**

In recent years it has severely curtailed growth paths in many organizations. But growth should not just be up the ladder on acquired managerial skills .another productive growth path is horizontal and progressive organizations which have created lateral paths that allow people to broaden their skills and knowledge with discipline and jobs

**CONCLUSION**

Talent management should be about delivering business success through adjusting what we actually mean by talent and how it will achieve specific objective of organizations. It is about ensuring that we understand what can spoil all our hard works. It is about operating people that join together not only with each other but with business goals and finally it is also about understanding how to manage people for alignment as well as ability. Attracting and nurturing talent has become single most dominant force, because today every individual is well enough to understand and to overcome any obstacle. Different strategies have to be framed for overcoming talent shortages. Management needs to act proactively so as to multiply its effect.

**REFERENCES**

1. ASTD (American Society for Training&Development).Talent Management Practices and Opportunities. Alexandria, VA
2. The New Face of Talent Management: Making Sure Your Employees Really Are Your Most Important Asset.
3. Bersin,Josh. High-Impact Talent Management: Trends, Best Practices and Industry Solutions. Oakland: Bersin & Associates.
4. Kevin oakes, "talent management: the new silver bullet.
5. Authoria.Inc, "Make Talent Count: Talent Management for Progressive HR Executives"
6. "what is talent management: defining a clear technology strategy".
7. "Integrated talent management Part 3 – Turning talent management into a competitive advantage: An industry view".



---

**DIGITAL BANKING - NEW HORIZONS IN A CASH-LIGHT INDIA “TECHNOLOGY TRANSFORMS THE LANDSCAPE OF BANKING”**

---

**Dr. D. Jayarama Reddy<sup>1</sup> and Prof. C. R. Reddy<sup>2</sup>**Senior Lecturer<sup>1</sup>, Govt. Degree and Postgraduate (Autonomous) College, Ananatapur<sup>2</sup>Emeritus of Commerce, Ananatapur

---

**ABSTRACT**

*Healthy and sound operations of banking business imperatively depends upon one strategic input is banking technology. Efficient financial intermediation in the context of overall development of economy and financial stability of banking sector is essentially resorts to adoption of the digital technology to transform results to rise of revenue, enhance of customer service, minimise of cost structure and manage of enterprise risk ably. The macro-financial linkages and the micro-level sources are underlying the assets quality. In India, today, buzzword is creating a cashless future. Digital Banking, a new horizon in a cash-light India through digital payments as faster and more inclusive services to the both micro-and-macro businesses is extremely important to monitor economic progress. Digital Payments is ecosystem to undergo transformation with the entry of global tech giants acting as aggregators for business transactions. Entry of digital payment instruments of IMPS, Prepaid Instruments and Online spends more focus on merchant payments. Demonetization has revolutionised digital payments in India to drive adaption of adoption. Reach of payment services and increase of value proposition to meet the expectations of customers is the aim of digital payments. It provides as accurate services as possible for brining uniformity growth in the country. Popularise the schema of digital banking is the need of the hour.*

*Keywords: Digital Banking, Digital Technology, Internet, and Mobile Banking.*

---

**1. INTRODUCTION**

Several commercial banks in India have already started aggressively innovating digital products and services for customers, to remain contemporary and relevant. Of late, Indian banking has been offer a unique architecture of eKYC system for digital banking. Thus, India today stands at the cusp of a banking revolution through rapid penetration of digital banking. But, apparently big digital push has not happened. Internet is an integral part of human life. Internet and mobile banking might be the biggest technological move forward affecting the current banking sector as a way for customers to handle themselves their own daily banking transactions. Through internet banking, the customers can pay their bills, handle their business accounts and deal with their investments among many other things that they need to visit before the bank. It is a gateway to other mobile applications and technological advances created by digitalization. Mobile banking has become increasingly a more popular method of handling daily banking business. Digital Payments offer unique opportunities. The Global trends indicate heightened customer expectations for value-added services, increased competition due to the emergence of FinTech, new technologies and an ever-changing regulatory landscape. These emerging global trends are expected to impact the Indian Digital Payments ecosystem and provide impetus to the growth of Digital Payments.

India witnessed a remarkable 32 per cent annual growth in internet users. India has over 3500 lakh internet users, and only second to China in terms of the largest internet user. Total value of transactions over point-of-sales has shot up by 41 per cent; value of debit card transactions saw a robust increase. Key among the host of factors has created a strong ecosystem enabling digital banking for change from high-cost, high-value, high-fee and low-volume to low-cost, low-value, no-fee and high volume. Digital banking system leads in a sharp rise in accessibility as well as affordability for ensuring higher to unused digital payments.

**DIGITAL PAYAMENT**

The Payment and Settlements Act, 2007 has defined Digital Payment as, Any transfer of funds is initiated by way of instruction of a person; authorization or order to a bank to debit or credit his account maintained with it through electronically and includes point of sale transfers; automated teller machine transactions, direct deposits or withdrawal of funds, transfers initiated by telephone, internet and card payment. Growth trends in digital payments and issues relating to charges and challenges for collecting and disseminating disaggregate data are covered under the Payment and Settlement Act, 2007.

India is moving towards a first digital economy, due to demonetisation efforts started in December 2016 by the Government of India and the customers being forced to embrace the services of non-traditional banking. Buoyed by the successful acceptance of demonetization, the Government of India is now pushing digital

payments into the operations of banking business. The state-of-the-art digital payment system is now poised to take quantum leap in this new millennium largely driven by the ubiquitous internet. Success of E-commerce and M-commerce is obviously responsible to the phenomenal growth of technologies of various digital payments - Card Payments, Electronic Fund Transfers, Payment Gateways, e-Payments, Smart Cards, Mobile Money Wallets, etc. In India, the number of both debit cards and credit cards in operation were 944.3 million and 39.37 million respectively as on June 2018. Thus, today, cashless has become a buzzword.

### **DIGITAL TRANSFORMATION – A NEW TREND**

As a modern trend, digitalization is one of the biggest factors changing the current business atmospheric environment. It works more independent and more in digital environmental situation and finally changes the whole organization. It transforms the corporate culture and consumer behaviour and forces the business organizations to act on. Many of manual office jobs disappear and automated in the era of digitalisation and resulting in many of the offices work more efficiently with lesser costs. An opportunity of digitalisation certainly improves the customer-relations in the business process, creates and adapts new business models. Hence, the digital technology has become an inevitable change process shaping the office work.

Essentially the dynamic revenue models are literally anew in the new age system of payments being the people, technologies and process together created vast, robust and dependable networks and seamless system. With the digital banking and mobility, no longer needs to 'leap-frog' but to 'deep-dive' into the future business environment. As a result, digital and mobile for a bank is a bare necessity to collaborate and conduct business operations to attain optimum goal. Banks have already started to replace of more expensive human interactions by digital technology in feasible investment areas with the automated teller machines and digital kiosks for facilitating and rendering services in account opening and customers' inquiries. Despite the fact that all the measures are fairly common premises among the banks, but arises a wide variation in technology schema and capability of operations across the different players of banking.

### **INTERNET AND MOBILE BANKING**

Core banking as internal function with banks adopting a 'lift' and 'shift' approach is automatic basic process enabling a single customer and endorses for work optimisation across branch and hub network. The acceleration of technological change coupled with shifting customer preferences and evolving regulatory landscape have dramatic implications on the financial services to design, deliver and disburse today. Once the tasks handled with paper money, bulky computers and human interaction are now emerges entirely on the digital interfaces seamlessly. Internet and Mobile phone virtually enable the customers of banks to get attach them at a time and place convenient. Reality of mobile banking, today, is with more than a hundred billion transactions a month. Smart mobile phone creates more opportunities to the common man than any other technology in the recent past. Mobile banking on the back of mobile phone came into being to help the clients faster and securing banking transactions. Thus, mobile banking is a win-win situation for both banks and clients.

### **BANKS SURVIVAL AND DIGITAL AGE**

Transaction of digital and online have been steadily gaining platform due to the Government thrust for cash-less transaction. Digital transactions get boost on becoming internet faster, cheaper and reliable, especially in the rural and semi-urban centres. Many industry insiders and their clients use the word digital banking in a much narrower sense to cash-less or paper-less transactions. World over, 'Digital Banking' per se has a wider meaning, though digital transactions form a subset of it. What exactly Digital Banking mean? "Digital banking is really about behaviour and not technology or channels that influences strategy, content and drives advocacy. It is not about being mobile first or digital first, but being people first". What Bill Gates said digital banking in 1994 as: "Banking is necessary; banks are not; how banks can survive in the digital age". Technology is only the means and not the end. Customer experience is the key. Digital banking provides mission critical solutions to bankers for both short and long term business and technological requirements. The driving factors are as:

- (1) **Adoption:** Post-demonetisation e-commerce and m-commerce success is largely attributed to the phenomenal growth by adoption of digital payment technology. Pivotal to embracing to such new age payment systems are the people, technologies and processes which together have created vast, robust and dependable networks and seamless systems to guarantee herculean transactional volumes at swift speed on dependable security and counter-checks built around them.
- (2) **Agility:** The satisfaction of customers and value through their unified experiences, fastest possible throughput, infinite banking volumes, financial inclusion, operational efficiencies, scale of economy, etc., are being sought after by leveraging digital banking and mobile technologies. Cord

- (3) **Cord:** As player, banks act as citadel to the string of new end-customers as a single largest beneficiary with bouquet of services to choose from and along with the incredibly competitive pricing models.

### SEGMENTS OF DIGITAL PAYMENT

The payments system is of two segments namely (A) The Systemically Important Financial Market Infrastructure (SIFMIs) and (B) The Retail Payments.

- (A) **SIFMIs:** The SIFMIS is a multilateral system among participating institutions including the operator, the system used for purposes of clearing, settling or recording payments, securities, derivatives, or other financial transactions. The four segments of SIFMIs are as:
- (i) **RTGS:** Real Time and Gross settlement means the processing of instructions on receiving and settlement of funds transfer individually respectively on the instructions basis. Real Time Gross Settlement covers customer and inter-bank transactions is settlement of funds transfers individually primarily meant for large value transactions and no limit for inter-bank fund transfer.
  - (ii) **CBLO:** Settlement of Collateralised Borrowing and Lending Obligation (CBLO), Government securities of both outright trade and legs of repo transactions clearing and forex transactions through the Clearing Corporation of India Ltd. (CCIL). It represents an obligation between the borrower and the lender as to the terms and conditions of loan facilitates unwinding both the borrowing and the lending position. It also does not entail physical transfer of respective securities from borrower to lender or vice versa.
  - (iii) **G-Sec:** Government Security (G-Sec) may be the Central and State with short-term or long-term usually called treasury bills or Government bonds with maturities of less than one year and more than year respectively. It is called risk-free gilt-edged instrument.
  - (iv) **Forex:** The word, Forex stands for Foreign Exchange to trading in currencies from different countries against each other and accepts inter-bank Cash, Tom, Spot and Forward USD-INR transactions for settlement by providing netting benefits.
- (B) **Retail Payments:** Ten segments of Retail Payments are as:
- (i) **Cheque Truncation System:** Cheque truncation system (CTS) is online image-based approach to clear cheques quickly on the electronic image of cheque transmitted with key important data for clearing. It eliminates associated cost of physical movement of cheques, reduces time required for their collection and brings elegance to the entire activity of processing of the cheque.
  - (ii) **MICR:** The numbers usually include the account number from which the money will be drawn, the identification number and the routing the check for the bank transit where the account resides. Magnetic Ink Character Recognition (MICR) technology is for fast and reliable document processing and uses magnetically chargeable ink or toner to print a specific nine-digit numerical code on the bottom of cheques with bank to quickly facilitate in the banking industry for clearing funds to customer. By using a special magnetic ink and unique fonts, it prevents financial fraud.
  - (iii) **NON-MICR:** It refers to the process of manual clearing of cheque where it is physically moved between the bank branches/banks for clearing.
  - (iv) **ECS DR/CR:** The institutions use for making bulk payment or collection of amount through electronic debit/credit clearing system.
  - (v) **NEFT:** National Electronic Funds Transfer (NEFT) is a nation-wide payment system electrically to facilitate one-to-one funds transfer by individuals, firms and corporate from any bank branch to any individual, firm or corporate having account with any other bank branch in the country participating in the scheme.
  - (vi) **IMPS:** Immediate Payment Service (IMPS) offers an instant 24 x 7 inter-bank electronic fund transfer service through mobile phones within banks across India through mobile, internet and ATM.
  - (vii) **UPI:** Unified Payments Interface (UPI) is a system processing a multiple bank accounts into a single mobile application (of any participating bank). It also caters the Peer-to-Peer request and paid as per requirement and convenience.
  - (viii) **NACH:** National Automated Clearing House (NACH) offers repetitive and electronic services to banks aiming to facilitate inter-bank high volume, low value debit/credit transactions. It leverages the Core-Banking Solution of participating banks for centralized posting of inward debit / credit transactions.

- (ix) **Credit/Debit Card:** Bank provides a credit card to the account holder on his credit rating to enable him to borrow funds for making payment towards goods and services purchased by him with a condition that he will pay back the borrowed amount plus any additional agreed-upon charges. Bank issues a debit card to the account holder for daily withdrawal amount, as and when he desires to a limit of withdraw amount and also making payment to the purchases of goods and services that he purchased eliminating no need of carry cash. Once used it, amount is deducted from consumer bank account.
- (x) **PPIs:** Prepaid Payment Instruments (PPIs) are payment instruments facilitate purchase of goods and services including financial services, remittance facilities, etc., against the value stored on such instruments. Data on Indian banking digital payments and compound annual growth rate are presented in Table 1.

**Table – 1: Digital Payments System and CAGR**

(Value ₹ in Billions)

(Volume in Millions)

| Particulars   | Year              |                    |                    |                    |                    |                    |                    |
|---|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|   | 2011-12           | 2012-13            | 2013-14            | 2014-15            | 2015-16            | 2016-17            | 2017-18            |
| <b>Systemically Important Financial Market Infrastructure</b> |                   |                    |                    |                    |                    |                    |                    |
| 1 RTGS: (a) Value   | 539308            | 676841             | 734252             | 754032             | 824578             | 981904             | 1167125            |
| (b) Volume  | 55.0              | 68.5               | 81.1               | 92.8               | 98.3               | 107.8              | 124.4              |
| CAGR: (a) Value   | -                 | 25.50              | 8.48               | 2.69               | 9.36               | 19.08              | 18.86              |
| (b) Volume  | -                 | 24.55              | 18.39              | 14.43              | 5.93               | 9.66               | 15.40              |
| 2 Total financial Markets Clearing: (a) Value                 | 406071            | 501599             | 621570             | 672456             | 721094             | 1056173            | 1074802            |
| (b) Volume  | 1.9               | 2.3                | 2.6                | 3.0                | 3.1                | 3.7                | 3.5                |
| CAGR: (a) Value   | -                 | 23.52              | 23.92              | 8.19               | 7.23               | 46.47              | 1.76               |
| (b) Volume  | -                 | 21.05              | 13.04              | 15.38              | 3.33               | 19.35              | -5.41              |
| 3 Total SIFMIS: (a) Value                                     | 945379<br>(88.64) | 1178440<br>(89.78) | 1355822<br>(90.41) | 1426488<br>(90.25) | 1545672<br>(89.69) | 2038077<br>(90.23) | 2241927<br>(88.70) |
| (b) Volume  | 56.9<br>(2.20)    | 70.8<br>(2.35)     | 83.7<br>(2.24)     | 95.8<br>(2.00)     | 101.4<br>(1.44)    | 111.5<br>(1.01)    | 127.9<br>(0.80)    |
| CAGR: (a) Value   | -                 | 24.65              | 15.05              | 5.21               | 8.36               | 31.86              | 10.00              |
| (b) Volume  | -                 | 24.43              | 18.22              | 14.34              | 5.96               | 9.96               | 14.71              |
| <b>Retail Payments</b>  |                   |                    |                    |                    |                    |                    |                    |
| 4.Total paper clearing: (a) Value                             | 99012             | 100182             | 93316              | 85439              | 81861              | 80958              | 81893              |
| (b) Volume  | 1341.9            | 1313.7             | 1257.3             | 1195.8             | 1096.4             | 1206.7             | 1170.7             |
| CAGR: (a) Value   | -                 | 1.18               | -6.85              | -8.44              | -4.19              | -1.10              | 1.16               |
| (b) Volume  | -                 | -2.10              | -4.29              | -4.89              | -8.31              | 10.06              | -2.99              |

|   |                      |                      |                      |                      |                      |                      |                      |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 5Total Retail Electronic Clearing:<br>(a) Value | 20575                | 31881                | 47856                | 65366                | 91408                | 132325               | 193112               |
| (b) Volume                                      | 512.5                | 694.1                | 1108.3               | 1687.4               | 3141.6               | 4222.9               | 6382.4               |
| CAGR: (a) Value                                 | -                    | 54.95                | 50.11                | 36.53                | 39.90                | 44.76                | 45.94                |
| (b) Volume                                      | -                    | 35.43                | 59.67                | 52.25                | 86.18                | 34.42                | 51.14                |
| 6Total Card Payments:<br>(a) Value              | 1563                 | 2052                 | 2575                 | 3325                 | 4484                 | 7421                 | 10607                |
| (b) Volume                                      | 678.1                | 932.5                | 1261.8               | 1737.7               | 2707.2               | 5450.1               | 8207.6               |
| CAGR: (a) Value                                 | -                    | 31.29                | 25.49                | 29.13                | 34.86                | 65.50                | 42.93                |
| (b) Volume                                      | -                    | 37.53                | 35.30                | 37.72                | 55.79                | 101.32               | 50.60                |
| 7Total Retail Payments:<br>(4+5+6)<br>(a) Value | 121150<br>(11.36)    | 134115<br>(10.22)    | 143747<br>(9.59)     | 154130<br>(9.75)     | 177753<br>(10.31)    | 220704<br>(9.77)     | 285613<br>(11.30)    |
| (b) Volume                                      | 2532.5<br>(97.80)    | 2940.3<br>(97.65)    | 3627.4<br>(96.96)    | 4620.9<br>(98.00)    | 6945.2<br>(98.56)    | 10879.7<br>(98.99)   | 15760.7<br>(99.20)   |
| CAGR: (a) Value                                 | -                    | 10.70                | 7.18                 | 7.22                 | 15.33                | 24.16                | 29.41                |
| (b) Volume                                      | -                    | 16.11                | 23.37                | 16.36                | 64.54                | 56.65                | 44.86                |
| 8.Grand Total: (3+7)<br>(a)Value                | 10665<br>29<br>(100) | 13125<br>55<br>(100) | 149957<br>0<br>(100) | 158061<br>7<br>(100) | 172342<br>5<br>(100) | 225878<br>0<br>(100) | 252753<br>9<br>(100) |
| (b)Volume                                       | 2589.3<br>(100)      | 3011.1<br>(100)      | 3741.1<br>(100)      | 4716.6<br>(100)      | 7046.6<br>(100)      | 10991.1<br>(100)     | 15888.5<br>(100)     |
| CAGR: (a) Value                                 | -                    | 23.07                | 14.25                | 5.40                 | 9.03                 | 31.06                | 11.90                |
| (b) Volume                                      | -                    | 16.29                | 23.25                | 27.09                | 49.40                | 55.98                | 44.56                |

Source: Niti Aayog, Digital Payments – Trends, Issues and Opportunities, July 2018

Figures in parentheses are percentage to grand total

Table 1 discloses a variety of digital payments of reporting statistics in terms of value and volume of transactions through 2589.3 million and value of ₹ 1066529.0 billion during the period between 2011-12 and 2017-18. Digital Payments through volume of 2589.3 million in 2011-12; of which (a) SIFMIs is accounted for ₹ 945379 billion through volume of 56.9 million and (b) Retail Payments to the tune of ₹ 121150 billion through volume of 2532.5 million. In 2017-18 total value of payments are ₹ 252739 through volume of 15888.5 million; of which (a) SIFMIs are accounted for ₹ 2242927 billion through volume of 127.9 million while figures for Retail Payments are ₹ 285613 billion through volume of 1560.7 million.

Total digital payments made under SIFMIs and Retail Payments are accounted for 88.64 per cent and 11.36 per cent of total digital payments in value of ₹ 1066529 billion through 2.20 per cent and 97.80 per cent of total volume of 2589.3 million in 2011-12 whereas in 2017-18 the corresponding figures are 88.70 per cent and 11.30 per cent of ₹ 2527539 billion through volume of 0.80 per cent and 99.20 per cent respectively. From the analysis, the inferred conclusions are that:

- (1) Under Retail Payments in 2011-12, paper clearing is accounted for 81.73 per cent of ₹ 121150 billion and 52.99 per cent of total volume of 2532.5 million. But electronic clearing scored the top position securing 67.61 per cent of ₹285613 billion through 40.50 per cent of total volume of 15760.7 million in 2017-18.
- (2) Digital Payments have registered robust growth in 2017-18 both in volume and value terms. In volume terms, the growth during 2017-18 is much higher than the trend growth rate during 2011-16. Growth in Total Retail Payments in value terms has been three times higher than the trend rate of the last five years

- (3) The Real Time Gross Settlement (RTGS) system amongst the electronic modes of payments, the NEFT, credit cards/debit cards have handled robust progressive trend in digital payments. The Reserve Bank's endeavour to build a less-cash society continued with the large scale adoption of digital modes of payments in the country. Rising electronic payment means, the banks have focused it's their efforts on safety and security of digital transactions.
- (4) Digital payments growth trend has accompanied by the rising currency in circulation after demonetization. Outstanding currency stock in circulation hovered around 12 per cent of Gross Domestic Product during 2011-12 to 2015-16 has declined to 8.8 per cent during 2016-17 and 2017-18 reflecting demonetization impact.
- (5) Achieved the outcomes are that (i) decrease in the share of paper-based clearing instruments, (ii) consistent growth in individual segments of retail electronic payment systems, (iii) increase in registered customer base for mobile banking; and (iv) up-scaling of the acceptance infrastructure for digital payments.

## **CONCLUSIONS**

The combination of high speeding of digital technology and free adaption of technological adoption have helped the banking and other financial institutions able to offer better financial products/services at lower costs to the customers in the market. Unbanked population in India has 230 million that still speaks about bare necessity of technological advancements in rendering the financial services. Technology as a biggest enabler and equalizer today, one-on-one connection in real time and creates massive new trend flows for the underserved or overlooked markets. Millions of people who previously had zero access to the digital service are now on the network in digital payment for good governance. Reserve Bank India equally has shown enthusiasm about promoting innovation and technology by continuance of the efforts to build up robust and secure digital payments and settlement system to achieve a less-cash society. A key interface issue of technology coupled with other technological advances merely made enablers but not drivers for shifting to the digital payment potentially.

In near cash-less world, the vulnerable groups like the poor, the elderly and migrants could become further marginalised, and those of street vendors, small traders, charities and the homeless dependents on income would fear to see a drop in their income. Banking is a complex business to deliver services through a multiple technological channel. The Government should popularise the digital payment system among the people including students through media and also protect the interests of customers by implementing a stringent Cyber Law.

The challenge of security and ramifications including cyber-crimes of banking technology should the need of hour in today's digital payment by the means of card payment, electronic fund transfer, payment gateways, smart card, e- payment, mobile money wallet, etc. Next challenge is that of implementation of new age payment systems which essentially should need to cover the people, technologies, and processes to facilitate together created vast, robust and dependable networks and seamless systems humongous transaction volume breakneck speed coupled with dependable security and built-in of counterchecks around them. Digital and mobile for a bank is no longer an option, but should make it a simple bare prerequisite to collaborate and flourish the economy of India.

---

**THE IMPACT OF TIME, PRICE AND ATTITUDE ON CONSUMER BEHAVIOUR INTENTION  
TOWARDS ONLINE FOOD DELIVERY SERVICES**

---

**Dr. Veldandi Ramchander Rao**Professor and Principal, Vaageswari Institute of Management Sciences, Karimnagar

---

**ABSTRACT**

*In this paper the Consumer Behaviour towards online food services had been analyzed. The factors influencing consumer attitude and consumer behavioral intention had been verified through empirical survey. The results of this study help online marketers to design their strategy for attaining positive behavioral intention among customers in future.*

*Keywords: online food delivery, online food ordering, mobile apps for food, online shopping, mobile shopping*

---

**1. INTRODUCTION**

E-commerce business in India and growth of food delivery service companies had accelerated the growth and it is expected to reach approximately 2.7 billion by 2019. The brick-and-mortar is taking support of click companies like Zomato and Swiggy to reach the end customer. The lifestyle of people had drastically changed and their food preferences have significantly changed in the last decade. The income of people is constantly increasing and people are spending money for variety food items. Another important dimension is growth of working women had created the necessity of online food delivery service.

The geographical boundaries have almost eliminated because of e-commerce technology. For example customers are able to get their favorite dishes by a click. The smart phone device had increased comfort and customers believe good food for good life in the present era. According to statistics food ordering through online mode had increased 15 percent in 2017 and delivery time had decreased a lot in last one year (Peermohamed, 2018).

Some of popular mobile apps in India for online food delivery are Swiggy, Zomato, Uber Eats, Foodpanda, JustEat, Pizza Hut and Domino's. Online food delivery revenue is expected to show an annual growth rate (CAGR 2019-2023) of 9.1%, resulting in a market volume of US\$11,569m by 2023. The market's largest segment is Restaurant-to-Consumer Delivery with a market volume of US\$7,477m in 2019 (STATISTA, n.d.). In this study the factors like time, price and attitude have been used to explain customer behavioral intention towards online food delivery services.

**2. LITERATURE REVIEW**

The consumer intention towards online food services is influenced by various factors like hedonic, price orientation and time orientation (Yeo, Goh, & Rezaei, 2017). Hedonic motivation convenience motivations are some of the major factors which influence behavioral intention of consumers towards online food delivery services. In online food retailing there are issues with supply side because delivery of items within less time is challenging issue (Morgonasky & Cude, 2002). The supermarkets have also developed systems to deliver goods after getting online orders.

The content on websites for online food delivery services plays a vital role in attracting customers thereby enhancing purchase intention. The online delivery service is growing rapidly, bringing together innovation and convenience to their customers, coupled with ease of access to mobile phones and internet (Pigatto, Manchado, Negreti, & Machodo, 2017). Since online food delivery is new service in the modern work people are also getting enthusiastic to use it.

Huddleston et al (2009) had explained product assortment, price and quality are important for consumers irrespective whether conventional or online mode of shopping. The demographical changes taken place in the last few decades and it had influenced older consumers behavior is different from younger consumers behavior (Meneely, Burns, & Strugnell, 2008). The employee behavior in conventional stores influence consumer behavior in conventional stores whereas in online food delivery services the behavior of delivery person is important.

Perceived behavioral norms and subjective norms had positive intention on online buying behavior of specialty food shoppers (Liang & Lim, 2011). According to Joung et al (2011) satisfaction toward meals on wheels (MOW) has a stronger positive indirect effect than the direct effect from other attributes on behavioral intentions. Malnutrition can lead to negative impact on health therefore healthy meals irrespective of purchase mode whether conventional or online mode.

Zhang et al (2013) had explained online group buying behaviour of food products in restaurants. The websites of restaurants can promote their products through group deals and influence online group buying behavior. According to Liang (2014) the consumer attitude towards organic food is positively influenced by subjective norms and cognitive control which is based on theory of planned behaviour (TPB).

### 3. STUDY OBJECTIVES

1. To know the impact of time and price on consumer attitude towards online food delivery services.
2. To access the impact of consumer attitude on behavioral intention towards online food delivery services.
3. To know impact of gender and occupational status on usage behaviour and consumer attitude respectively.

### 4. METHOD

The research site is Warangal district of Telangana State in India. All the respondents of this study had at used mobile app like Swiggy and Zomato for three times in the last six months. Since the respondents belong to Warangal district the results of this study can be generalized only to districts in Telangana region. The sample size is small which a limitation for this study is. From the dimension of scope of this study only four factors like price, time, attitude and intention have been considered but there might be other factors which influence consumer intention towards online delivery services.

Sample size for this study is 150 and simple random sampling had been used for selecting the respondents. The primary data had been collected by using questionnaire which consists of two sections. First sections consist of demographic variables and second part consists of four constructs with three items each. All the items in the second part of the questionnaire are measured using Likert-type scale. The items for each construct are adopted from previous published scales and they are modified according to the need of this study.

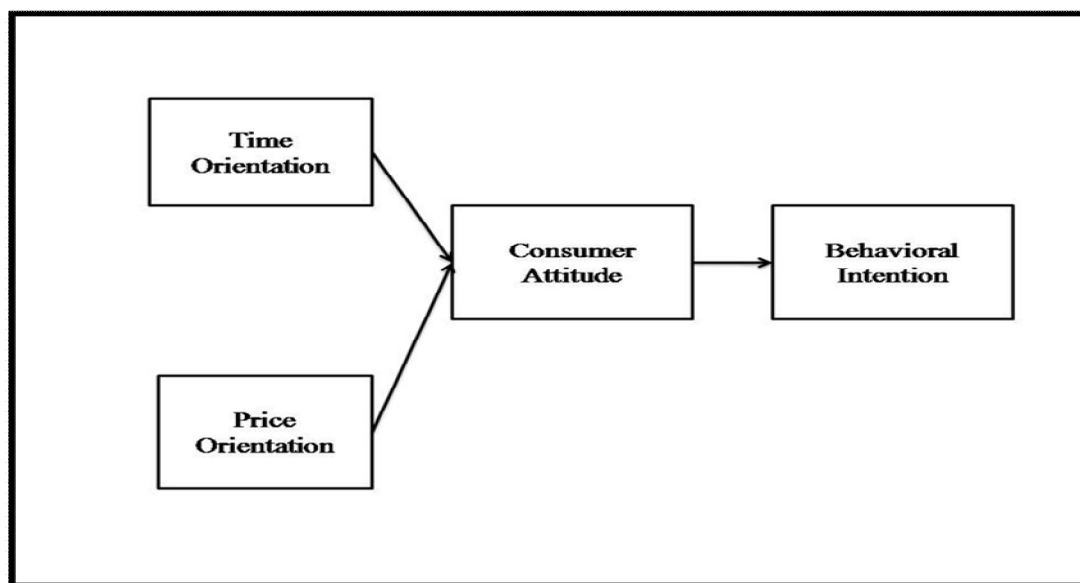
**Table 1. Measurement scale of this study**

| S.No | Construct            | Items  |
|------|----------------------|--|
| 1    | Time Orientation     | <ul style="list-style-type: none"> <li>• I believe that online food delivery services quickly deliver orders.</li> <li>• I can save time with online food delivery services.</li> <li>• I can get food from my favorite restaurants very quickly with online food delivery services.</li> </ul>                |
| 2    | Price Orientation    | <ul style="list-style-type: none"> <li>• Through online food delivery services I can save lot of money through offers like deals and coupons.</li> <li>• I can get value for money through online food ordering.</li> <li>• I can compare the prices and select the best food deals.</li> </ul>                |
| 3    | Attitude             | <ul style="list-style-type: none"> <li>• I like online food delivery services.</li> <li>• Purchasing food through online mode is good.</li> <li>• Lot of benefits will be there for customers through online food ordering process.</li> </ul>   |
| 4    | Behavioral Intention | <ul style="list-style-type: none"> <li>• In future I will use online food delivery services.</li> <li>• I intend to use online food delivery services because of quality food at affordable price.</li> <li>• I believe that it is essential for me to use online food delivery services in future.</li> </ul> |

(Source: Developed by the researcher)

Figure 1. Research model of this study





(Source: Developed by the researcher)

## 5. ANALYSIS

### DEMOGRAPHIC PROFILE

Majority of the respondents male are approximately 71 percent and 29 percent are female. Out of total respondents approximately 55 percent are students, 26 percent are employees and 19 percent are doing own business (self-employed). Among the respondents 61 percent use online food service at least once in a week, 17 percent at least once in two weeks and 22 percent have expressed that they cannot say about their frequency of online food service usage. The percentage of each demographic characteristic is shown in Table 2 for Gender, Table 3 for Occupational Status and Table 4 for Online Food Delivery Usage.

**Table 2. Gender**

|       |        | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------|-----------|---------|---------------|--------------------|
| Valid | Male   | 107       | 71.3    | 71.3          | 71.3               |
|       | Female | 43        | 28.7    | 28.7          | 100.0              |
|       | Total  | 150       | 100.0   | 100.0         |                    |

(Source: Output from SPSS)

**Table 3. Status**

|       |              | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------------|-----------|---------|---------------|--------------------|
| Valid | Student      | 83        | 55.3    | 55.3          | 55.3               |
|       | Employee     | 39        | 26.0    | 26.0          | 81.3               |
|       | Own Business | 28        | 18.7    | 18.7          | 100.0              |
|       | Total        | 150       | 100.0   | 100.0         |                    |

(Source: Output from SPSS)

**Table 4. Usage**

|       |                       | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------------------|-----------|---------|---------------|--------------------|
| Valid | At least once in week | 91        | 60.7    | 60.7          | 60.7               |
|       | Once in two weeks     | 26        | 17.3    | 17.3          | 78.0               |
|       | Can't say             | 33        | 22.0    | 22.0          | 100.0              |
|       | Total                 | 150       | 100.0   | 100.0         |                    |

(Source: Output from SPSS)

**H1:** The time orientation of consumer has an impact on attitude for online food delivery service.

**Table 5. Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig.  |
|-------|------------|-----------------------------|------------|---------------------------|--------|-------|
|       |            | B                           | Std. Error | Beta                      |        |       |
| 1     | (Constant) | 4.093                       | 0.559      |                           | 7.316  | 0.000 |
|       | TIME       | -0.726                      | 0.077      | -.585                     | -9.406 | 0.000 |
|       | PRICE      | 0.668                       | 0.109      | 0.380                     | 6.107  | 0.000 |

a. Dependent Variable: ATTITUDE,

(Source: Output from SPSS)

H1 is accepted because 'p' value for time orientation is less than 0.05 according to table 5. But beta value is negative therefore it can be stated that time orientation does not have positive impact on consumer attitude towards online food delivery service.

**H2:** The price orientation of consumers has an impact on their attitude for online food delivery services.

H2 is accepted because 'p' value is less than 0.05 according to Table 5. Hence price orientation has positive impact on consumer attitude for online food services. Hence it can be assumed that offers and discounts have a positive impact on consumer attitude.

**Table 6. Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig.  |
|-------|------------|-----------------------------|------------|---------------------------|-------|-------|
|       |            | B                           | Std. Error | Beta                      |       |       |
| 1     | (Constant) | 3.178                       | 0.350      |                           | 9.089 | 0.000 |
|       | ATTITUDE   | 0.261                       | 0.083      | 0.251                     | 3.154 | 0.002 |

a. Dependent Variable: INTENTION

(Source: Output from SPSS)

**H3:** The attitude of consumers has positive impact on behavioral intention towards online food delivery services.

According to 'p' value which is less than 0.05 from Table 6 it can be stated that H3 is accepted. Therefore consumer attitude towards online food services has positive impact behavioral intention of consumers.

**H4:** The occupational status has an impact on consumer attitude towards online food delivery services.

H4 is accepted because 'p' value for intention is less than 0.05 according to Table 6. Therefore attitude has positive impact on intention towards online food services.

**Table 7. ANOVA between Attitude and Occupational Status**

|                | Sum of Squares | df  | Mean Square | F      | Sig.  |
|----------------|----------------|-----|-------------|--------|-------|
| Between Groups | 30.651         | 2   | 15.325      | 32.750 | 0.000 |
| Within Groups  | 68.789         | 147 | 0.468       |        |       |
| Total          | 99.440         | 149 |             |        |       |

(Source: Output from SPSS)

Chi-square test between gender and usage of frequency of online food delivery services

**Table 7. Gender \* Usage Crosstabulation**

| Count  |        |                       |                   |           |       |
|--------|--------|-----------------------|-------------------|-----------|-------|
|        |        | Usage                 |                   |           | Total |
|        |        | At least once in week | Once in two weeks | Can't say |       |
| Gender | Male   | 67                    | 26                | 14        | 107   |
|        | Female | 24                    | 0                 | 19        | 43    |
| Total  |        | 91                    | 26                | 33        | 150   |

(Source: Output from SPSS)

**H5:** The gender has an impact on usage behavior of online food services.

According to Table 8 the 'p' value is less than 0.05 therefore H5 is accepted, hence gender has positive impact on usage behavior of online food services.

**Table 8. Chi-Square Tests**

|                              | Value               | df | Asymp. Sig. (2-sided) |
|------------------------------|---------------------|----|-----------------------|
| Pearson Chi-Square           | 24.170 <sup>a</sup> | 2  | 0.000                 |
| Likelihood Ratio             | 29.754              | 2  | 0.000                 |
| Linear-by-Linear Association | 6.465               | 1  | 0.011                 |
| N of Valid Cases             | 150                 |    |                       |

## 6. DISCUSSION

It is found from this study that time orientation does not have positive impact on consumer attitude towards online food order services. Consumers are more concerned about deals, offers and discounts when they opt for online food delivery services. Consumers are not concerned about quick delivery but they want quality food at low cost. The attitude of consumers is influenced by price and time but low price has positive influence on consumer attitude. Consumer behavioral intention towards online food services is positively influenced by consumer attitude.

## 7. CONCLUSION

From this study it is understood that low price is the primary factor for positive attitude and behavioral intention towards ordering food through online mode. Smart phone devices with apps like Zomato and Swiggy are being used by consumers to use online food delivery services. At present organizations are motivating consumers to purchase food online mode by deals but it may be possible to give deals in the long term. Therefore marketers need to highlight other factors like time orientation and variety orientation for motivating consumers to opt for online food delivery services.

## 8. RECOMMENDATIONS

In this research only four factors like price, time, attitude and intention have been considered this study. But there are other important factors like social norms, personal norms and lifestyle which are to be analyzed from the perspective of online food delivery services. At present consumers are using deals for purchasing food products hence there is need to conduct longitudinal studies to know whether consumers got habituated for online food delivery services.

## REFERENCES

1. Huddleston, P., Whipple, J., Mattick, R. N., & Lee, J. S. (2009). Customer satisfaction in food retailing: comparing specialty and conventional grocery stores. *International Journal of Retail & Distribution Management*, 37 (1), 63-80.
2. Joung, H.-W., Kim, H.-S., Yuan, J. J., & Huffman, L. (2011). Service quality, satisfaction, and behavioral intention in home delivered meals program. *Nutrition Research Practice*, 5 (2), 163-168.
3. Liang, A. R.-D. (2014). Enthusiastically consuming organic food : An analysis of the online organic food purchasing behaviors of consumers with different food-related lifestyles. *Internet Research*, 24 (5), 587-607.
4. Liang, A. R.-D., & Lim, W. M. (2011). Exploring the online buying behavior of specialty food shoppers. *International Journal of Hospitality Management*, 30, 855-865.
5. Meneely, L., Burns, A., & Strugnell, C. (2008). Food retailers' perceptions of older consumers in Northern Ireland. *International Journal of Consumer Studies*, 32 (4), 341-348.
6. Morgonasky, M. A., & Cude, B. J. (2002). Consumer demand for online food retailing: is it really a supply side issue? *International Journal of Retail & Distribution Management*, 30 (10), 451-458.
7. Peermohamed, A. (2018, January 30). India's online food ordering sector growing at 15% every quarter: RedSeer. Retrieved January 30, 2019, from Business Standard: [https://www.business-standard.com/article/companies/india-s-online-food-ordering-sector-growing-at-15-every-quarter-redseer-118012901417\\_1.html](https://www.business-standard.com/article/companies/india-s-online-food-ordering-sector-growing-at-15-every-quarter-redseer-118012901417_1.html)

- 
8. Pigatto, G., Manchado, J. G., Negreti, A. d., & Machodo, L. M. (2017). Have you chosen your request? Analysis of online food delivery companies in Brazil. *British Food Journal* , 119 (3), 639-657.
  9. STATISTA. (n.d.). Online Food Delivery. Retrieved January 30, 2019, from The Statistics Portal: <https://www.statista.com/outlook/374/119/online-food-delivery/india>
  10. Yeo, V. C., Goh, S.-K., & Rezaei, S. (2017). Consumer experiences, attitude and behavioral intention toward online food delivery (OFD) services. *Journal of Retailing and Consumer Services* , 35, 150-162.
  11. Zhang, Z., Zhang, Z., Wang, F., Law, R., & Li, D. (2013). Factors influencing the effectiveness of online group buying in the restaurant industry. *International Journal of Hospitality Management* , 35, 237-245.

---

**PROGRESS OF MICRO INSURANCE IN INDIA – AN ASSESSMENT**

---

**Dr. S. Balakrishnan<sup>1</sup> and Dr. I. Grace Gnanadeepam<sup>2</sup>**Assistant Professor<sup>1</sup>, Department of Commerce, School Of Commerce and Business Management, Central University of Tamil Nadu, Neelakudi, ThiruvavurAssistant Professor<sup>2</sup>, Department of Cooperation, T.B.M.L. College, Porayar

---

**ABSTRACT**

*This paper attempts analyse and understand the progress of microinsurance in India. It is based on the secondary data collected and compiled from the published sources for the period of eleven year that is, from 2007-08 to 2017-18. The results of the study shows that the share of LIC in the total business is more than private insurers and the annual growth rate of both insurers are in fluctuating trend. It is highly relevant to note that the private insurers were able to register the high positive CAGR than LIC during the period under study.*

*Keywords: Microinsurance, Risk, Poor, Social security, Programmes*

---

**I. INTRODUCTION**

Risk is ever present in the lives of the poor because most of them live in insecure conditions. Low-income individuals, households, and businesses are susceptible to the most common risks associated with their well-being, such as death, illness, injury, natural disasters, and theft. Microinsurance offered the ability to transfer risks to another party in a predictable and organized way in order for individuals to live their lives with more certainty. Experiences across countries in the world show that microinsurance has potential to reduce household risk impacts. In view of this, there is widespread interest in analyzing the marketing and outreach of microinsurance in India. The goal of social protection of governments and the discovery of business proposition in marketing insurance products by private players has led to the growth in the insurance business and evolution of various types of insurance covers.

**II. REVIEW OF LITERATURE**

Nearly all insurance schemes are linked with micro-financial services. Life and health are two most popular risks for which insurance is demanded (Ahuja, R. and Guha-Khasnobis, B. 2005). Linking insurance to the SEWA Bank has produced important benefits (McCord, Isern, & Hashemi 2001; Chatterjee. and Vyas, 2005; Garand, 2005). Taneja and Sihare, (2011) evaluated Rashtriya Swasthaya Bima Yojana (RSBY) an innovative mass level micro health insurance initiative of the Indian Government and found that it provided positive results. Devadasan, (2011) evaluated two health insurance schemes and found that both are satisfactory. They found that uninsured also have same level of satisfaction, they as such suggested that to improve the quality of care for their clients, the scheme managers need to negotiate actively for better quality of care with empanelled providers. The determinants of health insurance are: amount of income, health care expenditure number of children in a family, age and perception regarding future health care expenditure (Bhat and Jain, 2006). Households with a sick house hold head do not purchase as they have less income flows in financing the insurance premium. Households with a higher ratio of sick members are more likely to purchase insurance (Ito and Kono, 2009). The low-income population is not familiar with insurance and intangible products and therefore there is a need to educate the client group to know what he or she is buying and understand the benefits that one can get from buying an insurance policy (Tinsy Rose Tome and Selvam, V.2012; Ayandev Saha, 2012). However, Kirti Singh and Gangal, (2013) on the other hand revealed 73.36% of the people are aware of microinsurance.

**III. OBJECTIVES**

1. To trace out the origin and development of microinsurance in India
2. To analyse and understand the progress of microinsurance in India.

**IV. METHODOLOGY**

The study is based on secondary data. The data have been collected and compiled from the Annual Reports of IRDA. The sources include books, journals, website and the like. As microinsurance act was implemented in India only during 2005, the study has taken into consideration eleven years from 2007-08 to 2017-18. The simple mathematical tools have been employed for the purpose of analysing the data.

**V. EVOLUTION OF MICRO INSURANCE IN INDIA**

The term microinsurance was derived from the older term 'Micro-finance' (Shwetha Rana, 2014). India has many informal insurance schemes. These schemes are often small, run by cooperatives, churches and non-

governmental organizations (NGOs), which pool their members' contributions to create an insurance fund for a specific purpose, for example to cover funeral costs. In some countries, there is specific legislation to regulate these schemes, however in India, no such law exists; any organization conducting insurance has to comply with the stipulations of, among other regulations, the 1938 Indian Insurance Act as amended. The recognition of the plight of the poor, who have occupations that are risky in providing incomes to the families on one side and the emergence of a competitive, open environment that could lead to the neglect of the rural and weaker sections of India, the Insurance Regulatory and Development Authority of India (IRDA) passed the IRDA (Obligation of Insurers to Rural or Social Sectors) Regulations Act, 2002.

As per the act, every insurance company was required to engage with the rural and social sectors by complying with mandatory obligations. These require that seven per cent of all life insurance business should be generated from the rural social sector in the first financial year, and this should increase annually to reach 18 per cent by the sixth financial year. For general insurance, two per cent of insured premium in the first financial year should be from rural social business, increasing annually to five per cent in the sixth year.

## VI. MICRO INSURANCE REGULATIONS

In order to facilitate penetration of insurance to the lower income segments of population, IRDA had formulated the microinsurance regulations. Micro-insurance Regulations, 2005 provide a platform to distribute insurance products, which are affordable to the rural and urban poor and to enable microinsurance to be an integral part of the country's wider insurance system. The Authority undertook the review of the Micro-insurance Regulations, 2005 comprehensively. In this connection, the Authority has notified the Amended Regulations on 13<sup>th</sup> March 2015 wherein it has permitted several more entities like Business Correspondents of Scheduled commercial banks, District Co-operative banks, Regional Rural Banks, Urban Co-operative banks, Primary Agricultural Cooperative Societies, other co-operative societies, RBI regulated NBFC-MFI's to improve penetration of microinsurance.

## VII. MICRO INSURANCE PRODUCTS

Two types of products are offered, Life micro-insurance products and General micro-insurance products. Life microinsurance products to protect from life cycle risks, it designed as per the term stated in Table 1. General micro-insurance products means any health insurance contract, any contract covering the belongings, such as, hut, livestock or tools or instruments or any personal accident contract either on individual or group basis, as per terms stated in Table 2.

**Table 1: Life Insurance**

|   |   |
|---|---|
| 1 | The sum assured under an insurance product offering life or pension or health benefits shall not exceed an amount of ₹ 2,00,000 |
| 2 | The annual Premium shall not exceed ₹ .6,000 p.a in a Micro Variable insurance product under Non linked Non-par platform        |
| 3 | Add on riders may be offered in accordance to the provisions of the extent regulation   |
| 4 | Microinsuarce Schemes marketed to a Group with a minimum Group Size 5   |

Source: IRDA notification, March – 2015

**Table 2: Non-life Insurance**

| S. No | Type of cover  | Sum assured (₹ )                 | Term of Cover | Age of entry     |
|-------|--|----------------------------------|---------------|------------------|
| 1     | Dwelling and contents or livestock or tools or implements or other names assets or crop insurance – against all perils | Rs. 1,00,000<br>Per asset/ Cover | 1 year        | NA               |
| 2     | Health insurance (Individual)  | Rs. 1,00,000                     | 1 year        | Product Specific |
| 3     | Health Insurance Contract (Family/Group)   | Rs.2,50,000                      | 1 year        | Product Specific |

|   |   |             |        |                     |
|---|---|-------------|--------|---------------------|
| 4 | Personal accident<br>(Individual/Family/ Group) | Rs.1,00,000 | 1 year | Product<br>Specific |
|---|---|-------------|--------|---------------------|

Source: IRDA notification, March - 2015

**VIII. PROGRESS OF MICRO INSURANCE**

Microinsurance in India has evolved from unregulated to regulated business and progressed reasonably well since 2005.

**i. Increase in the number of companies**

At the end-March 2018, the insurance industry of India consists of 57 insurance companies of which 24 are in life insurance business and 33 are non-life insurers. Among the life insurers, Life Insurance Corporation (LIC) is the sole public sector company. All these insurance companies are offering 38 life insurance and around 91 non life insurance products companies targeting low income segment of the population (IRDA Annual Report, 2018)

**ii. Number of Insured (Individual Business)****Table 3: Number of Insured (Individual Business)**

| Year<br>(As at 31 <sup>st</sup> March) | Number of Insured   |         |                    |         | Total             |
|--|---------------------|---------|--------------------|---------|-------------------|
|  | LIC                 | AGR*(%) | Private            | AGR*(%) |                   |
| 2007-2008                              | 854615<br>(91.13)   | -       | 83153<br>(8.87)    | -       | 937768<br>(100)   |
| 2008-2009                              | 1541218<br>(71.61)  | 80.34   | 610851<br>(28.39)  | 634.61  | 2152069<br>(100)  |
| 2009-2010                              | 1985145<br>(66.52)  | 28.80   | 998809<br>(33.48)  | 63.51   | 2983954<br>(100)  |
| 2010-2011                              | 2951235<br>(80.83)  | 48.66   | 699733<br>(19.17)  | -29.94  | 3650968<br>(100)  |
| 2011-2012                              | 3826783<br>(82.82)  | 29.66   | 793660<br>(17.18)  | 13.42   | 4620443<br>(100)  |
| 2012-2013                              | 4340235<br>(86.18)  | 13.41   | 695904<br>(13.82)  | -12.31  | 5036139<br>(100)  |
| 2013-2014                              | 2205820<br>(79.71)  | - 49.17 | 561339<br>(20.29)  | -19.33  | 2767159<br>(100)  |
| 2014-2015                              | 400341<br>(49.03)   | - 81.85 | 416027<br>(50.97)  | -25.88  | 816368<br>(100)   |
| 2015-2016                              | 452291<br>(49.65)   | 12.97   | 458655<br>(50.35)  | 10.24   | 910946<br>(100)   |
| 2016-2017                              | 480892<br>(50.29)   | 6.32    | 475269<br>(49.71)  | 3.62    | 956161<br>(100)   |
| 2017-2018                              | 564541<br>(67.29)   | 17.39   | 274470<br>(32.71)  | - 42.24 | 839011<br>(100)   |
| Total                                  | 19603116<br>(76.37) | -       | 6067870<br>(23.63) | -       | 25670986<br>(100) |
| CAGR**                                 | -3.7%               | -       | 11.47%             | -       | -1.01%            |

Source: Compiled from annual reports of IRDA

52907

\* Annual Growth Rate \*\* Compound Annual Growth Rate

Figure in the bracket is the share in total

Table 3 reveals that more than 75 per cent of the number of insured belonging to the public sector insurer, the LIC and remaining number of insured belongs to private sector insurers. During the beginning of the study period, the share of LIC in number of insured was 91.13 per cent and thereafter it has registered both positive and negative annual growth rates during the different years and finally it reached a level of 67.29 per cent in 2017-18. The share of private insurers in number of insured was 8.87 per cent in 2007-08 and the same has increased to the level of 50.97 per cent in 2014-15 and finally its share has declined to the level of 32.71 per cent in 2017-18.

LIC is having the fluctuating trend in annual growth rate and it varies from -81.85 per cent (2014-15) to 80.34 per cent (2008-09). The same trend is also seen in private insurers during the years from 2007-08 to 2017-18. The highest annual growth rate is 634.61 per cent (2008-09) and the lowest growth rate is -42.24 per cent (2017-18)

The LIC has registered a CAGR of -3.7 per cent during the study period and the same for the private insurers has constituted 11.47 per cent. The overall CAGR for the study period has constituted -1.01 per cent. It is highly relevant to note that only the private insurers were able to register the positive CAGR during the period under study.

Though the LIC is the market leader in terms of policies issued and premium collection, it was not able to achieve the positive growth rates during the entire period of study period because of the hectic competition from the private players.

### iii. Number of insured (Group Insurance)

**Table 4: Number of Insured (Group Insurance)**

| Year<br>(As at 31 <sup>st</sup><br>March) | No. of Lives Covered |          |                     |         | Total              |
|---|----------------------|----------|---------------------|---------|--------------------|
|   | LIC                  | AGR* (%) | Private             | AGR*(%) |                    |
| 2007-2008                                 | 11367126<br>(92.85)  | -        | 874901<br>(7.15))   | -       | 12242027<br>(100)  |
| 2008-2009                                 | 11052815<br>(88.05)  | -2.76    | 1498994<br>(11.95)  | 71.33   | 12551809<br>(100)  |
| 2009-2010                                 | 14946927<br>(88.74)  | 35.23    | 1895143<br>(11.26)  | 26.42   | 16842070<br>(100)  |
| 2010-2011                                 | 13275464<br>(87.00)  | - 11.18  | 1983537<br>(13.00)  | 4.66    | 15259001<br>(100)  |
| 2011-2012                                 | 9444349<br>(92.63)   | -28.85   | 750555<br>(17.37)   | -62.16  | 10194904<br>(100)  |
| 2012-2013                                 | 13223872<br>(94.58). | 40.01    | 757450<br>(5.42)    | 0.91    | 13981322<br>(100)  |
| 2013-2014                                 | 11887303<br>(90.19)  | -10.10   | 1291741<br>(9.81)   | 70.53   | 13179044<br>(100)  |
| 2014-2015                                 | 20596725<br>(89.05)  | 73.26    | 2531436<br>(10.95)  | 95.97   | 23128161<br>(100)  |
| 2015-2016                                 | 22603919<br>(77.26)  | 9.74     | 6650805<br>(22.74)  | 162.72  | 29254724<br>(100)  |
| 2016-2017                                 | 22965393<br>(71.22)  | 13.88    | 9281170<br>(28.78)  | 39.54   | 32246563<br>(100)  |
| 2017-2018                                 | 37316017<br>(63.35)  | 62.48    | 21586921<br>(36.65) | 132.58  | 58902938<br>(100)  |
| Total                                     | 188679910<br>(79.34) | -        | 49102653<br>(20.66) | -       | 237782563<br>(100) |
| CAGR                                      | 11.4%                | -        | 33.83%              | -       | 15.35%             |

Table 4 presents the yearly data relating to number of lives covered under group insurance scheme. It reveals that nearly 80 per cent of the lives covered by the LIC and remaining by private sector insurers. During the beginning of the study period the share of LIC in number of lives covered was 92.85 per cent and thereafter it has registered both positive and negative growth rates during the different years and finally it reached a level of 63.35 per cent in 2017-18. The share of private insurers in number of insured was 7.15 per cent in 2007-08 and the same has increased to the level of 36.65 per cent in 2017-18.

LIC is having the mixed trend in annual growth rate and it varies from -28.85 per cent (2011-12) to 73.26 per cent (2014-15). As far as private insurers are concerned there is a positive trend in terms of number of insured



during the years from 2007-08 to 2017-18. The highest annual growth rate is 132.58 per cent (2017-18) and the lowest growth rate is -62.16 per cent (2011-12)

The LIC has registered a CAGR of 11.4 per cent during the study period and the same for the private insurers has constituted 33.83 per cent. The overall CAGR for the study period has constituted 15.35 per cent. It is noted that the private insurers were able to register high CAGR during the period under study.

#### iv. Premium Mobilisation (Individual Business)

**Table 5: Premium (Individual Business)**

₹ in Lakh

| Year<br>(As at 31 <sup>st</sup> March) | Premium              |          |                     |         | Total             |
|--|----------------------|----------|---------------------|---------|-------------------|
|  | LIC                  | AGR* (%) | Private             | AGR*(%) |                   |
| 2007-2008                              | 1613.36<br>(88.49)   | -        | 209.74<br>(11.51)   | -       | 1823.10<br>(100)  |
| 2008-2009                              | 3118.74<br>(85.29)   | 93.30    | 537.81<br>(14.71)   | 156.41  | 3656.55<br>(100)  |
| 2009-2010                              | 14982.51<br>(94.69)  | 380.40   | 839.78<br>(5.31)    | 56.14   | 15822.29<br>(100) |
| 2010-2011                              | 12305.8<br>(94.36)   | -17.86   | 735.09<br>(5.64)    | -12.46  | 13040.85<br>(100) |
| 2011-2012                              | 10603.49<br>(91.66)  | -13.83   | 964.22<br>(8.34)    | 31.17   | 11567.71<br>(100) |
| 2012-2013                              | 9949.05<br>(90.71)   | -6.17    | 1018.54<br>(9.29)   | 5.63    | 10967.59<br>(100) |
| 2013-2014                              | 8635.77<br>(90.28)   | -13.20   | 929.29<br>(9.72)    | -8.76   | 9565.06<br>(100)  |
| 2014-2015                              | 1640.23<br>(56.76)   | -86.00   | 1249.22<br>(43.24)  | 34.42   | 2889.45<br>(100)  |
| 2015-2016                              | 1953.78<br>(61.59)   | 19.11    | 1217.95<br>(38.41)  | -2.5    | 3171.73<br>(100)  |
| 2016-2017                              | 1587.13<br>(41.53)   | -18.76   | 2234.37<br>(58.47)  | 83.45   | 3821.50<br>(100)  |
| 2017-2018                              | 1786.808<br>(37.98)  | 12.58    | 2917.02<br>(62.02)  | 30.55   | 4703.83<br>(100)  |
| Total                                  | 68176.668<br>(84.14) | -        | 12853.03<br>(15.86) | -       | 81029.70<br>(100) |
| CAGR*                                  | 0.93 %               | -        | 27.04%              | -       | 9.0%              |

It is understood from Table 5 that the total amount of premium collected under individual business has amounted to ₹ 81029.70 lakh of which 84.14 per cent was accounted for by the LIC and the remaining (15.86 per cent) by the private insurers. The share of LIC in premium collected under individual business was 88.49 per cent in 2007-08 and thereafter it has increased and decreased during the different years and finally it declined to a level of 37.98 per cent in 2017-18. The share of private insurers in premium collected under individual business was 11.51 per cent in the beginning of the study period and the same has increased to the level of 62.02 per cent in 2017-18.

The annual growth rates of LIC during the study period have varied from -86 per cent (2014-15) to 380.40 per cent (2008-09). The private insurers have also experienced fluctuating trend and their annual growth rates ranged from 156.41 per cent (2008-09) to -12.46 per cent (2010-11).

CAGR shows that both the insurers have registered positive CAGR (0.93 per cent and 27.04 per cent) during the period under study but the private insurers have outperformed their counterpart, LIC in terms of CAGR in premium collection under individual business.

**v. Premium Mobilisation (Group Insurance)****Table 6: Premium (Group Insurance)**

₹ in Lakh

| Year<br>(As at 31 <sup>st</sup><br>March) | Premium              |         |                      |         | Total              |
|---|----------------------|---------|----------------------|---------|--------------------|
|   | LIC                  | AGR*(%) | Private              | AGR*(%) |                    |
| 2007-2008                                 | 19256.23<br>(95.67)  | -       | 871.23<br>(4.333)    | -       | 20127.46<br>(100)  |
| 2008-2009                                 | 17268.54<br>(83.84)  | -10.32  | 3326.80<br>(16.16)   | 281.85  | 20595.34<br>(100)  |
| 2009-2010                                 | 22869.72<br>(93.95)  | 32.43   | 1472.09<br>(6.05)    | 55.75   | 24341.81<br>(100)  |
| 2010-2011                                 | 13803.67<br>(88.92)  | -39.64  | 1719.14<br>(11.08)   | 16.78   | 15522.81<br>(100)  |
| 2011-2012                                 | 9831.63<br>(89.52)   | -28.77  | 1150.67<br>(10.48)   | -33.06  | 10982.30<br>(100)  |
| 2012-2013                                 | 21045.76<br>(96.52)  | 114.06  | 756.89<br>(3.48)     | -34.22  | 21802.65<br>(100)  |
| 2013-2014                                 | 12581.45<br>(88.74)  | -40.21  | 1595.23<br>(11.26)   | 110.76  | 14176.68<br>(100)  |
| 2014-2015                                 | 28193.80<br>(89.33)  | 124.08  | 3366.22<br>(10.67)   | 111.01  | 31560.02<br>(100)  |
| 2015-2016                                 | 25426.39<br>(84.07)  | -9.81   | 4816.67<br>(15.93)   | 43.08   | 30243.06<br>(100)  |
| 2016-2017                                 | 34007.62<br>(73.86)  | 33.74   | 12035.36<br>(26.14)  | 149.86  | 46042.98<br>(100)  |
| 2017-2018                                 | 63184.98<br>(45.57)  | 85.80   | 75452.04<br>(54.43)  | 526.92  | 138637.02<br>(100) |
| Total                                     | 267469.79<br>(71.51) | -       | 106562.34<br>(28.49) | -       | 374032.13<br>(100) |
| CAGR*                                     | 11.41%               | -       | 50.02%               | -       | 19.18%             |

Table 6 indicates that the total amount of premium collected under group insurance schemes has amounted to ₹ 374032.13 lakh of which 71.51 per cent was shared by the LIC and the remaining 28.49 per cent by the private insurers. The share of LIC in premium collected under group insurance was 95.67 per cent in 2007-08 and thereafter it has decreased by year by year except 2012-13 (96.52 per cent) and finally it declined to a level of 45.57 per cent in 2017-18. The share of private insurers in terms of premium collected under group insurance was 4.33 per cent in the beginning of the study period and the same has increased to the level of 54.43 per cent at the end of the study period.

The annual growth rates registered by LIC with regard to premium collection under group insurance schemes have ranged between -40.21 per cent (2013-14) and 124.08 per cent (2014-15). The private insurers also experienced the fluctuating trend during the period under review but their annual growth rates have ranged between 526.92 per cent (20017-18) and -34.22 per cent (2012-13)

The CAGR shows that both the LIC and private insurers have registered positive CAGR of 11.41 per cent and 50.02 per cent respectively during study period. However, the private insurers have outperformed their counterpart, LIC, in terms of CAGR with regard to premium collection under group insurance schemes.

**IX. CONCLUSION**

Experiences across countries in the world show that microinsurance has potential to reduce household risk impacts. The goal of social protection of Indian government and the discovery of business proposition in marketing insurance products by private players has led to its growth in India. Different delivery models are evolved to increase its outreach and benefit large number of people living in villages. It is found that the public sector insurer, LIC tops the list both in terms of number of policies issued and the quantum of premium collected during the period under review. Though the LIC is the market leader in terms of policies issued and premium collection, it was not able to achieve the positive growth rates during the entire period of study period because of the hectic competition from the private players.

---

**REFERENCES**

1. Bhat& Jain (2006). Factoring Affecting the Demand for Health Insurance in a Micro Insurance Scheme, Gujarat, India. Indian Institute of Management, Ahmedabad.
2. Chatterjee & Vyas (2005). Organizing Insurance for Women Workers: The SEWA Experience. Self-Employed Women's Association, Ahmedabad.
3. Devadasan, (2011). Community health insurance schemes & patient satisfaction - Evidence from India Indian, Journal of Medical Research 133 (1) , 40-49
4. IRDA Annual Reports at [www.irdaindia.org/ar\\_fa.htm](http://www.irdaindia.org/ar_fa.htm)
5. IRDA Journals at [www.irdaindia.org/irdajournal.htm](http://www.irdaindia.org/irdajournal.htm)
6. Ito& Kono (2009). Why is the take up of micro insurance is so slow? Evidence health insurance scheme from India'. The Developing Economies, October.
7. Kirti Singh & Vijay Kumar Gangal, (2011).Micro insurance- A tool for Uplift of Rural India. International Journal of Multidisciplinary Management Studies, Vol.1, Issue 3, ISSN 2249 8834, 131-146.
8. McCord, Isern & Hashemi, (2001).Microinsurance: A Case Study of an Example of the Full Service Model of Microinsurance Provision Self- Employed Women's Association (SEWA). Micro Save, February.
9. Shwetha Rana, (2014). Microinsurance: A Case of Standalone Companies, Vol.II, Issue. II, pp 97-118.
10. Taneja & Sihare (2011).Pros & cons of micro health insurance to eradicate health problems in the below poverty line (BPL) population: Empirical evidence from IndiaItalian. Journal of Public Health, 8 (4), 359-374.
11. Tinsy Rose Tome, & Selvam, V., (2012).Micro Insurance: Illuminating the real challenges in India. International Journal of Recent Scientific Research, Vol. 3, Issue, 8, 681 – 686.

---

**FINANCIAL LITERACY AMONG THE BENEFICIARIES OF PRADHAN MANTRI JAN DHAN YOJANA (PMJDY) – THE CASE OF SATHANGUDI VILLAGE IN MADURAI DISTRICT OF TAMILNADU**

---

**Dr. S. Rameshkumar<sup>1</sup> and B. Varadharajan<sup>2</sup>**Assistant Professor<sup>1</sup> and Project Assistant<sup>2</sup>, Department of Commerce, School of Commerce and Business Management, Central University of Tamil Nadu, Thiruvavur

---

**ABSTRACT**

*As financial literacy and financial inclusion are complementary, an inclusive growth cannot be achieved without having inclusive financial system and adequate amount of financial literacy among the socially, economically and financially excluded people. The Pradhan Mantri Jan Dhan Yojana (PMJDY), a national mission on financial inclusion, is the biggest financial inclusion initiative in the world aims at providing universal access to banking services across the country. The implementation authorities of PMJDY have rightly realized the importance of financial literacy for the effective implementation of financial inclusion schemes in India. The present study is an attempt to examine the existing level of financial literacy among the beneficiaries of PMJDY in Sathangudi Village in Madurai District of Tamilnadu. The primary data were collected from 150 beneficiaries of PMJDY who have opened bank accounts with Canara Bank, Thirumangalam Branch. The sample beneficiaries were selected from the study area by employing multistage random sampling technique. The collected data were put into critical statistical examination with the help of statistical tools such as Percentage Analysis, Averages, Mean, Standard Deviation and the Chi-Square test. The results of the study show that a majority of the sample beneficiaries of PMJDY in the study area have a medium level financial literacy. The dimension-wise analysis clearly shows that the sample beneficiaries have more level of financial literacy on banking services and they lag behind in the case of budgeting and financial decisions. Further, it is found that the variables like gender, age, educational qualification and income level have significant influence over the beneficiaries' level of financial literacy.*

*Keywords: Inclusive Growth, Financial Inclusion, Financial Literacy and Financial Exclusion.*

---

**INTRODUCTION**

In India, growth with equity has been the central objective right from the inception of the planning process. There is a serious concern among the policy makers and other authorities concerned on India's exclusive growth since independence in general and that of post-reform period in particular. A major concern is that the rural poor have benefited very little from the past pace of economic growth. As a result of this exclusive growth, the migration of rural poor to urban areas has increased the urban poverty and of the society (Pallavi Gupta and Bharathi Singh, 2013). The push for economic growth in the recent decades has led to concentration of substantial amount of wealth in the hands of a select few in India. The policy makers all over the world unanimously agree that financial exclusion is one of the major barriers to achieve inclusive growth.

Financial literacy is important both for bringing the poor under the ambit of the mainstream financial institution and for the effective implementation of financial inclusion plans in India. As financial literacy and financial inclusion are complementary, an inclusive growth cannot be achieved without inclusive financial system and financial literacy. The Pradhan Mantri Jan Dhan Yojana (PMJDY), a national mission on financial inclusion, is the biggest financial inclusion initiative in the world. The PMJDY has the objective of covering all households in the country with banking facilities and having a bank account for each household. This scheme seeks to provide universal access to banking services across the country. Recognising the importance of financial literacy for the effective implementation of financial inclusion schemes in India, the PMJDY considers financial literacy as an indispensable and integral part which takes it to the top of various key elements of the PMJDY. In this context, it becomes essential to examine and measure the level of financial literacy among the beneficiaries of PMJDY in the study area. The present study attempts to examine the existing level of financial literacy among the beneficiaries of PMJDY in Sathangudi village of Thirumangalam Taluk in Madurai District of Tamilnadu.

**LITERATURE REVIEW**

Many low-income people in Canadian inner cities evidenced financial literacy in that many learned to cope with strict budgets, used diversified activities to raise their income, constrained their credit, and were reasonably knowledgeable about relevant government programmes and banking services. Where particular constraints were noted in financial literacy, they related to detailed knowledge about institutional policies and attitudes about deeper financial and life goals (Jerry Buckland, 2010).

Financial literacy is a useful indicator of an individual's financial planning decision. Individuals who are Financial Literates and Personal Financial Planning in Klang Valley, Malaysia thinking to opt in and map their ways to financial well-being have to increase their awareness of the multiple areas of personal financial planning and be geared up with the required financial knowledge (Tan Hui Boon, Hoe Siew Yee and Hung Woan Ting (2011). The age and work experience of UG and PG University students of Cape Coast are positively related to financial literacy. Also, mother's education is positively correlated with respondents' financial literacy. The factors like level of study, work location, father's education, access to media and the source of education on money has no influence on financial literacy (Ansong and Gyensare, 2012). An analysis of financial literacy and farm financial management activities of jasmine growers in Erode and Madurai Districts reveals that Erode farmers have more financial literacy than their counterparts in Madurai (Ravikumar, Sivakumar, Jawarharlal, VenkatesaPalanichamy and Sureshkumar 2013). It is also found that gender cannot predict the financial literacy level among the micro entrepreneurs in the study area (William T. Sucuahi, 2013).

There is a significant impact from gender and age on financial literacy. Males are more financially literate than females and older people also show a higher level of financial literacy compared to younger people. There is no significant impact of educational level and current work situation on financial literacy (Tariq Saeed Mian, 2014). Micro entrepreneurs in Kangra district of Himachal Pradesh possess low financial skills as proved from deficient record keeping practices, poor cash management, improper saving habits, and less awareness regarding different financial products and instruments (Kamal Gupta and Jatinder Kaur, 2014). The analysis of the relationship between the financial Knowledge of the South African undergraduate students of the University of Venda and their attitude and behaviour towards personal finance issues shows that Bachelor of Commerce (Accounting) students are not as financially literate as expected (Emmanuel, Oseifuah, Agyapong and Gyekye, 2014).

Gender is important in determining the level of financial literacy among the students of National University of Lesotho. NUL male students are more financially knowledgeable than their female counterparts chiefly because male students, on average, are the ones with less fear of engaging in financial commitments like borrowing from informal financial institutions (LerekoRasoaisi and Kalebe M. Kalebe, 2015). Education as well as money attitude has a positive influence on the financial knowledge of university students in Malaysia. Financial socialization agents also proved to have an influence on the literacy rates of young adults. Family exercises the main influence over youngsters in terms of managing their money followed by Peers (Muhammad I. Albeerdy and BehroozGharlegghi, 2015). Financial literacy strongly influences the management of business and hence has a role to play in the profitability of women owned businesses in Kitui Town of Kenya. Financially literate person is found to have ways of managing cash for the business, preparing budgets and saving the surplus cash (PhelomenahNdukuKalekye and Florence Memba, 2015).

There is an average level of financial literacy among the salaried females in Delhi NCR (Gupta and Madhan, 2016). The male households in Udaipur City of Rajasthan were more familiar with digital financial platforms and more aware. The education level is an important determinant for awareness about the digital platform and its use (Hanuman &Devendra, 2017). There is a strong relationship between financial literacy and numeracy levels among high school students in India. Low numeracy is associated with a 4.8 per cent reduction in financial literacy while a high level of numeracy is associated with a 5.6 per cent increase. This relationship is robust and held even when controlling for factors including gender, grade, education stream, level of financial education, language of instruction, parental involvement, parental education, family income, and future education plans (Jayaraman et al., 2018).

## **OBJECTIVE OF THE STUDY**

1. To measure the existing level of financial literacy of the beneficiaries of PMJDY in Sathangudi village in Madurai District of Tamilnadu.

## **METHODOLOGY**

The present study is mainly based on the primary data collected from the sample beneficiaries of the PMJDY in the study area from December 2016 to February 2017 by employing a scientifically developed interview schedule. The present study has been conducted among the beneficiaries of PMJDY who have opened bank accounts with Canara Bank chiefly because apart from being Lead Bank of Madurai District in Tamilnadu it undertakes a number of measures with a view to promoting financial inclusion and financial literacy in the study area. The total number of commercial bank branches including the Regional Rural Banks in Madurai District is 393 of which Canara Bank accounts for 51 branches. The total number of accounts opened in all the 51 branches of Canara Bank in Madurai District under the PMJDY was 33468 as on 30<sup>th</sup> September 2016. The present study has been conducted among the beneficiaries who have accounts with Canara Bank,

Thirumangalam Branch as this branch tops the list in terms of number of accounts opened under the PMJDY. The area of operation of Thirumangalam branch spreads to seven panchayats of which Sathangudi Panchayat tops the list in terms of number of accounts opened under PMJDY. The Sathangudi Panchayat consists of five villages of which the Sathangudi Village has been taken into consideration under the present study as it tops the list in terms of number of accounts opened under PMJDY. The total number of households who have opened accounts under the PMJDY in this village has amounted to 1369. Finally, 150 beneficiaries of PMJDY have been selected from the study area by employing multi-stage random sampling technique.

For measuring the financial literacy level of the beneficiaries in the study area, the data were collected through interview schedule, which was subjected to extensive pre-testing and refinement through a pilot study among 30 beneficiaries, on various dimensions of financial literacy. The important dimensions on which the primary data were collected from the sample beneficiaries for measuring the existing level of financial literacy include banking services, savings and investment, insurance, budgeting and financial decisions and borrowing. The collected data were put into a critical statistical examination with the help of statistical tools such as Percentage Analysis, Averages, Mean, and Standard Deviation. Chi-square Test has been employed to find whether there exists any association between the socio-economic characteristics of the sample beneficiaries and their level of financial literacy.

### SOCIO-ECONOMIC PROFILE OF THE SAMPLE BENEFICIARIES

Table 1 presents the details relating to the demographic characteristics of the sample beneficiaries in the study area.

**Table 1 Socio-Economic Profile of the Respondents**

| Variable                  | Category              | No. of Respondents | Per Cent |
|---------------------------|-----------------------|--------------------|----------|
| Gender                    | Male                  | 47                 | 31       |
|                           | Female                | 103                | 69       |
|                           | Total                 | 150                | 100      |
| Age                       | Below 30 Years        | 25                 | 17       |
|                           | 30 to 40 Years        | 53                 | 35       |
|                           | 40 to 50 Years        | 38                 | 25       |
|                           | Above 50 Years        | 34                 | 23       |
|                           | Total                 | 150                | 100      |
| Religion                  | Hindu                 | 141                | 94       |
|                           | Muslim                | 4                  | 3        |
|                           | Christian             | 5                  | 3        |
|                           | Total                 | 150                | 100      |
| Community                 | BC                    | 92                 | 61       |
|                           | MBC                   | 27                 | 18       |
|                           | SC                    | 31                 | 21       |
|                           | Total                 | 150                | 100      |
| Educational Qualification | Primary               | 83                 | 56       |
|                           | Middle School         | 29                 | 19       |
|                           | Secondary             | 23                 | 15       |
|                           | Higher Secondary      | 11                 | 7        |
|                           | Degree                | 4                  | 3        |
|                           | Total                 | 150                | 100      |
| Family Type               | Joint Family          | 53                 | 35       |
|                           | Nuclear Family        | 97                 | 65       |
|                           | Total                 | 150                | 100      |
| Occupation                | Coolie                | 147                | 98       |
|                           | Farmer                | 3                  | 2        |
|                           | Total                 | 150                | 100      |
| Income Level              | Less than Rs.50000    | 17                 | 11       |
|                           | Rs.50000 to Rs.75000  | 113                | 75       |
|                           | Rs.75000 to Rs.100000 | 20                 | 14       |
|                           | Total                 | 150                | 100      |

Source: Computed from Primary Data.

Table 1 shows that a majority of the beneficiaries in the study area are females and most of the beneficiaries in the study area are in the age group of 30-40 years. Among the 150 respondents, 141 (94 per cent) are Hindus, four (3 per cent) are Muslims and the remaining five (3 per cent) are Christians. A vast majority of the respondents in the study area have completed only school education and only a meager number of four are graduates. 53 (35 per cent) of 150 respondents belong to joint family category and the remaining 97 (65 per cent) come under the category of nuclear family system. It is important to note that 147 (98 per cent) out of 150 respondents are coolies and the remaining three (2 per cent) are farmers. Three fourths of the sample beneficiaries in the study area earn between Rs.50000 and Rs.75000 in a year and it is shocking to note that no respondent earns more than Rs.100000 in a year.

### **MEASUREMENT OF FINANCIAL LITERACY – ANALYTICAL FRAMEWORK**

The review of existing literature on financial literacy clearly reveals that the researchers all over the world have developed and used different kinds of tools and yardsticks for measuring the existing level of financial literacy among the various target groups. Of the many measurement tools, the technique recommended by the OECD has gained much popularity among the researchers. The review of the available literature has enabled the researcher to identify different kinds of dimensions or variables commonly used by the researchers for measuring the level of financial literacy. The variables identified have been grouped into five important dimensions, namely, banking services, savings and investment, insurance, budgeting and financial decisions and borrowing. Each dimension consists of five questions and each correct answer carries one mark. The financial literacy scores are calculated by adding the individual scores of the aforesaid five different dimensions. Thus the maximum possible score for financial literacy is 25 (5 for each dimension). The questions or variables used under each dimension for measuring the financial literacy level of the beneficiaries of PMJYDY are as follows;

#### **Dimension I – Banking Services**

1. Purposes of bank loan disbursement
2. Situation under which bank charges interest
3. Ways to keep the ATM password safely
4. Purposes for which ATM can be used
5. Purpose of having bank pass book

#### **Dimension II – Savings and Investment**

1. Appropriate place/entity to keep savings
2. Type of deposit which earns higher interest
3. Unique feature of recurring deposit
4. Safest place for keeping money
5. Familiarity with post office monthly income scheme

#### **Dimension III – Insurance**

1. Importance of having insurance policy in life
2. Name of the government life insurer functioning in the market
3. Knowledge on mode of premium payment
4. Need for crop insurance
5. Availability insurance coverage for crops

#### **Dimension IV – Budgeting and Financial Decisions**

1. Items which require fixed allocation in the budget
2. Fruitful way of using excess money
3. Knowledge on the spending pattern
4. Importance of preparing budget for agricultural activities
5. Awareness on India's general budget

#### **Dimension V – Borrowing**

1. Awareness on best sources of loan

2. Drawbacks connected with loan from money lenders
3. Importance and benefits of timely repayment of loan
4. Advantages behind proper utilization of loan amount
5. Benefits of availing agricultural loan from banks

## RESULTS AND DISCUSSION

The factors identified to measure the level of financial literacy of the beneficiaries of PMJDY in the study area are grouped into five different dimensions. Apart from analyzing the beneficiaries' level of financial literacy on each question under each dimension, an attempt is also made to capture the overall financial literacy level of beneficiaries on each dimension. Table 2 presents the ranks for each dimension calculated on the basis of descriptive statistics.

**Table 2 Beneficiaries' Literacy Level on Different Dimensions**

| Sl.No   | Variable  | Mean  | Standard Deviation | Rank |
|---|---|-------|--------------------|------|
| <b>Dimension I – Banking Services</b>                   |   |       |                    |      |
| 1   | Purposes of bank loan disbursement                      | .153  | .362               | I    |
| 2   | Situation under which bank charges interest             | .073  | .262               |      |
| 3   | Ways to keep the ATM password safely                    | .046  | .212               |      |
| 4   | Purposes for which ATM can be used                      | .807  | .369               |      |
| 5   | Purpose of having bank pass book                        | .027  | .161               |      |
| Overall   |   | 1.106 | 1.393              |      |
| <b>Dimension II – Savings and Investment</b>            |   |       |                    |      |
| 1   | Appropriate place/entity to keep savings                | .153  | .362               | II   |
| 2   | Type of deposit which earns higher interest             | .073  | .362               |      |
| 3   | Unique feature of recurring deposit                     | .247  | .433               |      |
| 4   | Safest place for keeping money                          | .420  | .495               |      |
| 5   | Familiarity with post office monthly income scheme      | .100  | .301               |      |
| Overall   |   | 0.993 | 1.953              |      |
| <b>Dimension III – Insurance</b>                        |   |       |                    |      |
| 1   | Importance of having insurance policy in life           | .100  | .301               | III  |
| 2   | Government life insurer functioning in the market       | .153  | .362               |      |
| 3   | Knowledge on mode of premium payment                    | .120  | .326               |      |
| 4   | Need for crop insurance                                 | .047  | .212               |      |
| 5   | Availability insurance coverage for crops               | .267  | .162               |      |
| Overall   |   | 0.687 | 1.633              |      |
| <b>Dimension IV – Budgeting and Financial Decisions</b> |   |       |                    |      |
| 1   | Items which require fixed allocation in the budget      | .073  | .262               | V    |
| 2   | Fruitful way of using excess money                      | .047  | .212               |      |
| 3   | Knowledge on the spending pattern                       | .015  | .362               |      |
| 4   | Purpose of preparing budget for agricultural activities | .100  | .301               |      |
| 5   | Awareness on India's general budget                     | .120  | .326               |      |
| Overall   |   | 0.355 | 1.463              |      |
| <b>Dimension V – Borrowing</b>                          |   |       |                    |      |
| 1   | Awareness on best sources of loan                       | .133  | .341               | IV   |
| 2   | Drawbacks connected with loan from money lenders        | .153  | .362               |      |
| 3   | Importance and benefits of timely repayment of loan     | .126  | .334               |      |
| 4   | Advantages behind proper utilization of loan amount     | .100  | .301               |      |
| 5   | Benefits of availing agricultural loan from banks       | .053  | .225               |      |
| Overall   |   | 0.565 | 1.563              |      |

Source: Computed from Primary Data.

Table 2 shows that the sample beneficiaries in the study area have high level of financial literacy on the dimensions like savings and investment and banking services and their level of financial literacy is low on the dimensions such as insurance, borrowing and budgeting and financial decisions. It is very clear that the



dimension 'Banking Services' tops the list and the dimension 'Budgeting and Financial Decision' has low ranking.

### RELATIONSHIP BETWEEN DEMOGRAPHIC VARIABLES AND LEVEL OF FINANCIAL LITERACY

The Chi-square Test has been employed to analyse the relationship between demographic variables of the respondents and their level of financial literacy and the results are presented in Table 3.

**Table 3 Relationship between Demographic Variables and Financial Literacy**

| Sl.No | Hypotheses   | CV     | TV     | DF | Result      |
|-------|--|--------|--------|----|-------------|
| 1     | No relationship between gender and financial literacy                    | 10.923 | 5.99   | 2  | Significant |
| 2     | No relationship between age and financial literacy                       | 103.43 | 12.592 | 6  | Significant |
| 3     | No relationship between educational qualification and financial literacy | 367.11 | 15.51  | 8  | Significant |
| 4     | No relationship between income level and financial literacy              | 72.45  | 5.99   | 2  | Significant |

Source: Computed from Primary Data.

Table 3 reveals that the variables like gender, age, educational qualification and income level have significant influence over the beneficiaries' level of financial literacy.

### CONCLUSION

The Pradhan Mantri Jan Dhan Yojana (PMJDY), a national mission on financial inclusion, is the biggest financial inclusion initiative in the world aims at providing universal access to banking services across the country. The present study is an attempt to examine the existing level of financial literacy among the beneficiaries of PMJDY in Sathangudi Village in Madurai District of Tamilnadu. The results of the study show that a majority of the sample beneficiaries of PMJDY in the study area have a medium level financial literacy. The dimension-wise analysis clearly shows that the sample beneficiaries have more level of financial literacy on banking services and they lag behind in the case of budgeting and financial decisions. Further, it is found that the variables like gender, age, educational qualification and income level have significant influence over the beneficiaries' level of financial literacy.

### REFERENCES

- Abraham Ansong and Michael Asiedu Gyensare (2012), Determinants of University Working-Students' Financial Literacy at the University of Cape Coast, Ghana, International Journal of Business and Management, 7 (9), 126-135, 2012.
- Emmanuel K. Oseifuah, Agyapong B and Gyekye (2014), Analysis of the level of financial literacy among south African undergraduate students, Journal of Economics and Behavioral Studies, 6 (3), 242-205.
- Hanuman Prasad & Devendra Meghwal (2017), Digital Financial Literacy: A Study of Households of Udaipur, Global Journal of Advanced Research, 4 (5), 201-209.
- Jayaraman, Saigeetha Jambunathan & Kenneth Counselman, (2018), The Connection between Financial Literacy and Numeracy: A Case Study from India, Numeracy, 11 (2), 1-19.
- Jerry Buckland (2010), Are Low Income Canadians Financially Literate? Placing Financial Literacy in the Context of Personal and Structural Constraints, Adult Education Quarterly, 60 (4), 357-376.
- Kamal Gupta and Jatinder Kaur (2014), A Study of Financial Literacy among Micro Entrepreneurs in District Kangra, International Journal of Research in Business Studies and Management, 2 (2), 63-70.
- Lereko Rasoaisi and Kalebe M. Kalebe (2015), Determinants of Financial Literacy among the National University of Lesotho Students, Asian Economic and Financial Review, 5 (9), 1050-1060.
- Muhammad I. Albreedy and Behoorz Gharleghi (2015), Determinants of the Financial Literacy among College Students in Malaysia, International Journal of Business Administration, 6 (3), 15-24.
- Phelomenah Nadukku Kalekye and Florence Memba (2015), The role of Financial literacy on the profitability of Women owned enterprises in Kitui Town Country, Kenya, International Journal of Science and Research, 4 (6), 2360-2365.

- 
- Ravikumar.R, Sivakumar S.D, Jawarharlal.M, VenkatesaPalanichamy.N and Sureshkumar.D (2013) Assessment of farm financial literacy among jasmine growers in Tamilnadu India, Developing Country Studies, 3 (13) 67-76.
  - Tariq Saeed Mian (2014), Examining the level of financial literacy among Saudi investors and impact on Financial Decisions, International Journal of Accounting and Financial Reporting 4 (2), 312-328.
  - William T. Sucuahi (2013), Determinants of financial literacy of micro entrepreneurs in Davao City, International Journal of Accounting Research, 1 (1), 44-51.

---

**ANALYSIS OF DEMOGRAPHIC PROFILES OF HOME LOAN CONSUMERS WITH REFERENCE TO INSURANCE PRODUCTS**

---

**Dr. Satyanarayana Rentala<sup>1</sup> and Abhinay Nedunuru<sup>2</sup>**Assistant Professor<sup>1</sup>, Bharathidasan Institute of Management, Tiruchirappalli  
Senior Manager<sup>1</sup> (Business Development), Bharti AXA GIC Limited, Hyderabad

---

**ABSTRACT**

*Home is an important part of an individual who dreams to have his own space for shelter. The demand for housing is an ever rising phenomenon with the growth in population and rapid urbanisation. Affordability of owning a house is a prime concern for individuals. This has led to the growth of home loan lenders who provide access to finance for own-home aspirants. A home loan reduces the financial burden of an individual and is very helpful in the growth the housing industry. Financial policies of the governments are also geared towards reduction in interest rates and providing tax incentives for home loan seekers. The housing industry attempts to reduce the risk of loan repayment defaults by recommending an insurance mortgage to the prospective home loan applicants. In this back drop, an attempt is made in this research to understand the demographic characteristics of home loan applicants with reference to the insurance protection they have opted for. A total sample of 922 home loan applicants had been considered for research and the analysis had been presented using descriptive statistics.*

*Keywords: Demographic characteristics; Home loans; Home insurance; Housing industry*

---

**1. INTRODUCTION**

Housing sector has a significant role to play in the economic development of any nation. The growth of many industries directly or indirectly depends on the developments in the housing sector. In India, increase in disposable incomes, tax benefits and other regulatory issues have encouraged the rapid growth of housing sector in the recent years.

Formal financial systems in India contribute to the growth of the housing sector by offering affordable financial products to aspirant home owners. In order to differentiate their home loan products many financial firms often resort to offering free or low-cost add-on products like home insurance products along with home loans. Home loan mortgage products play an important role in the growth of home loans markets (Tiwari, 2001).

Home loan insurance is an arrangement through which an insurance firm attempts to clear an outstanding home loan account with the borrower in the event of an unforeseen situation. Most of the comprehensive insurance policies offer protection for the home loan consumer, the house and all its content. Incidentally, the premium paid towards home loan insurance is also applicable to claim tax benefits.

Home loan insurance policy is important for the home loan lenders since they would not like their loans to end-up as bad debts. In the event of the death of a borrower, the lender tries to mitigate the risk through the returns on the home loan insurance policy taken by the borrower. Home loan insurance policy is also equally beneficial for the borrower since it has the potential to protect the interests of the dependents of the borrowers in an unforeseen crisis situation.

Majority of the home loan insurance policies are tailored to reduce coverage with them. The size of the coverage is proportional to the home loan outstanding. Hence the sum insured decreases as the individual progresses to repay the loan amount. Home loan insurance can be purchased either from a general insurance firm or a life insurance organisation. The policies offered by general insurance firms need to be renewed every year while those offered by life insurance firms are active for longer terms.

Currently, though it is not mandatory to avail insurance cover along with a home loan product, many financial firms insist that consumers take insurance protection along with the home loan in order to hedge the risk since it is beneficial both to the lender and the borrower as highlighted earlier.

In this research, an attempt is made to understand the demographic profile of the home loan consumers who had been advised by the home loan lending agency to take any form of insurance cover. After the introduction, the next section presents a review of literature followed by an account of the research methodology followed for the research. Subsequently, the analysis and discussion of the research is presented followed by concluding notes.

## 2. LITERATURE REVIEW

Patnaik et al, (2017) attempted to understand the development of growth of home loan industry in India. The authors highlighted the challenges faced by the home loan industry with respect to regulatory and competitive challenges.

Sharma et al, (2011) studied the potential for retail insurance in the context of rural India. The authors observed that less than 1 per cent of homes in India are insured and hence efforts should be made to make home loans more attractive to consumers thereby improving the home insurance penetration in India.

Sinha (2007) analysed the evolution of insurance industry in India. The author presented an account of the insurance industry before nationalisation and after nationalisation. Further to this, the different regulatory mechanisms governing life and general insurance products had been discussed while highlighting the importance of home insurance cover as a key ingredient for the growth of home loans industry.

## 3. RESEARCH METHODOLOGY

The objective of this research was to understand the demographic profile of home loan consumers who have availed insurance protection during the process of home loan application. Accordingly, home loans approved and disbursed during 2017 and 2018 have been considered for the research. Home loan sales agents and/or managers across the country have been approached with a request to share the demographic profile of their home loan consumers based on secondary data availability. The sales agents and/or managers have agreed to share the information on the conditions of anonymity and data privacy. Hence, the data collected had been analysed without any specific reference to a particular player in the home loan industry. A total sample of 922 home loan applications had been obtained from various states across the country. A detailed analysis of the demographic profile of the sample characteristics had been presented in the next section.

## 4. ANALYSIS AND DISCUSSION

In this section, a detailed analysis of the demographic characteristics of the sample had been presented. Table 1 presents an account of the gender dispersion. It is noted that out of the total number of 922 home loans disbursed, nearly 84 per cent (778 applicants) of the home loan applicants are men while the remaining applicants were women (144 applicants).

| Table 1: Gender dispersion of home loan applicants |           |       |
|--|-----------|-------|
| Gender   | Frequency | % age |
| Male   | 778       | 84.4  |
| Female   | 144       | 15.6  |
| Total  | 922       | 100   |

An analysis of the age dispersion of the home loan applicants is presented in Table 2. It can be observed that majority of the men and women applicants are aged between 31-40 years indicating that the applicants are in their early stage careers and are aspirant home owners.

| Table 2: Age dispersion of home loan applicants |      |       |        |       |
|---|------|-------|--------|-------|
| Age   | Male | % age | Female | % age |
| 21-30 Years                                     | 100  | 12.9  | 23     | 16.0  |
| 31-40 Years                                     | 368  | 47.3  | 71     | 49.3  |
| 41-50 Years                                     | 189  | 24.3  | 30     | 20.8  |
| 51-60 Years                                     | 98   | 12.6  | 19     | 13.2  |
| 61-70 Years                                     | 23   | 3.0   | 1      | 0.7   |
| Total   | 778  | 100   | 144    | 100   |

This is followed by applicants belonging to 41-50 years and 21-30 years.

Table 3 gives a summary of the occupation statistics of the home loan applicants. Majority of the men and women applicants are salaried employees followed by applicants who are self-employed professionals.

| <b>Table 3: Occupation of home loan applicants</b> |      |       |        |       |
|--|------|-------|--------|-------|
| Occupation   | Male | % age | Female | % age |
| Non-Working  | 29   | 3.7   | 47.0   | 32.6  |
| Salaried   | 488  | 62.7  | 76.0   | 52.8  |
| Self-Employed - Professional                       | 252  | 32.4  | 19.0   | 13.2  |
| Self-Employed - Non Professional                   | 9    | 1.2   | 2.0    | 1.4   |
| Total  | 778  | 100.0 | 144.0  | 100.0 |

Table 4 presents a summary of the tenure of home loans availed by the sample of 922 home loan applicants. It is noted that the major tenure of home loans is 11-15 years followed by 16-20 years. This indicates that many of the applicants would like to repay the loans before they cross 50 years of age.

| <b>Table 4: Tenure of home loans</b> |           |       |
|--------------------------------------|-----------|-------|
| Term of the Loan                     | Frequency | % age |
| 0-5 Years                            | 13        | 1.4   |
| 6-10 Years                           | 112       | 12.1  |
| 11-15 Years                          | 329       | 35.7  |
| 16-20 Years                          | 320       | 34.7  |
| 21-25 Years                          | 79        | 8.6   |
| 26-30 Years                          | 69        | 7.5   |
| Total                                | 922       | 100.0 |

Table 5 presents the details regarding the marital status of home loan applicants considered for the research. It can be observed that more than 90 per cent of men and women home loan applicants are married indicating the high aspirations of applicants to own a house combined with an opportunity to save tax liabilities.

| <b>Table 5: Marital status of home loan applicants</b> |      |       |        |       |
|--|------|-------|--------|-------|
| Marital Status   | Male | % age | Female | % age |
| Married  | 707  | 90.9  | 131.0  | 91.0  |
| Single   | 71   | 9.1   | 13.0   | 9.0   |
| Total  | 778  | 100.0 | 144.0  | 100.0 |

Results presented in Table 6 indicate that the demand for home loans is predominantly high in the North and West Zones followed by South and East Zones. This can be attributed to the fact that the migration of skilled and semi-skilled labour to urban regions like New Delhi and Mumbai has increased in the recent years fuelling the growth of urban housing sector. In the South Zone this growth is concentrated in cities like Chennai and Hyderabad while it is concentrated in Kolkata in the East Zone.

| <b>Table 6: Geographic dispersion of home loan applicants</b> |           |       |
|---|-----------|-------|
| Zone  | Frequency | % age |
| North   | 410       | 44.5  |
| East  | 50        | 5.4   |
| West  | 317       | 34.4  |
| South   | 142       | 15.4  |
| Others  | 3         | 0.3   |
| Total   | 922       | 100.0 |

Table No. 7 presents the types of insurance protection recommended by the lenders to the home loan applicants. It can be observed that majority of the home loan applicants have opted for universal protection insurance policy with an average premium of INR. 88,700/-. The second most popular insurance protection is the stand alone home insurance policy with an average premium of INR. 26,000/-. This is followed by a vast number of applicants opting for critical illness and personal accident insurance policy with the highest average premium of

INR. 97800/-. This indicates that most of the home loan applicants are trying to hedge their risk of non-repayment of loan through an insurance protection so that it does not impact their dependents in case of death/disability to them. This is also beneficial to the home loan provider since the firm gets an opportunity to minimise the risk of a default of loan repayment. This partially explains why stand-alone home insurance gets lower preference in terms of acceptance by home loan borrowers.

| <b>Table 7: Type of insurance protection and premiums</b> |           |       |                       |
|---|-----------|-------|-----------------------|
| Type of Policy  | Frequency | % age | Average Premium (Rs.) |
| Critical Illness +<br>Personal Accident Insurance         | 242       | 26.2  | 97800                 |
| Standalone Home Insurance                                 | 301       | 32.6  | 26000                 |
| Universal Protection Insurance Policy                     | 379       | 41.1  | 88700                 |
| Total   | 922       | 100.0 | 70600                 |

## 5. CONCLUSIONS

‘Buying a house is a dream for everyone’. Considering the higher costs of owning a house, it has become increasingly difficult for common people to own a house. In this context, the financial system in India provides lots of opportunities in term of housing loan products. This has resulted in a spurt in the number of applicants for home loan products. This research attempted to understand the demographic profile of home loan applicants with reference to the insurance protection opted by them. The analysis indicates that while it is not mandatory to take home loan insurance, all the sample applicants have availed home loan insurance in one form or the other to reduce their risk. It is seen that the lenders tend to promote products with a higher premium rates since most the time, the home loan lenders also tend to be in the business of selling insurance protection. The home loan lenders should be judicious in suggesting the most appropriate home loan insurance policy to the applicants keeping the best interests of both the lender and the borrower for the long term growth of the industry.

## REFERENCES

- Patnaik, B.C.M., Satpathy, I., & Samal, N. R. (2017). Development of Indian home loan industry. *International Interdisciplinary Research Journal*, 7(2), 48-55
- Sharma, R., Agrawal, G., & Verma, M. (2011). Study of growth in retail insurance with special reference to rural India. *International Journal of Business Economics and Management Research*, 2(6), 141-150.
- Sinha, T. (2007). An analysis of the evolution of insurance in India. In *Handbook of International Insurance* (pp. 641-678). Springer, Boston, MA.
- Tiwari, P. (2001). Home mortgage risk: a case for insurance in India. *International Real Estate Review*, 4(1), 57-59.

## SMART PHONE USAGE BEHAVIOUR AMONG STUDENTS OF MANONMANIAM SUNDARANAR UNIVERSITY

**S. Jeya Davyson Immanuel<sup>1</sup>, Dr. G. Suguna<sup>2</sup> and Dr. N. Rajalingam<sup>3</sup>**

Research Scholar<sup>1</sup> and Professor<sup>3</sup>, Department of Management Studies, Manonmaniam Sundaranar University, Tirunelveli

Assistant Professor<sup>2</sup>, Department of Commerce, Einstein Art and Science College, Tirunelveli

### ABSTRACT

*This paper aims at understanding the smart phone usage behaviors among Manonmainam Sundaranar university students. The students from various academic levels and programs at Manonmaniam Sundaranar University were considered for this study focus. Are the smart phone users in Manonmainam Sundaranar University being smart enough for themselves and to the society? In this scenario, the student, (below 18-30 years) were spending huge amount of time on smart phones. Smart phone with well equipped internet facility would be helpful for the students to improve their knowledge.*

*Keywords: Usage behaviours; Smart phone; University students*

### 1. INTRODUCTION

Now a day's more number of Indian people was using smart phones. Even the pre-school kids know how to operate the smart phone. The phone is the common and convenient mode of communication whether they prefer to call or text. There are lots of features available in the smart phone like internet, social network, game, shopping and more number of apps for various other purposes. Smart phones are used to pay telephone bills, E-bill, banking etc. The smart phones are felt as user friendly by the people. Students at the age group of 18 to 30 are spending majority of time in smart phone. The youngsters prefer smart phone as their oxygen and always have them in their hand. During travel time also they use smart phone and does not enjoy the outside nature

### 2. LITERATURE REVIEW

Some of the findings from the previous studies on mobile phone usage were given below.

Bianchi and Phillips (2005) studied the import ant factors as extra version and self-esteem. The researcher also studied the relationship of gender, age, extra version, self-esteem in the age group of 18-85 years old. In this research the researcher calculated that young people use mobile phone regular every day. The researcher found that technical applications are used by male and female for chatting with friends and relatives.

Lane and Mannor (2011) conducted the study between both male and female under the age group of 22-59 years. The study suggests the usage of smart phone affect not only young but affects the also adult. The study identified that there is no gender difference and no age difference in the addiction of smart phone.

### 3. STUDY OBJECTIVES

- To understand the time spends by the students on smart phones.
- To understand the students perception on smart phones.

### 4. ANALYSIS

**Table: 1.1 Gender wise Respondents**

| Particulars | Frequency | Percent |
|-------------|-----------|---------|
| Male        | 31        | 60.8    |
| Female      | 20        | 39.2    |
| Total       | 51        | 100.0   |

From the Table 1.1 it is inferred that 60.8% of the respondents were male and 39.2% of the Respondents were Female.

**Table: 1.2 Age wise Respondents**

| Particulars | Frequency | Percent |
|-------------|-----------|---------|
| 18 – 21     | 7         | 13.7    |
| 22 – 25     | 31        | 60.8    |
| 26 – 29     | 10        | 19.6    |

|         |    |        |
|---------|----|--------|
| 30 – 40 | 3  | 5.9    |
| Total   | 51 | 100.00 |

From the Table 1.2 it is inferred that Majority (60.8%) of the Respondents using mobile phones were under the age group of 22-25.

**Table 1.3 Time spend for making Calls only**

| Particulars               | Frequency | Percent |
|---------------------------|-----------|---------|
| Less than 30 minutes      | 17        | 33.3    |
| From 30 minutes to 1 hour | 9         | 17.6    |
| From 1 to 2 hours         | 6         | 11.8    |
| From 2 to 3 hours         | 10        | 19.6    |
| More than 3 hours         | 9         | 17.6    |
| Total                     | 51        | 100.0   |

From the Table 1.3 it is inferred that Majority (33.3%) of the Respondents were using mobile phones for making calls for less than 30 minutes in a day.

**Table 1.4 Time spend on Camera in the mobile phone**

| Particulars      | Frequency | Percent |
|------------------|-----------|---------|
| Less than 30min  | 33        | 64.7    |
| 30mins to 1hour  | 6         | 11.8    |
| 1hour to 2hours  | 1         | 2.0     |
| 2hours to 3hours | 4         | 7.8     |
| Don't use it     | 7         | 13.7    |
| Total            | 51        | 100.0   |

From the Table 1.4 it is inferred that Majority (64.7%) of the Respondents were using camera for less than 30 minutes in a day.

**Table 1.5 Time spend on Internet browsing in the mobile phone**

| Particulars      | Frequency | Percent |
|------------------|-----------|---------|
| Less than 30min  | 12        | 23.5    |
| 30mins to 1hour  | 18        | 35.3    |
| 1hour to 2hours  | 10        | 19.6    |
| 2hours to 3hours | 9         | 17.6    |
| Don't use it     | 2         | 3.9     |
| Total            | 51        | 100.0   |

From the Table 1.5 it is inferred that Majority (35.3%) of the Respondents were spending 30 minutes to 1hour for internet browser in a day.

**Table 1.6 Time spend on Games in the mobile phone**

| Particulars      | Frequency | Percent |
|------------------|-----------|---------|
| Less than 30min  | 16        | 31.4    |
| 30mins to 1hour  | 8         | 15.7    |
| 1hour to 2hours  | 7         | 13.7    |
| 2hours to 3hours | 6         | 11.8    |
| Don't use it     | 14        | 27.5    |
| Total            | 51        | 100.0   |

From the table 1.6 it is inferred that Majority (31.4%) of the Respondents were spending less than 30 minutes for gaming in a day.



**Table 1.7 Time spend on Social Media Apps in the mobile phone**

| Particulars      | Frequency | Percent |
|------------------|-----------|---------|
| Less than 30min  | 10        | 19.6    |
| 30mins to 1hour  | 10        | 19.6    |
| 1hour to 2hours  | 13        | 25.5    |
| 2hours to 3hours | 13        | 25.5    |
| Don't use it     | 5         | 9.8     |
| Total            | 51        | 100.0   |

From the table 1.7 it is inferred that Majority (25.5%) of the Respondents were spending 1 to 2hours and 2 to 3 hours for Social Media Apps in a day.

**Table 1.8 Time spend on other utilities in the mobile phone**

| Particulars      | Frequency | Percent |
|------------------|-----------|---------|
| Less than 30min  | 16        | 31.4    |
| 30mins to 1hour  | 12        | 23.5    |
| 1hour to 2hours  | 7         | 13.7    |
| 2hours to 3hours | 6         | 11.8    |
| Don't use it     | 10        | 19.6    |
| Total            | 51        | 100.0   |

From the Table 1.8 it is inferred that Majority (23.5%) of the Respondents were spending less than 30 minutes for other utilities in a day.

**Table 1.9 Respondents favorite feature in Mobile Phone**

| Particulars       | Frequency | Percent |
|-------------------|-----------|---------|
| Camera            | 11        | 21.6    |
| Internet Browsing | 13        | 25.5    |
| Gaming            | 5         | 9.8     |
| Text messaging    | 2         | 3.9     |
| Social Media Apps | 17        | 33.3    |
| Others            | 3         | 5.9     |
| Total             | 51        | 100.0   |

From the Table 1.9 it is inferred that Majority (33.3%) of the Respondents preferred social media as the favorite feature in mobile Phone.

**Table 1.10 Respondents consider this feature to be an important part of mobile phone**

| Particulars                                | Frequency | Percent |
|--|-----------|---------|
| Yes I wouldn't buy it without this feature | 9         | 17.6    |
| Yes it is rather important                 | 22        | 43.1    |
| No it is not really important              | 10        | 19.6    |
| No it is not important at all              | 10        | 19.6    |
| Total                                      | 51        | 100.0   |

From the Table 1.10 it is inferred that Majority (43.1%) of the respondents prefer a particular feature other than call and SMS to be an important part of mobile phone.

**Table 1.11 Impact of Gender on mobile brand preference**

| Particulars |        | Samsung | Mi | Oppo | Sony | Lenovo | Apple | Vivo | Huawei | Micromax | Others | Total | Pearson Chi-Square 15.411<br>d.f - 9<br>P Value - 0.08 |
|-------------|--------|---------|----|------|------|--------|-------|------|--------|----------|--------|-------|--|
| Gender      | Male   | 4       | 7  | 3    | 0    | 1      | 6     | 6    | 1      | 0        | 3      | 31    |  |
|             | Female | 4       | 0  | 1    | 3    | 2      | 4     | 3    | 2      | 1        | 0      | 20    |  |
|             | Total  | 8       | 7  | 4    | 3    | 3      | 10    | 9    | 3      | 1        | 3      | 51    |  |

H0: There is no significant Association between Gender and Preferred mobile brand

Since the p-value is Greater than our chosen significance level ( $\alpha = 0.05$ ), we do not reject the null hypothesis. Rather, we conclude that there is enough evidence to suggest that there is no association between Gender and Preferred mobile brand.

**Table 1.12 Impact of Gender on mobile brand currently used**

| Particular |        | Samsung | MI | Oppo | Sony | Lenovo | Apple | Vivo | Huawei | Nokia | LG | Micromax | Others | Total | Pearson Chi-Square 11.794<br>Df - 11<br>P Value - 0.379 |
|------------|--------|---------|----|------|------|--------|-------|------|--------|-------|----|----------|--------|-------|---|
| Gender     | Male   | 4       | 4  | 3    | 1    | 2      | 2     | 4    | 1      | 2     | 2  | 1        | 5      | 31    |   |
|            | Female | 7       | 1  | 1    | 1    | 3      | 1     | 1    | 3      | 0     | 0  | 1        | 1      | 20    |   |
|            | Total  | 11      | 5  | 4    | 2    | 5      | 3     | 5    | 4      | 2     | 2  | 2        | 6      | 51    |   |

H0: There is no significant Association between Gender and mobile brand currently used.

Since the p-value is Greater than our chosen significance level ( $\alpha = 0.05$ ), we do not reject the null hypothesis. Rather, we conclude that there is enough evidence to suggest that there is no association between Gender and mobile brand currently in use.

## 5. CONCLUSION

This research conducted at Manonmainam Sundaranar University among various university students revealed that they use smart phone regularly. Students spent around 6 hours on smart phones. The study also revealed that student gives more important to social media Apps in smart phones. The students have more craze on MI phones than any other mobile brands.

## 6. RECOMMENDATIONS

Smart phones were traditionally used for making phone call and sending text messaging, but modern phones become smart and has additional feature such as camera, internet browsing, games, social media apps etc. The study identified that the students spend majority of this time on smart phones for entertainment. But the students shall use the same Smart phones to update and enrich their knowledge on various fields. Lot of learning apps were available for smart phones, which help them to enrich their knowledge

---

**JOB SATISFACTION OF FACULTY MEMBERS WORKING IN PRIVATE ENGINEERING COLLEGES**

---

**Sankarasubbu.K**Research Scholar, Department of Management Studies, Park's College, Chinnakarai, Tirupoor, Tamilnadu

---

**INTRODUCTION**

Job satisfaction is pleasant and positive attitude possessed by an employee towards his job-life. Job satisfaction has been characterized as the feeling of effective responses of a person towards his job. Job satisfaction is the result of various attitudes possessed by the faculties. The faculties have a powerful and abiding influence in the formation of the character of every future citizen. If employees are not satisfied then it may lead to absenteeism and excessive turnover. He acts as a pivot for the transmission of intellectual and technical skills and cultural tradition from one generation to the other. The responsibility of the faculty is very important and great.

**OBJECTIVES OF THE STUDY**

This main purpose of the study is to evaluating the level of job satisfaction and investigating the factors affecting it in the teachers.

1. To analyze the independent as well as interactive effects of gender, marital status and types of colleges on job satisfaction
2. To study various dimensions of Job satisfaction.
3. To study gender-wise satisfaction level of Faculty members of private engineering Colleges.
4. To study relationship between academic experience of faculty members and their satisfaction level on dimensions of Job satisfaction
5. To study relationship between the different dimensions of Job satisfaction level.

**Methodology of the study**

The research is based on the Systematic sampling method for the data collection and analysis.

**POPULATION OF THE STUDY**

The study was done on faculties in private engineering college. There are totally 20 colleges. Ten colleges were selected which are fifteen years old and the remaining ten colleges which are less than fifteen years since its inception. Majority of the Self financing Institutions in Tamil Nadu are Engineering Colleges, hence Self financing Engineering colleges were selected

PET Engineering College, Vallioor

A.R. College of Engineering and Technology, Kadayam

Arul College of Technology, Radhapuram

Cape Institute of Technology, Radhapuram

Einstein College of Engineering, Tirunelveli

Francis Xavier Engineering College, Palayamkottai

J.P. College of Engineering, Tenkasi

Joe Suresh Engineering College, Tirunelveli

Mahakavi Bharathiyar College of Engineering and Technology, Sivagiri

National College of Engineering, Nanguneri

**STATISTICAL TOOLS USED**

The statistical tools used for this study are Percentage analysis, Square test and charts. Simple Percentage Analysis Percentage can also be used for to compare the relative terms the distribution of two or more series of data percentage of respondents.

Percentage of the respondents =  $x/n \times 100$

**Chi square test**

Chi -square is a statistical test commonly used to compare observed data with data we would expect to obtain according to a specific hypothesis. The chi square goodness -of-fit test can be applied to discrete distributions such as the binomial and the Poisson. Chi square test is

Calculated by using the formula

$$\chi^2 = (O-E)^2 / E$$

Where,

O = Observed frequency

E = Expected frequency

## ANALYSIS OF DATA

### SOCIO ECONOMIC FACTORS

#### Designation of the Respondents

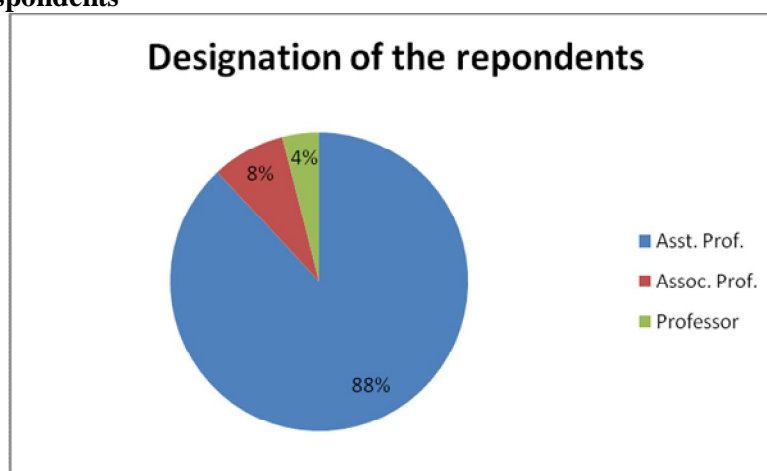
| Designation  | No. of Respondents | Percentage |
|--------------|--------------------|------------|
| Asst. Prof.  | 264                | 88 %       |
| Assoc. Prof. | 24                 | 8 %        |
| Professor    | 12                 | 4 %        |
| Total        | 300                | 100 %      |

Source: Primary Data

#### Interpretation

From the study it has been identified that 88 % of respondents belong to the category of assistant professor, 8 % of respondents belong to the category of associate professor, and 4 % of faculties belong to the category of professors.

#### Designation of the respondents



Source: Primary Data

#### Inference

88% of the respondents were Assistant Professor.

Inference From the study it has been identified that 88 % of faculties belong to the category of assistant professor, 8 % of faculties belong to the category of associate professor, and 4 % of faculties belong to the category of professors. Respondents' Qualification

#### Department of the Respondents

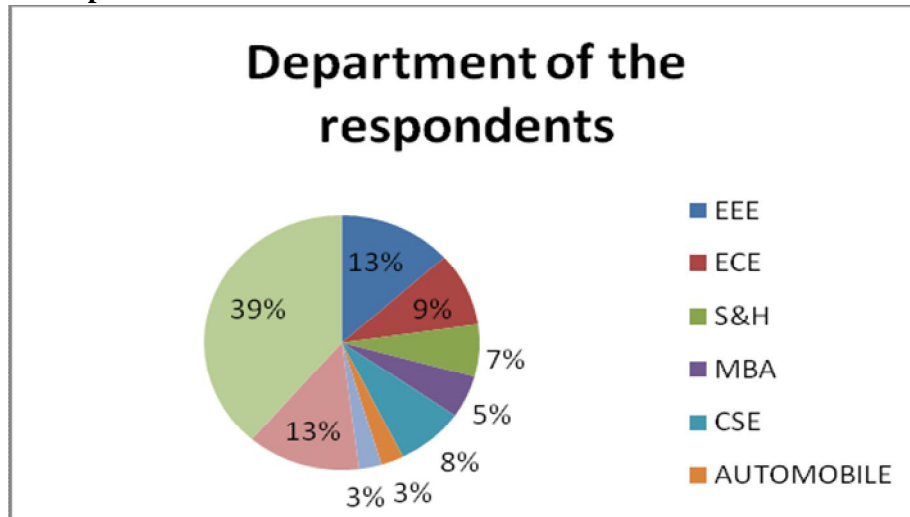
| Department | No. of Respondents | Percentage |
|------------|--------------------|------------|
| EEE        | 40                 | 13 %       |
| ECE        | 28                 | 9 %        |
| S&H        | 20                 | 7 %        |
| MBA        | 16                 | 5 %        |
| CSE        | 24                 | 8 %        |
| Automobile | 8                  | 3 %        |
| MCA        | 8                  | 3 %        |
| CIVIL      | 40                 | 13 %       |
| MECH       | 116                | 39 %       |
| Total      | 300                | 100 %      |

Source: Primary Data

### Interpretation

From the study it has been identified that 13 % of respondents from EEE department, 9 % of respondents from ECE department, 7 % of respondents from S&H department, 5 % of respondents from MBA department, 8 % of respondents from CSE department, 3 % of respondents from Automobile department, 3 % of respondents from MCA department, 13 % of respondents from CIVIL department, 39 % of respondents from MECH department.

### Department of the Respondents



Source: Primary Data

### Inference

39 % of respondents from Mechanical department

### Qualification of the Respondents

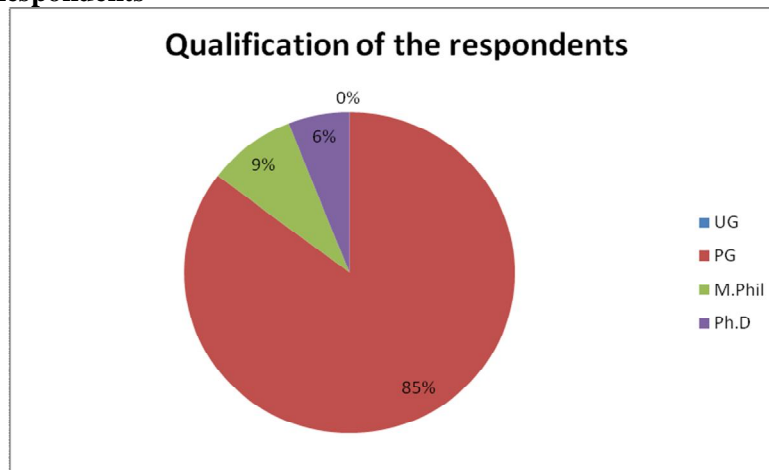
| Qualification | No. of Respondents | Percentage |
|---------------|--------------------|------------|
| UG            | 0                  | 0 %        |
| PG            | 256                | 85 %       |
| M.Phil        | 26                 | 9 %        |
| Ph.D          | 18                 | 6 %        |
| Total         | 300                | 100 %      |

Source: Primary Data

### Interpretation

From the study it has been identified that 85 % of faculties belong to the category of post graduate, 9 % of faculties belong to the category of master of philosophy, and 6 % of faculties belong to the category of Ph.D.

### Qualification of the Respondents



Source: Primary Data

### Inference

85 % of the respondents were post graduate.

### Age of the Respondents

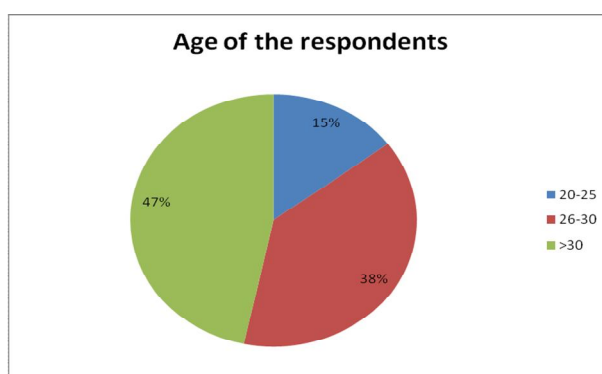
| Age   | No. of Respondents | Percentage |
|-------|--------------------|------------|
| 20-25 | 44                 | 15 %       |
| 26-30 | 116                | 39 %       |
| >30   | 140                | 47 %       |
| Total | 300                | 100 %      |

Source: Primary Data

### Interpretation

From the study it has been identified that 15 % of faculties belong to the category of 20-25 years, 39 % of faculties belong to the category of 26-30 years, and 47 % of faculties belong to the category of above 30 years.

**Chart 4.5 Age of the respondents**



Source: Primary Data

### Inference

47 % of the respondents were below 30 years of age.

### Experience of the Respondents

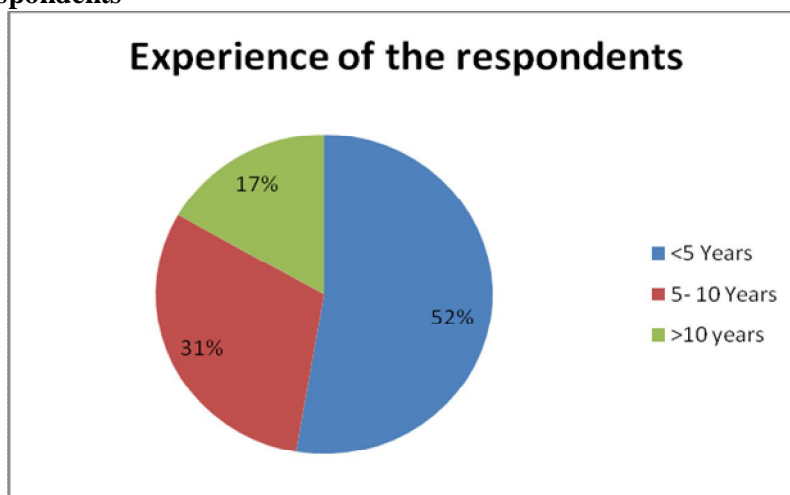
| Experience  | No. of Respondents | Percentage |
|-------------|--------------------|------------|
| <5 Years    | 158                | 53 %       |
| 5- 10 Years | 92                 | 31 %       |
| >10 years   | 50                 | 17 %       |
| Total       | 300                | 100 %      |

Source: Primary Data

### Interpretation

From the study it has been identified that 53 % of faculties belong to the category of below 5 years, 31 % of faculties belong to the category of 5 – 10 years, and 17 % of faculties belong to the category of more than 10 years.

### Experience of the respondents



Source: Primary Data

### Inference

52 % of the respondents had work experience below 5 years.

### Annual Income of the Respondents

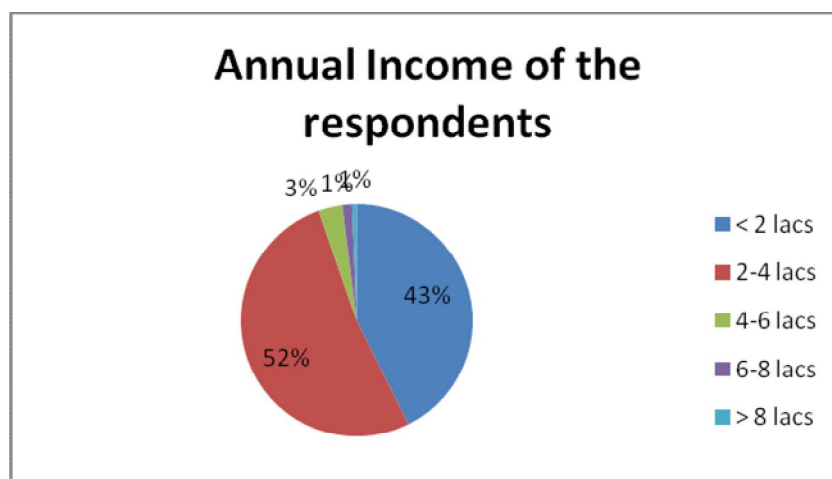
| Annual Income | No. of Respondents | Percentage |
|---------------|--------------------|------------|
| < 2 lacs      | 128                | 43 %       |
| 2-4 lacs      | 156                | 52 %       |
| 4-6 lacs      | 10                 | 3 %        |
| 6-8 lacs      | 4                  | 1 %        |
| > 8 lacs      | 2                  | 1 %        |
| Total         | 300                | 100 %      |

Source: Primary Data

### Interpretation

From the study it has been identified that 43 % of faculties belong to the category of below 2 lacs, 52 % of faculties belong to the category of 2 to 4 lacs, 3 % of faculties belong to the category of 4 to 6 lacs, 1 % of faculties belong to the category of 6 to 8 lacs, and 1 % of faculties belong to the category of above 8 lacs.

### Annual Income of the respondents



Source: Primary Data

### Inference

52 % of the respondents earned 2-4 lacs per year.

### WEIGHTED AVERAGE ANALYSIS

#### Mean score analysis on teaching and curriculum

| Sl. No             | Description                                       | Mean value |
|--------------------|---|------------|
| 1                  | Teaching is a noble profession                    | 4.55       |
| 2                  | Teaching gives me a better status in the society  | 4.33       |
| 3                  | I love to teach                                   | 4.35       |
| 4                  | Curriculum industry oriented                      | 3.56       |
| 5                  | Curriculum is on par with international standards | 3.43       |
| Average mean score |   | 4.04       |

Source: Primary Data

### Interpretation

From the study it has been identified that the respondents agreed that teaching was a noble profession, that teaching gives them a better status and that they loved to teach as their mean scores were above the average mean score 4.04.

### CHI SQUARE ANALYSIS

#### $\chi^2$ test for relationship between designations with working environment

#### Hypothesis ( $H_0$ ):

There is no relationship between designations with working environment

**Alternate Hypothesis ( $H_a$ ):**

There is relationship between designations with working environment

**Chi Square test on relationship between designations with working environment**

| O     | E     | O-E   | $(O-E)^2$ | $(O-E)^2/E$ |
|-------|-------|-------|-----------|-------------|
| 90    | 88.00 | 2.00  | 4.00      | 0.05        |
| 76    | 72.16 | 3.84  | 14.75     | 0.20        |
| 86    | 82.72 | 3.28  | 10.76     | 0.13        |
| 8     | 12.32 | -4.32 | 18.66     | 1.51        |
| 4     | 8.80  | -4.80 | 23.04     | 2.62        |
| 6     | 8.00  | -2.00 | 4.00      | 0.50        |
| 4     | 6.56  | -2.56 | 6.55      | 1.00        |
| 6     | 7.52  | -1.52 | 2.31      | 0.31        |
| 4     | 1.12  | 2.88  | 8.29      | 7.41        |
| 4     | 0.80  | 3.20  | 10.24     | 12.80       |
| 4     | 4.00  | 0.00  | 0.00      | 0.00        |
| 2     | 3.28  | -1.28 | 1.64      | 0.50        |
| 2     | 3.76  | -1.76 | 3.10      | 0.82        |
| 2     | 0.56  | 1.44  | 2.07      | 3.70        |
| 2     | 0.40  | 1.60  | 2.56      | 6.40        |
| Total |       |       |           | 37.95       |

Where, O = Observed frequency E = Expected frequency

Given,

$$\begin{aligned}
 \text{Degree of freedom} &= (r-1) (c-1) \\
 &= (3-1) (5-1) \\
 &= (2) (4) \\
 &= 8 @ 5 \% \text{ Level of significant}
 \end{aligned}$$

$$\chi^2 \text{ Calculated value} = 37.950$$

$$\chi^2 \text{ Tabulated value} = 15.507$$

Calculated value > Tabulated value

So, we reject null hypothesis i.e., " $H_0$ "

Hence it can be inferred that there is a significant relationship between designations with working environment

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

- 88 % of the respondents were assistant professors
- 85 % of the respondents were post graduate
- 47 % of the respondents were above 30 years of age.
- 75 % of the respondents were male candidates
- 57 % of the respondents were married.
- 53 % of the respondents were below 5 years.
- 52 % of the respondents earned between 2 to 4 lacs
- 71 % of the respondents received consolidated pay
- 62 % of the respondents took up the profession due to family constraints
- 48 % of the respondents said family members influenced them to take up the job,
- 64 % of the respondents strongly agree to the teaching is a noble profession.
- 50 % of the respondents strongly agree that teaching gives a better status in the society



- 28 % of the respondents neither agree nor disagree that they got Reimbursement of expenses to attend FDPs
- 44 % of the respondents strongly agree that they were Granted OD for paper valuation.
- 37 % of the respondents strongly agree that they were Encouraged for applying for grants.
- 33 % of the respondents strongly agree that they were Encouraged for applying for research program.
- 33 % of the respondents strongly agree that that they were Encouraged for consultancy services.

### **RESULTS OF HYPOTHESIS**

- There is a significant relationship between designations with working environment.
- There is a significant relationship between experience and job satisfaction.
- There is no significant relationship between gender and working environment.
- There is no significant relationship between gender and job satisfaction.

### **MEAN SCORE RESULTS**

- The respondents agreed that teaching was a noble profession, that teaching gives them a better status and that they loved to teach as their mean scores were above the average mean score 4.04

The average mean value of the factors of management support was 3.73. Based on this it can be said that the respondents agreed that their management encouraged and supported them, College policy was clearly communicated, Access to management was easy, Career counseling was provided, and Performance appraisal system was fair,

- The average means score for infrastructure and environment was 3.71. Based on this the respondents were satisfied with Well furnished class rooms, library, staff rooms and lab as their mean scores were above the average mean scores.
- The average mean value was 3.98 for the factors relating to flexibility and understanding. Based on this it can be understood that the respondents were very satisfied with time for lesson plan preparation, Healthy relationship with peers, Proper allotment of work load and Enough time for paper correction
- The average mean value for the factors related to compensation, other benefits, and career development was 3.56. Based on this it can be understood that the respondents were satisfied with the factors like Grant of OD for paper valuation, Group insurance, pay, Encouragement for applying for grants, Sanction of OD for attending seminars, FDP, etc., Reimbursement of expenses to attend FDPs, Encouraging research program schemes and consultancy services as their mean score were above the average mean scores.

### **SUGGESTIONS**

- The suggested recommendations may be governed by the policies to create good rapport with their management for increasing job satisfaction among the respondent of self financing engineering colleges. The Respondents strongly agree that to enhance job satisfaction among the teaching respondent, the management must focus on the infrastructure facilities of the college.
- Respondents agree that identifying respondent's problems, their needs, improve their retention rate leading to job satisfaction and create conducive environment to the teaching respondent and to decrease their attrition rate.
- The respondents from educational institutions agree that canteen facilities inside the colleges were not up to the mark. Management must take necessary steps to fulfil these basic amenities.
- The respondents indicate that respondent in self financing engineering colleges should be given trainings in latest trends in teaching and teaching aids.
- The respondents agree that to improve the interpersonal relationship among respondent members healthy relationship with management and good understanding among respondent can be improved.
- The respondents state that regular internal audits like ISO will help the respondent to understand their responsibilities towards student community.
- The respondents have stated that Respondent development programs at all levels in self finance engineering colleges will enhance the morale and job satisfaction of the respondent.

- The respondent's states that Teachers academic, professional and individual problems may be looked into and necessary steps taken to solve them in collaboration with administration.
- The respondents agree that Encouraging team work, delegating and decentralization of work and participatory management helps in improving the job satisfaction of respondent.
- The respondents strongly agree that encouraging respondent in their higher education and up gradation of skills will improve respondent's job satisfaction.
- The respondents state that counselling is required for the student community to improve their performance.
- The respondents from self financing institutions in Tirunelveli Distrcit states that a generalized management policy across all will fulfil expectations of the teaching respondent.

## **CONCLUSION**

The study explored the job satisfaction level of the teaching respondent in self financing engineering colleges in in Tirunelveli Distrcit. Job satisfaction represents one of the most complex areas facing today's teaching professionals. Although thousands of papers and research have been conducted on job satisfaction all over the world, this is one of the least studied research field. Many studies have demonstrated an unusually large impact on the job satisfaction of teaching professionals, while the level of job satisfaction has an impact on teaching, and hence also on performance of self financing institutions. There is a considerable impact of the faculties' perceptions for the nature of their work and the level of overall job satisfaction. Financial compensation has a great impact on the overall job satisfaction of faculties. The study explored the job satisfaction of the teaching respondent of self financing institutions in in Tirunelveli Distrcit. The satisfaction is measured using fifteen variables. It is observed from the study that majority of the respondents were satisfied with the dimensions 'Infrastructure in general', 'Teaching & Curriculum' and 'Student care and Counseling. The dimensions moderately satisfied are 'Discharge of Routine Work', 'Management', 'Participation and freedom in Decision Making' and 'Inter -Personal Relationship'. The contribution by the dimensions 'Teaching Aids', 'Participation and freedom in Decision Making' and 'Compensation Rewards and Benefits' was least satisfied towards the job satisfaction decision by the respondents. The contribution by the dimensions 'Career Development Seminar / Conference contribute' the lowest, the dimension 'Other Benefits' was minimum towards the job satisfaction decision by the respondents

It is generally observed that respondent are not getting appropriate consideration in terms of compensation and advancement, as industries offer more perks respondent are attracted towards industries, they also feel that the policies of the management is also not in their favour and these mostly focus on creating inconveniences for respondent members of self financing institutions. Hence the management of the self financing engineering colleges should take necessary steps to improve their pay structure.

## **SCOPE FOR FURTHER RESEARCH**

The results are based on the response provided by the respondents chosen through simple random sampling as well as self financing engineering colleges in Tirunelveli District. So this research work can be extended with additional samples collected from different districts in order to generalization of the results for Tamilnadu. The study can be extended to the second tier cities in Tamilnadu to get a clearer perception on job satisfaction of teaching respondent working in self financing institutions. There can be other factors which influence the job satisfaction of teaching respondent in self financing institutions. Interesting research studies may be taken up further to extend the present study to cover the teaching respondent working in other self financing institutions, and even the teaching respondent in Government and Government-aided engineering colleges. Further studies could examine some of the suggestions made above. Future researchers should conduct longitudinal studies to establish causal relationship between study variables. It is advisable that representative sample of the respondent in universities and aided colleges to be taken to ensure external validity of the study findings.

## DEBT BURDEN OF THE CULTIVATOR HOUSEHOLDS IN THE REFORMS PERIOD A VILLAGE LEVEL MICRO STUDY AT THE KHAMMAM DISTRICT OF -TELANGANA STATE

**K. Jal Abhijith Dev**

Research Scholar, Department of Economics, University P.G College, Kakatiya University, Khammam

### ABSTRACT

*The economic liberalization in India refers to the economic liberalization, initiated in 1991, of the country's economic policies, with the goal of making the economy more market and service-oriented and expanding the role of private and foreign investment. Specific changes include a reduction in import tariffs, deregulation of markets, reduction of taxes, and greater foreign investment. Liberalisation has been credited by its proponents for the high economic growth recorded by the country in the 1990s and 2000s. Its opponents have blamed it for increased poverty, inequality and economic degradation.*

*Keywords: Economic liberalization; Economic policies; Economic growth; Poverty*

### 2. INTRODUCTION

Economic Reforms Programme of 1991 in India did not provide for any special package for agriculture. Moreover, Narasimham Committee on Financial Reforms (1992) recommended for the dilution of priority lending including agriculture by the commercial banks. Though agricultural credit has been a priority item, credit from commercial banks to agriculture received a severe blow. Rural branches of the commercial banks have decreased and cultivators are constrained to turn to money lenders accepting to pay higher rates of interest (NSSO 2003). Crop failures, natural calamities, un-remunerative prices to the agricultural products and escalating costs of cultivation have landed the cultivator households in distress leading to growing debt burden because of which crop holidays and farmer suicides in different states are a recurring feature. As per the report of the expert group on agricultural indebtedness (2007) the share of money lenders as a source of credit increased from 17.5 percent to 26.8 percent between 1991 and 2002.

### 2. STUDY OBJECTIVES

This paper has the following objectives:

- 1) To examine the relative shares of different credit sources in the study village.
- 2) To find out the extent of debt-burden in relation to the land holding.
- 3) To analyse the reasons for growing debt burden

### 3. METHOD

This study is micro in nature for which two villages from rural Mandal in Khammam district of the Telangana State are chosen. Around 50 cultivator households are randomly selected. Data is purely primary and it is collected through administering a questionnaire. Additional information provided by the respondents has been recorded separately. Statistical tools of analysis like averages and percentages are used. The questionnaire and analysis strictly confine to the objectives stated earlier.

### 4. DISCUSSION

**Table-I Characteristics of the Sample Respondents**

| Characteristics       | Respondents |
|-----------------------|-------------|
| Sex – Male            | 44 (88%)    |
| Female                | 06 (12%)    |
| Total                 | 50 (100%)   |
| Education – Literates | 38 (76%)    |
| Illiterates           | 12 (24%)    |
| Total                 | 50 (100%)   |
| Social Group – SC     | 16 (32%)    |
| ST                    | 20 (40%)    |
| BC                    | 06 (12%)    |
| OC                    | 02 (4%)     |

|                                  |           |
|----------------------------------|-----------|
| Total                            | 50 (100%) |
| Primary Occupation – Agriculture | 44 (88%)  |
| Non-Agriculture                  | 06 (12%)  |
| Total                            | 50 (100%) |

Source: Compiled by the author

It is noted from the data that males are more 88 percent and literacy rates are encouraging in the sample villages. ST respondents are more, 40 percent followed by SC (32%), BC (12%) and OC just 4 percent. It implies that marginalized social groups are more in the sample. Agriculture is the primary occupation of 88 percent of the respondents while 12 percent have Non-Agriculture as primary occupation.

Age wise distribution of the sample respondents is depicted in table –II.

**Table-II Age-Wise distribution of the Sample Respondents**

| Age in Years | Respondents |
|--------------|-------------|
| 21-25        | 04 (8%)     |
| 26-30        | 06 (12%)    |
| 31-35        | 14 (28%)    |
| 36-40        | 08 (16%)    |
| 41-45        | 14 (28%)    |
| 46-50        | 04 (08%)    |
| Total        | 50 (100%)   |

Source: Compiled by the author

Age configuration shows that 28% percent of the respondents are between the age group of 31-35 and 41-45 years of age. Followed by 8 percent of the respondents are between the age group of 36-40 years of age. It can be stated that all the respondents in the sample are in the active and energetic age group.

Family members and workers in the sample households are analysed in table-III.

**Table-III “Family Members and Workers in the Sample House Holds?”**

|                 | Males       | Females     | Total       |
|-----------------|-------------|-------------|-------------|
| Family Members  | 116 (52.7%) | 104 (47.3%) | 220 (100%)  |
| Workers         | 72 (62.1%)  | 76(73.1%)   | 148 (67.3%) |
| Aged & Children | 44 (38%)    | 28 (27%)    | 72 (32.7%)  |

Source: Compiled by the author

Total family members are 220 of which males are 116 and females are 104. Sex ratio is 89.6% only. Average members per family are 4.4 and the dependency ratio is 1.5 which is relatively low. Work participation rate is 67.3 and it is higher for the females when compared to the males.

Particulars of land ownership are furnished in table-IV

**Table-IV Particulars of Land Ownership**

| Land in Acres | Respondents Owning |              |
|---------------|--------------------|--------------|
|               | Irrigated          | Un-irrigated |
| 0-2.5         | 22 (44%)           | 06 (12%)     |
| 2.5-5.0       | 18 (36%)           | 08 (16%)     |
| 5-7.5         | 04 (8%)            | 12 (24%)     |
| Above 7.5     | 02 (4%)            | 06 (12%)     |
| Land less     | 04 (8%)            | 18 (36%)     |
| Total         | 50 (100%)          | 50 (100%)    |

Source: Compiled by the author

Figures in the table show that the respondents owing irrigated land are more 92 percent when compared to unirrigated land (64%). Land less respondents are also more with regard to unirrigated land. It is noted that small and marginal farmers are more accounting for 80 percent in the ownership of irrigated land while medium farmers are more in owning unirrigated land.

Farmers require credit for different agricultural operations, own funds are limited as majority of the respondents are small and marginal. Sources of credit to the respondents are examined in table-V.

**Table-V Sources of Credit to the Sample Respondents**

| Sources of Credit        | Respondents |
|--------------------------|-------------|
| a) Co-operatives         | 06 (12%)    |
| b) Commercial Banks      | 08 (16%)    |
| c) Grameena Banks        | 10 (20%)    |
| d) Commission Agents     | 08 (16%)    |
| e) Money lenders         | 12 (24%)    |
| f) Relatives and Friends | 06 (12%)    |
| Total                    | 50 (100%)   |

Source: Field Study

Data shows that 48 percent of the respondents depend on institutional sources while 52 percent depend on non-institutional sources. Some of the respondents have borrowed from two or more sources. In the reforms period commercial banks have reduced lending to agriculture and their rural branches have decreased. They have adopted the commercial principle in their lending policies in the light of the Narasimham committee report. This situation has increased the role of the non-institutional players, especially money lenders. Infact, money lenders and their role in rural credit decreased in the pre-reforms period. Utilization of credit by the respondents is analysed in table-VI.

**Table-VI Utilization of credit by the Respondents**

| Utilization for                   | Respondents |
|-----------------------------------|-------------|
| a) Agricultural Investment        | 32 (64%)    |
| b) Asset Creation                 | -           |
| c) Family needs and Health        | 10 (20%)    |
| d) Children Education             | 04 (8%)     |
| e) Marriages and Family festivals | 02 (4%)     |
| f) Other Purposes                 | 02 (4%)     |
| Total                             | 50 (100%)   |

Source: Compiled by the author

It is noted from the data in the table that 64 percent of the respondents use credit for investing on agriculture which is productive. It implies that unproductive credit is 36 percent and here also consumption needs, health and children education are prominent. Credit is used to a large extent prudently by the respondents.

**Table-VII Outstanding Debt of the Respondents**

| Debt Range             | Respondent Households |
|------------------------|-----------------------|
| Up to Rs. 20,000       | -                     |
| Rs. 20,001-50,000      | 06 (12%)              |
| Rs. 50,001 – 80,000    | 16 (32%)              |
| Rs. 80,001 – 1,00,000  | 14 (28%)              |
| Rs. 1,00,000-1,50,000  | 08 (16%)              |
| Rs. 1,50,001 and above | 06 (12%)              |
| Total                  | 50 (100%)             |

Source: Compiled by the author

Majority of the respondent households, 72 percent have up to one lakh each as outstanding debt of which 44 percent have less than Rs.80,000. The debt magnitude is not of serious concern as it can be managed. However 28 percent of the respondents are in the above 1 lakh slab of outstanding debt. The problem of higher rates of interest by the money lenders and commission agents is of concern since more than half of the credit is provided by the non-institutional sources to the sample respondents. Reasons for indebtedness are examined in table-VIII here under.

**Table-VIII Reasons for Indebtedness of the Respondents**

| Reasons                                       | Respondents |
|---|-------------|
| i) Crop Failures                              | 28 (56%)    |
| ii) Unremunerative Price                      | 22 (44%)    |
| iii) Consumption and Unproductive expenditure | -           |
| iv) Others                                    | -           |
| Total   | 50 (100%)   |

Source: Compiled by the author

Two major reasons have been stated by the respondents for their indebtedness, crop failures under the vagaries of the monsoons are the major reason. Unsupport prices and uncertainty in the market also affects the incomes due to which loan repayments are deferred. Moreover, crop failures necessitate further loans both for investment and family needs. Majority of the respondents in the interaction state that agriculture is not viable and their distress appears to have no end. All the respondents feel that loan waiver idea of the government is good and it should be effective and fast.

## 5. FINDINGS

1. Though 96 percent of the sample respondents are from marginalized social groups, literacy (76%) is very much encouraging. Primary occupation of the majority of the respondents is agriculture.
2. All the respondents are below 50 years of age and belong to the active working group.
3. Average size of the family of the respondents is 4.4 and the dependency ratio is 1.5. Work force participation rate is 67.3 and it is higher for females.
4. Majority of the respondents own irrigated land.
5. The share of institutional sources in credit flow is 48 percent against 52 percent of the non-institutional sources. Money lenders provide credit to 24 percent of the respondents.
6. Credit is used to a large extent for agricultural investment.
7. Majority of the respondents have less than one lakh rupees as outstanding debt.
8. Crop failures and un-remunerative prices are the major reasons for the indebtedness of the sample respondents. All of them wish loan-waiver to be effective.

## 6. CONCLUSION

Despite the expansion of financial institutions the flow of institutional credit to agriculture is inadequate in the Post-Reforms era. The share of marginal and small farmers in institutional credit has been shrinking. It is high time to increase the availability of credit to the farmers to maintain the sustainability of food security. The present agrarian crisis needs to be wiped out by reducing the role of money lenders and other non-institutional agencies in the interests of making Indian agricultural viable.

## REFERENCES

1. Government of India (2007), "Report of the Expert group on Agricultural Indebtedness" Ministry of Finance, Government of India.
2. Handbook of statistics on Indian Economy, RBI (2011-12)
3. Malik Yasir Ahmad and Azra Musavi (2013), "Trends and Patterns of Agricultural credit and Prevalence of Agrarian crisis in India in reforms period" Indian Economic Journal, December

---

**A STUDY TO IDENTIFY THE INFLUENCE OF BUSINESS IN TOURISM SECTOR OF  
TIRUNELVELI DISTRICT**

---

**R. Lalitha<sup>1</sup> and Dr. N. Rajalingam<sup>2</sup>**Ph. D Research Scholar<sup>1</sup> and Professor<sup>2</sup>, Department of Management Studies, Manonmaniam Sundaranar University, Tirunelveli

---

**ABSTRACT**

*Tourism is a place for enjoy the Nature, Culture and other Activities. It creates Lots of Happiness, gives Recreational activities. Tourism is not only based on Recreation it is also based on Business, Medical, Vocational Tour, Entertainment, Some special Occasion and Cultural. Tourism is now growing across the globe. The tourism defined as in the year 1914 as "People who travel the sum of the phenomena and relationship arriving from the travel and stay of non – residents, in so far as they do not lead to permanent residence and are not connected with any earning activity". This Study aims at to identify and analyze the Business in Tourism and to analyze the Factors that facilitate in improving the Business. The results of the research with 52 samples are summarized in this paper to use the Chi square Analysis. It to be concluded as in Association between two variables to improve the Business and also it help to the Business.*

*Keywords: Economic Tourism, Tirunelveli*

---

**1. INTRODUCTION**

Tourism is a place for enjoy the Nature, Culture and other Activities. It creates Lots of Happiness, gives Recreational activities. Tourism is not only based on Recreation it is also based on Business, Medical, Vocational Tour, Entertainment, Some special Occasion and Cultural. "The increasing competitive tourism market has made the products marketing a very important factor in order to gain better destination patronage, to attract more consumption of services, generate repeat businesses and loyalty" (Yuju-Wang, 2007). Hunziker and Krapf defined as the Tourism in the year 1914 as "People who travel the sum of the phenomena and relationship arriving from the travel and stay of non – residents, in so far as they do not lead to permanent residence and are not connected with any earning activity". (Mathur, 2011)

Moreover the Tourism Business is improving; the Destination Products and Services, the competitiveness of the companies provide very grateful tourist services in the Tourist spot. In addition, they provide some specific promotional tactics, which are used by successful tourism Business to expose and create attractions. It also helps to create more Opportunity in improving their business activities.

**2. LITERATURE REVIEW**

(Dr.N.Rajalingam, 2017) Discussed about the tourism is an important one for every person's life because the tourists relax themselves. So, they go to some peaceful places or natural places. It create some type of relaxation in a person, and also person who are always busy in their schedule used to spent their time with their family members in the tourist place which make them happy. They forgot their ordinary stressful life while visiting tourist places, at the time they expect some Services or Facilities in the tourist place to make the trip happier. The Researcher aims at to appraise the Gap between tourist Expectation and Perception in Tourism service quality dimensions, to evaluate the effectiveness Foreign Tourist on Service Facility and their opinion of the Southern Districts of Tamil Nadu regarding environment. To study the Expectation and Perception of hotel accommodation for foreign tourists in Southern part of Tamilnadu, The results of the research with 136 samples are summarized in this paper used Percentage analysis and Factor Analysis. The Researcher found the factors influencing choice of tour were duly and analytically presented in the study. Mentioned all the attitude of the sample tourists and the problems faced by them has been exhaustively presented.(Kapiki, 2012) Pointed out Quality Management in Tourism and Hospitality: an Exploratory Study among Tourism Stakeholders the concept of quality is widely discussed in the hospitality management. Quality in the hospitality industry is defined as "the consistent delivery of products and guest services according to expected standards". Increasingly, guests are willing to pay more when the offered service meets or exceeds their service expectations. Quality in the tourism and hospitality industry involves consistent delivery of products and guest according to expected standards. It intended to explore how the tourism stakeholders perceive the quality services in the hospitality sector, the ways of service improvement and the importance of quality for a hotel's future. Based on the analysis of the findings the Data was collected by means of a questionnaire developed for the survey, as well as by structured interviews either in person or over the phone. Some Recommendations for successful service delivery are suggested. He Suggest focus on quality service; retention of existing guests by exceeding their expectations; continuous quality improvement; employment, regular training and empowerment

of service-oriented staff; search for best practices through benchmarking; and, finally, pursuit of quality accreditation through the various schemes, such as the eco-labels, ISO and the EU Foundation for Quality Management.

### 3. STUDY OBJECTIVES

1. To understand the influence of business by number of branches in Tourism area.
2. To Analyze the Factors that facilitates the improvement of Business

### 4. METHOD

The study is descriptive in nature. Non probability sampling method is selected for this study. 52 samples were selected in Tirunelveli Districts. The primary data were collected through structured undisguised interview schedule prepared with respect to the objective of the paper. Percentage Analysis and Chi Square are the tools used.

### 5. DISCUSSION

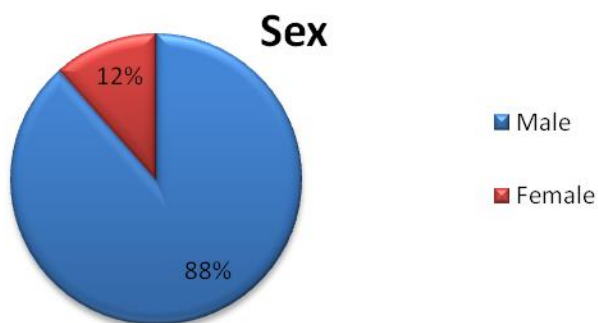


Chart No.1.1

From the chart 1.1 it is interpreted that 88 percent of the respondents are Male and another 12 percent of the respondents are Female.

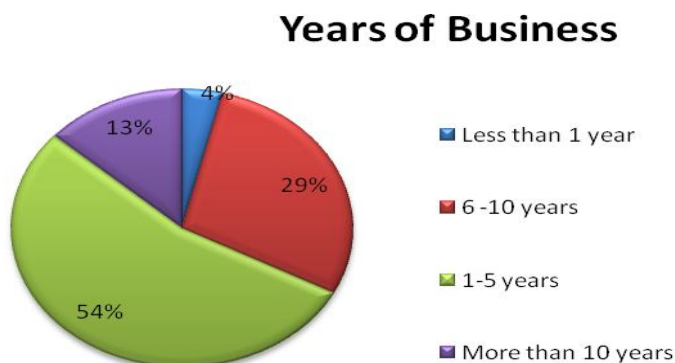


Chart No.1.2

From the chart 1.2 it is interpreted that 54 percent of the respondents were doing business for 1-5 Years, 29 Percentage of the Respondents were doing business in 6-10 years, 13 Percentage of Respondents were doing business in More than 10 Years and another 4 percent of the respondents were doing business in Less than 1 Year.

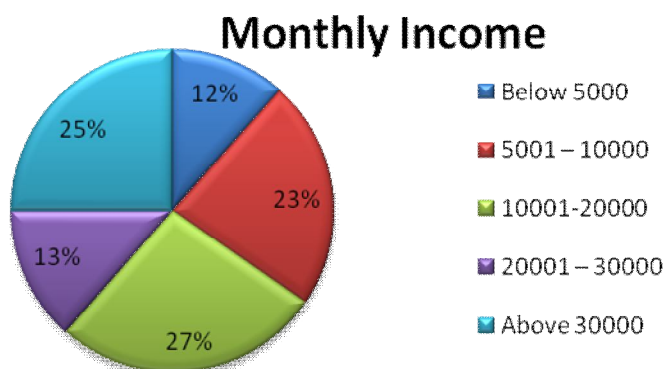


Chart No.1.3

From the chart 1.3 it is Inferred that 14% of shops earn Monthly Income of 10,001-20,000, 13% of shops earn monthly income above 30,000, 12% of shops earn monthly income 5,000-10,001, 7% of shops earn monthly income 20,000-30,000 and another 6% of shops earn monthly income Below 5,000.



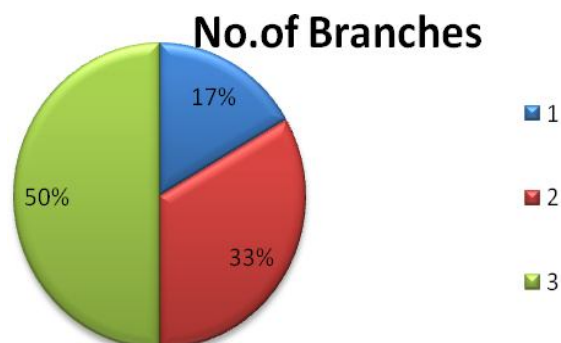


Chart No 1.4

From the chart 1.4 it is Inferred that 50% of people Have three branches, 33% of people have 2 branches and 17% of people Have only one branch.

Table: 1.1 No of Branches based on Monthly income

| Particulars    |               | No. of branches |    |   | Total | Pearson Chi-Square<br>13.547<br>df - 8<br>P Value - 0.094 |
|----------------|---------------|-----------------|----|---|-------|---|
|                |               | 1               | 2  | 3 |       |   |
| Monthly income | Below 5000    | 6               | 0  | 0 | 6     |   |
|                | 5001 – 10000  | 6               | 5  | 1 | 12    |   |
|                | 10001-20000   | 4               | 10 | 0 | 14    |   |
|                | 20001 – 30000 | 4               | 3  | 0 | 7     |   |
|                | Above 30000   | 9               | 4  | 0 | 13    |   |
| Total          |               | 29              | 22 | 1 | 52    |   |

H0: There is no significant association between Monthly income and No of branches since the p-value is Greater than our chosen significance level ( $\alpha = 0.05$ ), we do not reject the null hypothesis. Rather, it is inferred that there is enough evidence to suggest that there is no association between Monthly income and No of branches.

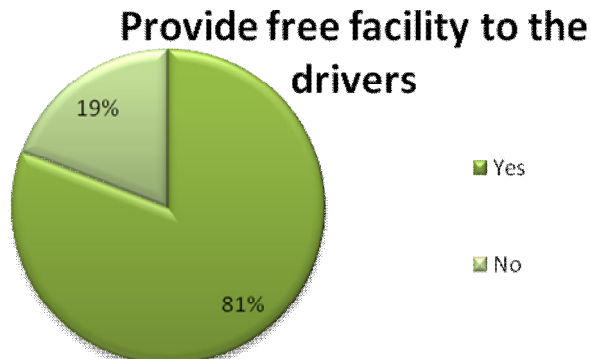


Chart No 1.5

From the chart 1.5 it is Inferred that the 81% of Respondents provide free facility to the drivers and 19% of Respondents do not provide free facility to drivers.

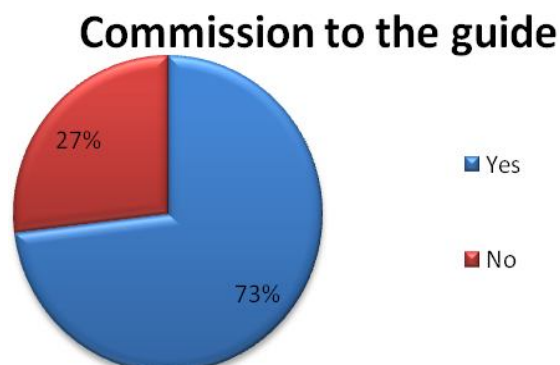
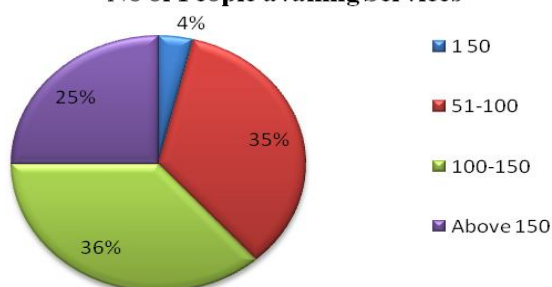


Chart No 1.6

From the table 1.6 it is Inferred that 73% of people give commission to the guide and another 27% of Respondents Do not provide any commission to the guide.

**No. of People visiting the shop****Chart No 1.7**

From the chart 1.7 it is inferred that 42% of the Shopkeepers stated that 100 – 150 People visit their shop Everyday, 29% of the Shopkeepers stated that 51 – 100 People visit their shop Everyday, 29% of the Shopkeepers stated that Above 150 People visit their shop Every day.

**No of People availing Services****Chart No 1.8**

From the chart 1.8 it is Inferred that 36% of the Shop Keepers stated that 100-150 tourists avail goods or service from the shops Every day, 35% of the Shop Keepers stated that 51-100 tourists avail goods or service from the shops Every day, 25% of the Shop Keepers stated that Above 150 tourists avail goods or service from the shops Every day, 4% of the Shop Keepers stated that 150 tourists avail goods or service from the shops Every day,

**Table: 1.2 Impact of free facility to drivers on Number of People visiting the shop daily**

| Particulars                              |     | No. of people visit your shop daily |         |           | Total | Pearson Chi - Square 10.660<br>df -2<br>P Value -0.005 |
|--|-----|-------------------------------------|---------|-----------|-------|--|
|  |     | 51-100                              | 100-150 | Above 150 |       |  |
| Provide any free facility to the drivers | Yes | 13                                  | 21      | 8         | 42    |  |
|  | No  | 2                                   | 1       | 7         | 10    |  |
| Total                                    |     | 15                                  | 22      | 15        | 52    |  |
|  |     | 15                                  | 22      | 15        | 52    |  |

H0: There is no significant Association between free facility to drivers and number of people visiting the shop daily Since the p-value is lesser than our chosen significance level ( $\alpha = 0.05$ ), we reject the null hypothesis.

Hence there is an association between free facility to the drivers and No. of People visiting the shop daily.

It is inferred that providing free facility to drivers increases the number of persons visiting the shop daily.

**Table 1.3 Impact of giving commission to guide on No of people visiting the shop**

| Particulars                                 |     | No. of people visit |         |           | Total | Pearson Chi-Square 7.580<br>Df - 2<br>P Value - .023 |
|---|-----|---------------------|---------|-----------|-------|--|
|   |     | 51-100              | 100-150 | Above 150 |       |  |
| Commission to the guide who brings business | Yes | 13                  | 18      | 7         | 38    |  |
|   | No  | 2                   | 4       | 8         | 14    |  |
| Total                                       |     | 15                  | 22      | 15        | 52    |  |

H0: There is no significant association between commission given to guide and No. of people Visit your shop daily

Since the p-value is lesser than our chosen significance level ( $\alpha = 0.05$ ), we reject the null hypothesis. Hence there is an association between commission given to guide and No of people visiting the shop. It is inferred that commission paid to the guide helps in increasing the number of people visiting the shop.

## 6. CONCLUSION

From the study it is found that increasing the number of branches in a particular tourist place does not bring more business. The study revealed that proving free facility to drivers and giving commission to guides improve the sales in the tourist places.

---

**7. RECOMMENDATIONS**

Guides and Drivers play a Major role in the Business of Tourist Places. They drive the People with Purchase intension to the Particular Shops. So 96 out of 100 people, visiting the shops avail the goods and services. Providing Commission to drives and guide would drive the purchase intended tourists to these shops. The Shop keepers may improve the Quality of their goods and services to increase the Purchasing rate.

**REFERENCES**

1. Dr.N.Rajalingam, L. a. (2017). A Study on Perception of Foreign Tourist on Service Facility in Southern Districts of Tamil Nadu. *Annamalai International Journal of Business Studies and Research* , 122-129.
2. Grand, M. (2016). Forecasting the Potential Impact Viral Outbreaks will Have on the United Forecasting the Potential Impact Viral Outbreaks will Have on the United. *Journal of Tourism and Hospitality Management* , 1-13.
3. Mathur, A. (2011). *Fundamentals of Travel and Tourism*. New Delhi: Ane Books Pvt.ltd.
4. Milandrie Marais, E. d. (28 Feb. 2017). Critical success factors of a business tourism destination: Supply side analysis. *Acta Commercii - Independent Research Journal in the Management Sciences* , 1-12.
5. Shabir Ahmad Bhat, D. R. (2014). Deconstructing the Disciplinary under Theorization: Towards an Integrated Conceptual Schema for Heritage... *An International Journal of Tourism and Hospitality Congress* , 21-44.
6. Swain, S. K. (2014). Community-Based Ecotourism For Socio-Economic Development in Periyar Tiger Reserve in Thekkady. *An International Journal of Indian Tourism and Hospitality Congress (ITHC)* , 1-20.
7. Swanston, B. (2018, 09 11). About the Importance of Tourism in India. *USA Today* .
8. Yuju-Wang, B. A. (2007). Effects of integrated marketing communications (IMC) on visitors heritage destination selection. *ournal of Quality Assurance in Hospitality and Tourism* , 10, 132-144.

---

## A SURVEY OF MACHINE LEARNING ALGORITHMS IN IOT BASED WIRELESS SENSOR NETWORK FOR CROP YIELD PREDICTION IN PRECISION FARMING

---

**Prem Kumar. B<sup>1</sup>, Dr. G. Suresh Kumar<sup>2</sup>, Dr. G. Kumaravelan<sup>3</sup> and Vinoda.N<sup>4</sup>**

Research Scholar<sup>1</sup> and Assistant Professor<sup>2,3</sup>, Department of Computer Science, Pondicherry University, Karaikal

Assistant Professor<sup>4</sup>, Department of Processing and Food Engineering, Dr. NTR College of Agricultural Engineering, Bapatla

---

### ABSTRACT

*One of the problems in an agricultural domain that is yield forecasting which is solved by applying Machine Learning (ML) techniques to agricultural sensor data which are collected by Sensor devices. Internet of Things (IoT) enables different applications like crop growth monitor and crop selection, irrigation decision support in Digital Agriculture field. In IoT, the real-world objects are connected with each other, will transform the data. In agriculture, sensors are connected Through sensor networks to the IoT, With the help of this approach real-time information about the lands and crops forward to farmers make the right decisions. The major advantage is the implementation of WSN in Precision farming (PF) will minimize the usage of water fertilizers while maximizing the yield of the crops.*

*Keywords: Internet of Things (IoT), Wireless Sensor Network (WSN), Precision Farming (PF), Machine Learning (ML), crop yield prediction*

---

### 1. INTRODUCTION

Agriculture is major income resource for people in India. About 70% of the population occupation is agriculture. Agriculture plays a vital role in our daily life. Food is necessary for us. To distribute food to others we need to produce a huge amount of crop yield. Developing countries like India depends on Agriculture. The Indian Economy growth rate is based on Agriculture. To maximize the effectiveness and yield we can use WSNs in precision farming crop data can be gathered through sensor nodes in the fields and transferred to data server where we can process and store the data. The applications of IoT based WSN in agriculture perform a key role to make functionalities easy and suitable. The combination of WSNs and IoT leads to in various applications like precision farming, wildlife monitoring and etc. Crop raise, quality, and crop yield are highly based on the weather conditions and environmental components such as seasonal temperature, daily temperature ranges, water cycles between soil and atmosphere. The particulars such as temperature, humidity, soil moisture, pH value can be supply as input by precision farming (PF) for maximizing the crop growth with minimum available facilities. With the help of Machine learning algorithms we can forecast the rainfall, crop selection and yield prediction and disease prediction of crops. In the agriculture field, crop requires management of pesticides, fertilizers and irrigation for better improvement. Different authors propose different methods with the help of IoT based WSN and machine learning algorithms for accurate crop yield forecasting.

#### 1.1 Overview of IoT

IoT is the inter-networking of physical devices and which has the ability to transfer data over a network without needing human intervention.

In IoT, things (objects) may be anything like sensors, humans, cameras, PCS and phones. These devices may upload there any kind of data to the internet. IoT has several applications in agriculture like smart agriculture which means applications of IoT Solutions in agriculture. IoT technology is most efficient due to the following details.

1. Global connectivity through devices.
2. Human effort can be minimized.
3. Faster access.
4. Time efficiency.

#### 1.2 Role of IoT in Agriculture

With the help of IoT devices we can enhancing the crop yield in the agriculture this type of technology is called as smart agriculture. These IoT devices have been used to monitor the soil status, temperature and humidity of the crop in agricultural fields. IoT sensors are capable of providing real time data about crop yields, rainfall, pest infestation, and soil nutrition.

### 1.2.1 IoT Application in Agriculture

There are several kinds of IoT sensors and IoT applications that can be applied in agriculture:

- Monitoring of Climate Conditions
- Smart Greenhouse
- Crop Water Management
- Agricultural Drones
- Saving fertilizer and chemical crop protection agents.
- Precision Farming

### 1.3 WSN with IoT in Agriculture:

Wireless (without wires), Sensors, Network (a network with exact topology). A wireless sensor network is a network of small electronic devices which consists a different sensors. The wireless sensor network is to gather data from these sensors. WSN is a subset of IoT. WSN may connect to IoT.

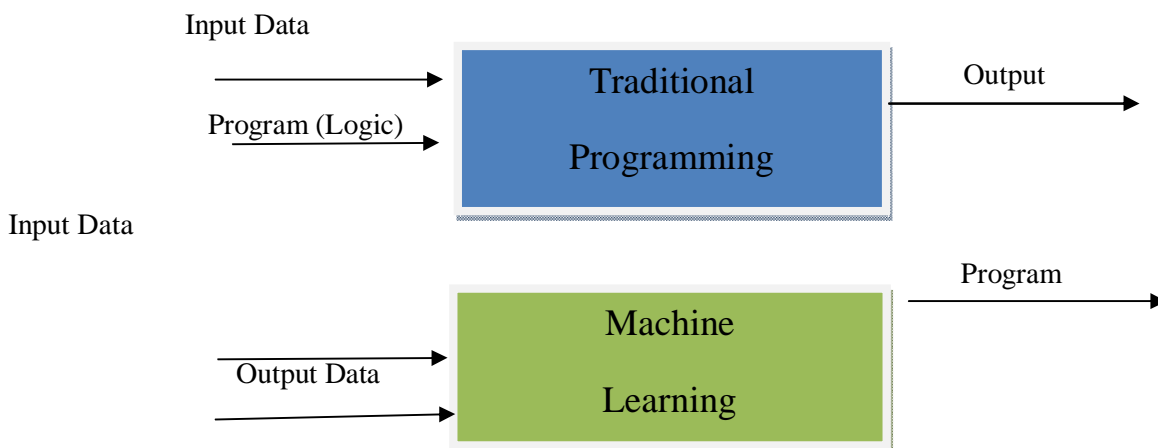
### 1.4 Precision Farming:

Precision Farming (PF) or Precision Agriculture (PA) is accurate system of farming which is based on planting, growing and harvesting crops by using AI (Artificial Intelligence) processed data. The crop data, which is used to forecast the best way to do all crop-related tasks. PF is depends on hardware, software and IT Services. PA is an approach to the farm management which uses IT services to enhancing the plants and crops productivity.

### 1.5 Machine Learning

“A computer program is said to learn from experience E with respect to some task T and performance measure P, if its performance on T, as measured by P, improves with experience E.”

According to Arthur Samuel, “Machine Learning (ML) is a field of study that gives the computer the ability to learn without being explicitly programmed”. The main goal is to allow computers to learn automatically without human interference.



**Figure 1: Procedure Traditional programming and Machine Learning**

In Traditional Programming, We give the input data and program (logic), run it on computer and we get output as a result.

In Machine Learning, We give the input data and Output, run it on machine during training and the machine creates its own program(logic), which can be check out while testing.

## APPLICATIONS OF MACHINE LEARNING

**Image Recognition**-ML can be used for face recognition in an image.

**Medical diagnosis**- ML methods and tools that can assistance in the diagnosis of diseases

**Prediction**- ML can also be used in the prediction systems.

**Agriculture**- ML applications have been used in Agriculture like Selection of the crop and crop Yield forecasting, water forecasting, smart irrigation, Crop Disease Prediction.

| S.No | ML Applications in Agriculture      |  |
|------|-------------------------------------|--|
|      | Field of Study                      | ML Algorithms  |
| 1    | Crop Selection and Yield Prediction | Artificial Neural Network(ANN)   |
|      |                                     | Random Forest Algorithms   |
| 2    | Weather Forecasting                 | Support Vector Machine (SVM)   |
| 3    | Smart Irrigation                    | Depends on data dimension we can use Support Vector Machine (SVM) and KNN (K-Nearest Neighbor) |
| 4    | Crop Disease Prediction             | ANN  |
|      |                                     | Regression Trees   |
|      |                                     | Random Forest  |

Table 1: Various Applications of Machine Learning Algorithms in Agriculture

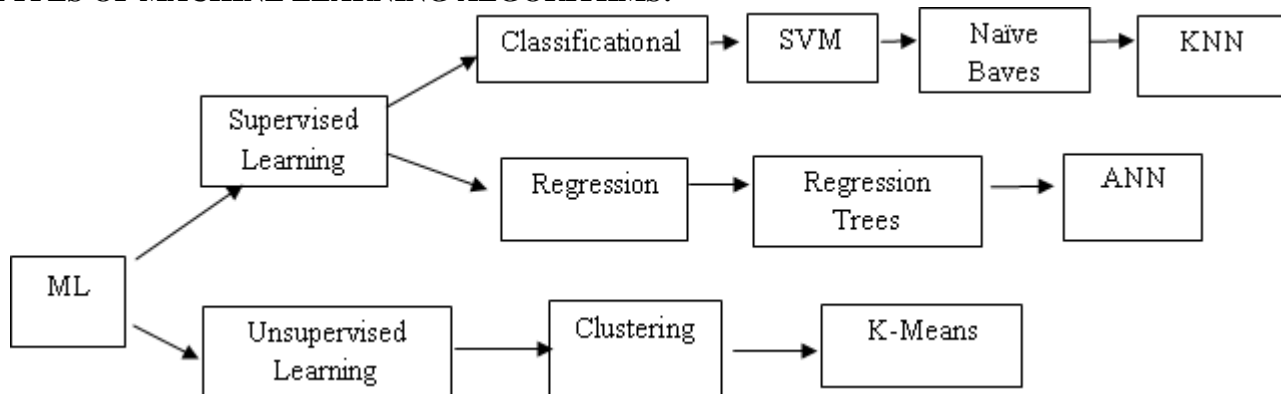
**TYPES OF MACHINE LEARNING ALGORITHMS:**

Figure 2: Categorical ML

**Supervised Learning:** In Supervised learning, a known data (label) is available for a certain dataset like training data. Means as an input uses the known and label data and it gives accurate and reliable results. Supervised learning is applied in classificational algorithms like Support Vector Machine(SVM), Naïve Bayes and K-Nearest Neighbors (KNN), regression types Algorithms like Regression trees and Artificial Neural Network(ANN).

**Unsupervised Learning:** There is no training will be given to the machine, where only the input data is present and no corresponding output variable is there

Unsupervised learning classified into Clustering where you want to discover the inherent groupings in the data

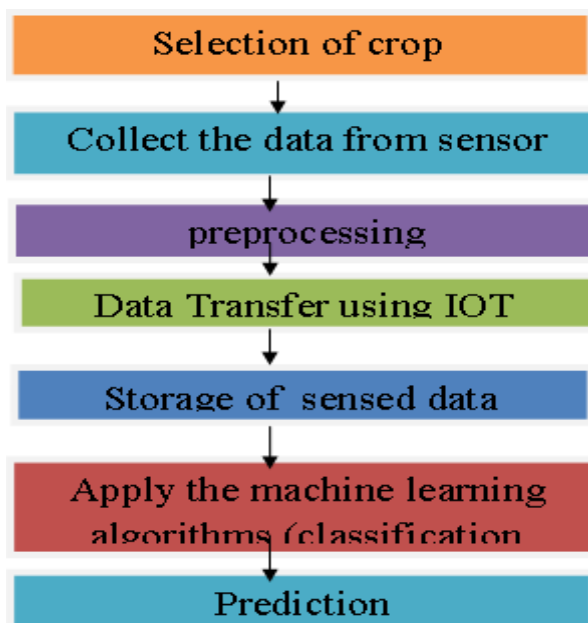
**GENERAL PROCEDURE FOR CROP YIELD PREDICTION SYSTEM**

Figure 3: Flow chart Diagram of prediction.

The crop yield forecasting procedure is shown in figure 3. Processing is as follows, let us consider to choose any crop, data is collected from the different sensor nodes in the crop field. Data is preprocessed means that data may consist of redundant, inconsistent data, therefore, Remove the redundant data from sensed data by applying the filtering techniques like Kalman filtering, after removing the noise from sensed data, the quality data transferred to cloud or secondary storage like SD card through IoT Gateway and apply the machine learning algorithms on storage data and finally the predict the crop yield.

Section 2 gives a related work, Different authors propose different machine learning algorithms for crop selection and yield prediction. Section 3 provides a comparison of the results of different authors applied different machine learning algorithms in Section 4 provides conclusions.

## 2. RELATED WORK

**Hetal Patel and Dharmendra Patel (2016)** [1], authors propose different data mining methods especially classification methods such as J48, Simple Cart, and Naïve Bayes algorithms of the decision tree are discover harvest forecast with accuracy 89.33%, 85.66%, and 82.66% respectively.

**D. Ramesh and B. Vardhan (2015)** [2], authors proposed methodology for crop yield forecast using Density-based clustering technique and Multiple Linear Regression (MLR) for certain crops.

**S.Nagini** [3], this paper explains data analysis and considers designing of the various predictive techniques. In this paper, relative learning of several data analytics method were gained, this helps us to refer what type of technique was finest suitable for our proposed system.

**R. Kalpana** [4], this study focus to search out proper data processing techniques to understand more precision and predict potential. Lastly, exploitation data processing systems in agriculture could be an up to date technique to find out the proper solution over the normal and traditional systems.

**Sellam, et al** [5], describes several environmental variables such as Area under Cultivation (AUC), Annual rainfall (AR) and Food price index (FPI) which was work on the crop harvest and the correlation among these variables were analyzed.

**Monali Paul**, [6], this classification is done based on data mining technique. In this article, we examined the cataloging instructions and recognized which will be suitable for data set.

**N. Hema Geetha** [7], Authors explained about several methods like Market-based Analysis, Association rule mining, Decision Trees (DT).

**Awani Kumar** [8], Author explain about K-Means algorithm and how it will be applied for analysing the data for maximizing the crop yield based on soil and weather data.

**M. Gunasundari Ananthara** [9], This paper explains the Bee Hive algorithm for forecasting harvest yield. This system deals with the huge data file.

**Thomas Truong** [10], applying the support vector machine regression (SVMr) technique on raw data and process a raw data and forecast the result, SVM gives result but which is less accurate than other algorithms.

**Giritharan Ravichandran** [11], the author explains in this paper about Artificial Neural Network which is a successful tool and applied for modeling and forecasting.

**Jagielska et al.** [12], authors defined Yield forecasting which an important problem in agriculture is.

**Veenadhari**, [13], The Decision Tree analysis explains the paddy crop yield. The guidelines have been formed from the Decision Tree and which are applied to discovering context planned for maximum or minimum harvest efficiency.

**Shalvi D** [14], The Bayesian System is a crucial tool and extensively applied in data file of agriculture. The method succeeds for applications of agriculture which has been based on the Bayesian Network Technique. Consequence display that Bayesian Networks are achievable and valuable.

**Charles L. Hornbaker** [15], have built a spatial method of maize yields in the US Corn Belt that uses the Bayesian prior estimation model for every state in the belt region which influence spatial smoothness among the regression coefficients to mitigate the effects of noisy data across regions and to develop yield prediction. This helps in formulating an in-season prediction model.

The combination of Information Technology (IT) and agriculture assist in prediction harvest yield. It is compulsory to create an appropriate technique will have some merits over the conservative prediction

mechanism. A comprehensive study of different ML algorithms applied for different applications in agriculture as shown in below table 2.

| Ref.No | Author                                      | Title  | ML Methodologies  | Applications   |
|--------|---|--|---|--|
| 16     | Chen C, Mcnairn H                           | A Neural Network combined Approach for Rice Crop Monitoring.   | Neural Network  | Rice Crop Monitoring                                     |
| 17     | Co HC, Boosarawongse R                      | Predicting Thailand's Rice Export: Statistical Techniques vs. Artificial Neural Networks,                            | Artificial Neural Networks (ANNs)                             | Forecasting Rice Export                                  |
| 18     | Monisha Kaul M, Robert L                    | Artificial Neural Networks for Corn and Soybean yield forecast   | Artificial Neural Networks (ANNs)                             | Corn and Soybean Yield Forecast                          |
| 19     | Prasad PR, Begum SA                         | Regression and Neural Networks models for forecast of crop production.   | Regression and Neural Networks Models <sup>19</sup>           | Forecast of Crop Yield.                                  |
| 20     | Dahikar MSS, Rode SV                        | Artificial Neural Network Approach can be used for Agricultural crop yield prediction.                               | Artificial Neural Network Approach <sup>20</sup>              | Agricultural Crop Yield Forecast                         |
| 21     | Stathakis D, Savin I, Negre T               | Neuro-fuzzy modeling for crop yield prediction.  | Neuro-Fuzzy Modeling  | Crop Yield Forecast                                      |
| 22     | Papageorgiou EI, Aggelopoulou KD, Gemtos TA | Yield prediction in apples using Fuzzy Cognitive Map learning approach.  | Fuzzy Cognitive Map learning approach                         | Yield Forecast in Apples.                                |
| 23     | Petridis V, Kaburlasos VG. FINK NN          | a fuzzy interval number k-nearest neighbor classifier for prediction of sugar production from populations of samples | Finken: a fuzzy interval number k-Nearest Neighbor classifier | forecast of Sugar production from populations of samples |
| 24     | Salleh MNM                                  | A Fuzzy Modelling of Decision Support System for Crop Selection.   | A Fuzzy Modelling of Decision Support System <sup>24</sup>    | for Crop Selection                                       |
| 25     | Papageorgiou EI, Aggelopoulou KD            | Yield prediction in apples using Fuzzy Cognitive Map learning approach.  | Fuzzy Cognitive Map learning approach                         | Yield Forecast in apples                                 |
| 26     | Veenadhari S, Mishra B, Singh CD            | Soybean Productivity Modelling using Decision Tree Algorithms.   | Decision Tree Algorithms                                      | Soybean Productivity Modelling                           |
| 27     | Kumar AVTV, Rajini Kanth R                  | A data mining approach for the   | Data mining with the climate variable                         | Jowar Crop Yield in India                                |



|    |   |   |   |  |
|----|---|---|---|--|
|    |   | estimation of climate change on the jowar crop yield in India.  |   |  |
| 28 | Priya SRK, Suresh KK                            | A study on a pre-harvest forecast of sugarcane yield using climatic variables, Statistics, and Applications                             | Regression                                | sugarcane yield using climatic variables |
| 29 | Shibayama M                                     | Estimating grain yield of maturing rice canopies using high spectral resolution reflectance measurements. Remote Sensing of Environment | Linear Regression                         | Forecasting Grain Yield of Maturing Rice |
| 30 | House CC  | Forecasting Corn Yields: A comparison Study using Missouri Data, Statistical Research Division, United States Department of Agriculture | Nonlinear Regression                      | Forecasting Corn Yields                  |
| 31 | Matis JH, Birkett T, Boudreaux D.               | An Application of the Markov Chain Approach to Forecasting Cotton Yields from Surveys. Agricultural Systems.                            | Markov Chain Approach                     | Predicting Cotton Yields                 |
| 32 | Yiqun Gu Y, James W, McNicol M                  | An Application of Belief Networks to Future Crop Production   | Belief Networks                           | Future Crop Production                   |
| 33 | Jain RC, Ramasubramalliall V                    | Forecasting of Crop Yields using Second Order Markov Chains. Journal of the Indian Society of Agricultural Statistics.                  | Second Order Markov Chains <sup>33</sup>  | Forecasting of Crop Yields               |
| 34 | Hong-Ying L, Yan-Lin H, Yong-Juan Y, Hui-Ming Z | Crop yield forecasted model based on time series techniques.  | Time Series Techniques <sup>34</sup>      | Crop Yield Forecast                      |
| 35 | Utkarsha P, Narkhede N, Adhiya KP               | Evaluation of Modified K-Means Clustering Algorithm in Crop Prediction.   | Modified K-Means Clustering <sup>35</sup> | Crop Prediction                          |

**Table 2: Machine Learning methodologies used in agriculture**

**3. Comparison of results for different machine learning algorithms applied in agriculture data**

| Ref.NO | Name of the Author   | Machine Learning Algorithms  | Crop Type              | Accuracy   |
|--------|--|--|------------------------|--|
| 1      | Hetal Patel and Dharmendra Patel                                 | The Classification Techniques like J48   |                        | 89.33%   |
|        |  | Simple Cart  |                        | 85.66%   |
|        |  | Naive Bayes  |                        | 82.66%   |
| 36     | D Ramesh, B Vishnu Vardhan                                       | Multiple Linear Regression   | Rice Yield             | 90%-95%  |
| 37     | Sudhanshu Sekhar Panda, Daniel P. Ames , and Suranjan Panigrahi, | Neural Networks  | Corn yield             | 95%  |
| 38     | S.Veenadhari,Dr. Bharat Misra ,Dr. CD Singh                      | C4.5 Technique and Decision Tree   | Soyabean, paddy, maize | For Soyabean=87%<br>For Paddy=85%<br>For Maize=76% |
| 39     | Jefferson Lobato Fernandes; Jansle Vieira Rocha                  | Harmonic Analysis of NDVI Time Series Algorithm  | sugarcane              | 86.5%  |
| 40     | A.T.M Shakil Ahamed, Navid Tanzeem Mahmood.                      | K-Means Algorithm for clustering And Classification Linear Regression, K-NN, ANN Method. | Wheat , Potato         | 90% - 95%  |
| 41     | D Ramesh, B.Vishnu Vardhan                                       | Multiple Linear Regression (MLR)   | Rice Yield             | 90-95%   |
|        |  | K-Means algorithm  | Rice Yield             | 96%  |

**Table 3: Comparison of various ML techniques with accuracy****CONCLUSION**

In this review paper, we discussed IoT based WSN and Machine Learning algorithms to Agricultural Data in precision Farming. Different authors propose different machine learning algorithms like ANN, SVM, J48 and KNN etc. in the various agricultural fields like paddy, sugarcane, Wheat, Potato, Soybean for accurate and reliable in crop yield prediction and we also compare of results for different machine learning algorithms applied in agriculture data.

**REFERENCES**

- [1] Hetal Patel and Dharmendra Patel, "A Comparative Study on Various Data Mining Algorithms with Special Reference to Crop Yield Prediction", Indian Journal of Science and Technology, Vol 9(22),ISSN (Print): 0974-6846.
- [2] D. Ramesh and B. Vardhan, "Analysis of crop yield prediction using data mining techniques", International Journal of Research in Engineering and Technology, vol. 4, no.1, pp. 47-473, 2015.
- [3] R.Nagini, Dr. T.V. Rajnikanth, B.V. Kiranmayee, "Agriculture Yield Prediction Using Predictive Analytic Techniques, 2nd International Conference on Contemporary Computing and Informatics (ic3i), 2016
- [4] R.Kalpana, N.Shanti and S.Arumugam, "A survey on data mining techniques in Agriculture", International Journal of Advances in Computer Science and Technology, vol. 3, No. 8, 426 - 431, 2014.
- [5] Sellam, V, Poovammal, E., "Prediction of Crop Yield using Regression Analysis", Indian Journal of Science and Technology, Vol. 9, issue.38, pp.1- 5, 2016.
- [6] Monali Paul, Santosh K. Vishwakarma, Ashok Verma, "Analysis of Soil Behavior and Prediction of Crop Yield using Data Mining Approach", 2015 International Conference on Computational Intelligence and Communication Networks.
- [7] N.Heemageetha, "A survey on Application of Data Mining Techniques to Analyze the soil for agricultural purpose", 2016 IEEE.
- [8] Await Kumar, Shiv Kumar, "Prediction of production of crops using K-Means and Fuzzy Logic", IJCSMC, 2015.

- 
- [9] M. Gunasundari Ananthara, "CRY An improved Crop Yield Prediction model using Bee Hive Clustering Approach for Agricultural datasets", 2013 IEEE.
- [10] Thomas Truong; Anh Dinh; Khan Wahid. An IoT environmental data collection system for fungal detection in crop fields [M]//2017 IEEE 30th Canadian Conference on Electrical and Computer Engineering (CCECE).
- [11] Giritharan Ravichandran, Jogeshwari R S.Agricultural Crop Predictor and Advisor using ANN for Smart phones.[C]// IEEE 2016
- [12] I. Jagielska, C. Matthews, T. Whitford, "An investigation into the application of neural networks, fuzzy logic, genetic algorithms, and rough sets to automated knowledge acquisition for classification problems", *Neurocomputing*, Vol. 24, pp. 37-54, 1999.
- [13] Veenadhari, S. 2007, "Crop productivity mapping based on decision tree and Bayesian classification". National University of Journalism and Communication
- [14] Shalvi D and De Claris N., "Unsupervised neural network approach to medical data mining techniques", in *Proceedings of IEEE International Joint Conference on Neural Networks*, (Alaska), pp. 171-176, May 1998.
- [15] Charles L. Hornbaker II and J. Benjamin Cook, Predicting Yield in the Corn Belt[Online; accessed 05-07-2016]
- [16] Chen C, Mcnairn H. A neural network integrated approach for rice crop monitoring. *International Journal of Remote Sensing*. 2006; 27(7):1367–93.
- [17] Co HC, Boosarawongse R. Forecasting Thailand's Rice Export: Statistical Techniques vs. Artificial Neural Networks, *Computers, and Industrial Engineering*. 2007; 53(4):610–27.
- [18] Monisha Kaul M, Robert L, Hill H, Walthall C. Artificial neural networks for corn and Soybean yield prediction, Elsevier. *Agricultural System*. 2005; 85(1):1–18.
- [19] Prasad PR, Begum SA. Regression and neural networks models for prediction of crop production. *International Journal of Scientific and Engineering Research*, 2013 Sep; 4(9):98–108.
- [20] Dahikar MSS, Rode SV. Agricultural crop yield prediction using artificial neural network approach, *International Journal of Innovative Research in Electrical, Electronics, Instrumentation, and Control Engineering (IJIREEICE)*.2014 Jan; 2(1):1–4.
- [21] Stathakis D, Savin I, Negre T. Neuro-fuzzy modeling for crop yield prediction. *The International Archives of Photogrammetry and Remote Sensing and Spatial Information Sciences*, 1994; 34:1–4
- [22] Papageorgiou EI, Aggelopoulou KD, Gemtos TA, Nanos GD. Yield prediction in apples using Fuzzy Cognitive Map learning approach. *Computers and Electronics in Agriculture*, Elsevier, 2013; 91:19–21
- [23] Petridis V, Kaburlasos VG. FINK NN: a fuzzy interval number k-nearest neighbor classifier for prediction of sugar production from populations of samples. *Journal of Machine Learning Research*, 2003; 4:17–37.
- [24] Salleh MNM. A Fuzzy Modelling of Decision Support System for Crop Selection, *IEEE Symposium on Industrial Electronics and Applications (ISIEA2012)*, Bandung, Indonesia. 2012; 17–22
- [25] Papageorgiou EI, Aggelopoulou KD, Gemtos TA, Nanos GD. Yield prediction in apples using Fuzzy Cognitive Map learning approach. *Computers and Electronics in Agriculture*, Elsevier, 2013; 91:19–2
- [26] Veenadhari S, Mishra B, Singh CD. Soybean Productivity Modelling using Decision Tree Algorithms. *International Journal of Computer Applications*, 2011; 27(7):975–8887.
- [27] Kumar AVTV, Rajini Kanth R. A data mining approach for the estimation of climate change on the jowar crop yield in India, *International Journal of Emerging Science and Engineering (IJESE)*, 2013; 2(2):16–20.
- [28] Priya SRK, Suresh KK. A study on pre-harvest forecast of sugarcane yield using climatic variables, *Statistics and Applications*. 2009; 8(2):1–8.
- [29] Shibayama M. Estimating grain yield of maturing rice canopies using high spectral resolution reflectance measurements, *Remote Sensing of Environment*, 1991; 36(1):45–53.
- [30] House CC. Forecasting Corn Yields: A comparison Study using Missouri Data, *Statistical Research Division, United States Department of Agriculture*. 1979; 17(16):3189–200.
-

- 
- [31] Matis JH, Birkett T, Boudreaux D. An Application of the Markov Chain Approach to Forecasting Cotton Yields from Surveys, *Agricultural Systems*, 1989; 29(4):357–70.
- [32] Yiqun Gu Y, James W, McNicol M. An Application of Belief Networks to Future Crop Production, *IEEE Conference on Artificial Intelligence for Applications*, San Antonia, TX. 1994. p. 305–9.
- [33] Jain RC, Ramasubramalliall V. Forecasting of Crop Yields using Second Order Markov Chains. *Journal of the Indian Society of Agricultural Statistics*, 1998; 51:61–72
- [34] Hong-Ying L, Yan-Lin H, Yong-Juan Y, Hui-Ming Z. Crop yield forecasted model based on time series techniques. *Journal of Northeast Agricultural University (English Edition)*, 2012; 19(1):73–7.
- [35] Utkarsha P, Narkhede N, Adhiya KP. Evaluation of Modified K-Means Clustering Algorithm in Crop Prediction. *International Journal of Advanced Computer Research*, 2014; 4(3):1–1.
- [36] D Ramesh, B Vishnu Vardhan, “Region-specific crop yield Analysis: A Data Mining Approach “, *UACEE International Journal of Advances in Computer Science and its Applications-IJCSIA volume 3: issue 2*.
- [37] Sudhanshu Sekhar Panda, Daniel P. Ames, and Suranjan Panigrahi, “Application of Vegetation Indices for Agricultural Crop Yield Prediction Using Neural Network Techniques” , *Remote Sensing* 2010, 2, 673-696; doi:10.3390/rs2030673.
- [38] S.Veenadhari, Dr. Bharat Misra ,Dr. CD Singh,” Machine Learning Approach for forecasting crop yield based on climatic parameters”, 978-1-4799-2352-6/14/\$31.00 ©2014 IEEE.
- [39] Jefferson Lobato Fernandes; Jansle Vieira Rocha,” Sugarcane yield estimates using time series analysis of spot vegetation images”, Rubens Augusto Camargo Lampanelli, *Sci. Agric. (Piracicaba, Braz.)*, v.68, n.2, p.139-146, March/April 2011
- [40] A.T.M Shakil Ahamed, Navid Tanzeem Mahmood, Nazmul Hossain, Mohammad Tanzir Kabir, Kallal Das, Faridur Rahman, Rashedur M Rahman,” Applying Data Mining Techniques to Predict Annual Yield of Major Crops and Recommend Planting Different Crops in Different Districts in Bangladesh”, 978-1-4799-8676-7/15/\$31.00 copyright 2015 IEEE SNPD 2015, June 1-3 2015, Takamatsu, Japan.
- [41] D Ramesh, B Vishnu Vardhan, “Region-specific crop yield Analysis: A Data Mining approach “, *UACEE International Journal of Advances in Computer Science and its Applications-IJCSIA volume 3: issue 2*.
-

---

**A COMPARATIVE STUDY ON GREEN COMPUTING AWARENESS AMONG ARTS AND ENGINEERING STUDENTS**

---

**S. T. Suyaitharan<sup>1</sup> and Dr. N. Rajalingam<sup>2</sup>**Ph.D. Research Scholar<sup>1</sup> and Professor<sup>2</sup>, Department of Management Studies, Manonmaniam Sundaranar University, Abishekapatti, Tirunelveli

---

**ABSTRACT**

*Green computing focus mainly on design, manufacture, use and disposal of computer and other related devices in an eco-friendly way. "Green Computing is defined as the study of designing, manufacturing, using and disposal of computer and associated sub products in a way to reduce their environmental impact." Improper usage of computers causes energy waste. The unwanted waste parts of computers are termed as e-waste. E-wastes contain toxic chemicals that pollute the soil and contaminate groundwater when dumped into landfills. Most motherboard components contain rare earth minerals and metals, including gold, silver and copper. Present generation students are using computers more than the previous generation people. This study discusses the green computing awareness between Engineering and Arts Students in Tirunelveli District. The study deals with the Engineering and Arts Students awareness on use and disposal of Computers. 50 samples were collected from Engineering and Arts Students. Percentage Analysis, Chi Square test and Weighted Average method tools were used to analyze the data with the help of Microsoft Excel and SPSS.*

*Keywords: Green computing, Green House Gases, Global warming, Energy.*

---

**INTRODUCTION**

This study discusses the green computing awareness between Engineering and Arts Students in Tirunelveli District. "Green Computing is defined as the study of designing, manufacturing, using and disposal of computer and associated sub products in a way to reduce their environmental impact." Improper usage of computers causes energy waste, which in turn increases the Green House gas generation. The Green house gases contribute to Global warming. "The Goals of green computing was to reduce the use of hazardous materials, to maximize energy efficiently during the products lifetime and to promote the recyclability"(Siddiqui, December-2013). It is the duty of every student to conserve energy and follow green computing concepts while using Computers. Present generation students are using computers more than the previous generation people. Hence a study to identify the mindset of current students on green computing becomes mandatory.

**COMPONENTS OF GREEN COMPUTING**

Components of Green computing are Green use, Green disposal, Green design and Green manufacturing. (Murugesan,10.1.2008). This particular study deals with the Green use and Green disposal behavior of Arts and Engineering Students.

**Green Use**

Green Use is the efficient use of Computer, which would help the environment to save energy and money.

**Green Disposal**

Green disposal means recycling the unwanted Computing devices.

**STATEMENT OF PROBLEM**

Usage of Computer generates heat. The Heat results in carbon emission, which emits Green House gases. The Green House gases increases the atmospheric heat that results in global warming. Global warming melts the glaciers in Arctic and Antarctic region. Due to this the temperature changes occur all over the world. The rise or decline in temperature causes natural disasters such as droughts, floods etc. The unwanted waste parts of computers are termed as e-waste. E-wastes contain toxic chemicals that pollute the soil and contaminate groundwater when dumped into landfills. Most motherboard components contain rare earth minerals and metals, including gold, silver and copper. So the E-waste components are dipped into some solvents and acids to recover the rare metals from circuit boards, which release harmful hazardous chemicals into the air. Thus the usage and disposal of computer harms the environment. Hence an awareness study becomes essential to know the students mindset towards the protection of environment.



Fig.1 E-Wastes dumped into Landfill

## REVIEW OF LITERATURE

(Bello, Ahmad, & Nordin, 2013) made a study to find the green computing knowledge among students and lecturers of Public University in Malaysia. The Study was done among 240 respondents (180 Students and 60 Lecturers) under purposive, random sampling. The study revealed that around half of the samples have no knowledge on Green Computing. The researcher suggested that Students and Lectures shall be given Conscious Training in energy efficient computing to improve their knowledge on Green Computing.

Suvaitharan and Rajalingam (2018) discussed the energy conservation Methods for Business by Green Computing. The manual works are replaced by Computers and electronic Devices in this digital era. Computers increase the Precision of work done and save time, but at the same time it has negative impact on the environment. Effective use of Computers without affecting the Environment was a part of Green Computing. Since fossil fuels are the major source of power generation in India, improper usage of computers causes energy wastage, which in turn increases the Green House gas generation. The research focused on energy conservation by means of Green Computing and discusses about the Energy Star logo, power management in computers, replace CRT monitors, printing tips and screen saver

## OBJECTIVES

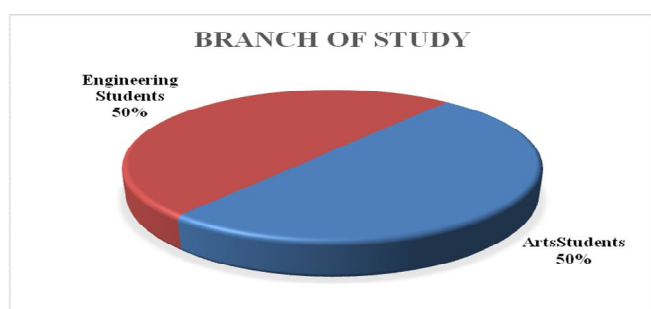
This research is an attempt to figure out the following,

- To Compare the Green Computing Knowledge among Arts and Engineering students
- To Compare the Green computing practices followed by Arts and Engineering students

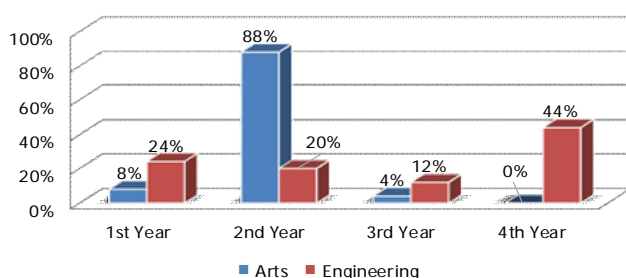
## RESEARCH METHODOLOGY

The research is descriptive in nature. The researcher used primary data. The primary data was collected through questionnaire. Total of 50 samples were approached through non probability convenience sampling method. Data were collected by the researcher directly by meeting students. Percentage Analysis, chi square test, Weighted Average were used to analyze the data with the help of Microsoft Excel and SPSS.

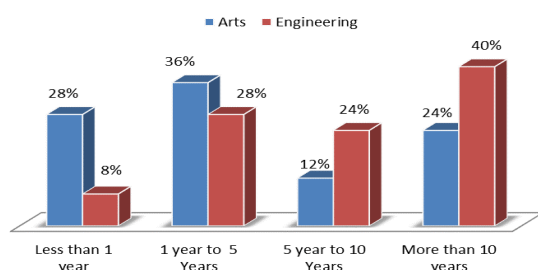
Chart 1. Branch / Department of Students



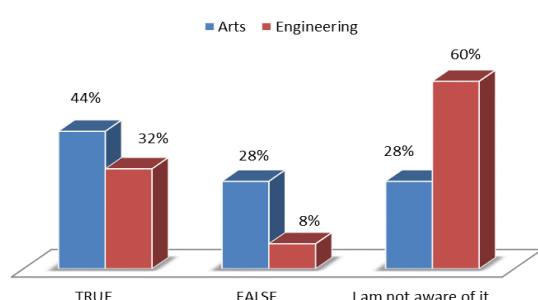
From the above chart it is interpreted that 50 percent of the respondents are Arts Students and another 50 percent of the respondents are Engineering Students.

**Chart 2. Year of Study**


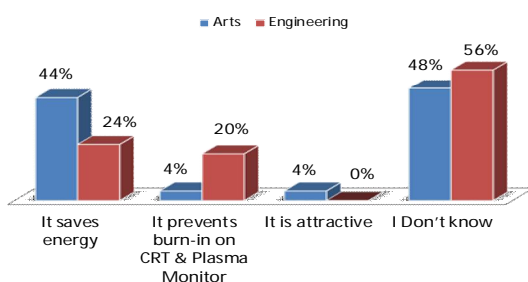
From the Chart 2. It is inferred that majority (88%) of the Arts students were 2<sup>nd</sup> year students. Majority (44%) of the Engineering Students were 4<sup>th</sup> Year Students.

**Chart3. Years of usage of Computers**


From the Chart 3. It is inferred that majority (40%) of the Engineering Students were using computers for more than 10 years. Majority (36%) of the Arts Students were using computers for 1 year to 5 years.

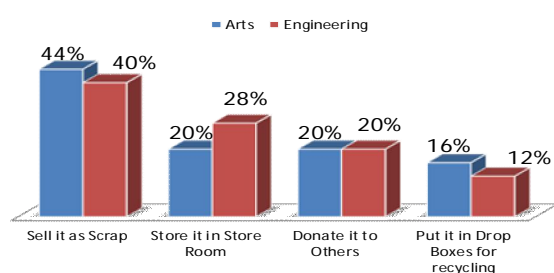
**Chart 4. Average laptop consumes less energy than a desktop PC**


From the Chart 4. It is inferred that majority (60%) of the Engineering Students are not aware of the statement "Average laptop consumes less energy than a desktop PC". Majority (44%) of the Arts Students stated "Average laptop consumes less energy than a desktop PC" as true, Which is the correct option.

**Chart 5. Reason for using Screen Saver**


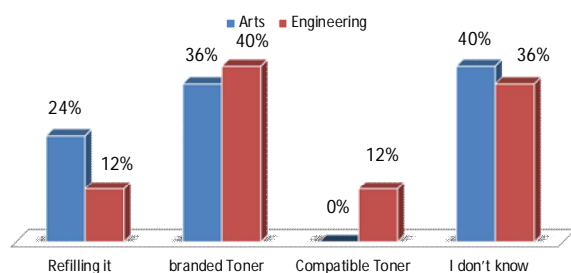
From the Chart 5. It is inferred that both Engineering Students (56%) and Arts Students (48%) are not aware of the "Reason for using Screen Saver". 44% of Engineering Students and 24% of Arts Students stated that Screen Saver saves energy, which is wrong.

Less knowledge is very dangerous than no knowledge at all, So the students should be educated about Green Computing.

**Chart 6. Method of Disposing the Computing devices**


From the Chart 6. It is inferred that majority (44%) of the Arts Students sell the Old computing devices as Scrap. Majority (40%) of the Engineering students also sell their Old computing devices as Scrap. majority of Arts and Engineering students are not aware of the method of disposing their Old computing devices



**Chart 7. Eco-friendly action, when the Printer Cartridge/Toner is empty**

From the Chart 7. It is inferred that majority (40%) of the Arts respondents do not know the eco-friendly use of printer cartridge. Whereas majority (40%) of the Engineering Students stated that Replacing with the Branded Toner is the eco-friendly action, which is not the right option.

**Table-1: Impact of Branch of study on the knowledge of Reason for using Screen saver**

| Chi Square Test | I Don't know | It is attractive | it prevents burn-in on CRT & Plasma Monitors | it saves energy | Total | $\chi^2 = 5.291$<br>df = 3<br>p-value = 0.152 |
|-----------------|--------------|------------------|--|-----------------|-------|---|
| Arts            | 12           | 1                | 1  | 11              | 25    |   |
| Engineering     | 14           | 0                | 5  | 6               | 25    |   |
| Total           | 26           | 1                | 6  | 17              | 50    |   |

Since the p-value is Greater than our chosen significance level ( $\alpha = 0.05$ ), we accept the null hypothesis. Hence it is inferred that there is no significant association between Branch / Department of study and knowledge on Reason for using Screen saver

**Table-2: Impact of Branch of study on eco friendly action on empty Printer Cartridge/Toner.**

| Chi Square Test | Refilling it | Replacing with branded Toner | Replacing with Compatible Toner | I don't know | Total | $\chi^2 = 4.1053$<br>df = 3<br>P-value = 0.25 |
|-----------------|--------------|------------------------------|---------------------------------|--------------|-------|---|
| Arts            | 6            | 9                            | 0                               | 10           | 25    |   |
| Engineering     | 3            | 10                           | 3                               | 9            | 25    |   |
| Total           | 9            | 19                           | 3                               | 19           | 50    |   |

Since the p-value is Greater than our chosen significance level ( $\alpha = 0.05$ ), we accept the null hypothesis. Hence it is inferred that there is no significant association between Branch / Department of study and awareness on Eco-friendly action, when the Printer Cartridge/Toner is empty.

**Table-3: Green Computing Awareness**

The students are asked to rate their level of Agreement on 10 Green Computing Variables in 5-point scale (Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree). The level of agreement of Arts and Engineering students were analyzed using Weighted Average method and ranked as given below.

| S.No | Particulars   | Arts | Engg. |
|------|---|------|-------|
| 1    | Most of the parts of Computers are not bio degradable         | 1    | 2     |
| 2    | Minimise E-Waste  | 2    | 5     |
| 3    | Informal Disposing is harmful to our Environment              | 3    | 9     |
| 4    | Reduce carbon Foot Print                                      | 4    | 8     |
| 5    | Formal Disposing is Costly but sustainable to our Environment | 5    | 3     |
| 6    | Minimise Energy and Resource Consumption                      | 6    | 6     |
| 7    | Improper use of computer have an impact on the environment    | 7    | 10    |
| 8    | Toxic Chemicals are used while Manufacturing Computers        | 8    | 1     |
| 9    | Green Computing does not harm the Environment                 | 9    | 7     |
| 10   | Green Computing is Essential for further Generation           | 10   | 4     |

From the Table 3, It is inferred that Majority of the Arts students agree that "Most of the parts of Computers are not bio degradable", whereas majority of the engineering agree that "Toxic Chemicals are used while Manufacturing Computers". Both Arts and Engineering students agree equally that Green Computing "Minimise Energy and Resource Consumption".



---

**CONCLUSION**

The purpose of the research is to compare the awareness on green computing among students. It is found that Engineering Students are using computers for more years than Arts Students. Both Arts and Engineering students does not know that Average laptop consumes less energy than a desktop PC. Both Arts Students and Engineering Students are not aware of the "Reason for using Screen Saver". Both Arts Students and Engineering students are not aware of the method of disposing their Old computing devices. Both Arts Students and Engineering students are not aware of eco-friendly usage of Printer Cartridge/Toner. The study reveals that Both Arts and Engineering students are using computers without the knowledge on energy conservation.

**SUGGESTION**

1. Students shall understand the global environmental problem and self motivate themselves to involve in green activities.
2. The Educational Institutions may motivate the students about Green Computing and explain its advantages.

**REFERENCE**

- Bello, A., Ahmad, T. B., & Nordin, M. S. (2013). Knowledge of Green Computing among University Students and Lecturers in a Malaysian Public University. *GSTF Journal on Computing*, 3 (1), 108 - 112.
- Murugesan, S. (10.1.2008). "Harnessing green IT: Principles and practices." *IT professional* .
- Siddiqui, J. ( December-2013). Green Computing: Protect Our Environment from Computer and its Devices. *COMPUSOFT*, An international journal of advanced computer technology, 410 - 414.
- Suvaitharan, S., & Rajalingam, N. (2018). Energy Conservation Methods for Business by Green Computing. *The International Journal for Economics and Business Management*, 7 (1), 104 to 108.

---

**IMPLICATIONS OF GST MECHANISM – A BRIEF REVIEW**

---

**Shaik Jakeera Begum<sup>1</sup> and N. Aparna<sup>2</sup>**<sup>1</sup>Worked as Guest faculty in Commerce, GDCW, Nalgonda<sup>2</sup>Working as Guest Faculty in Commerce, TSWRDCW, Nalgonda

---

**ABSTRACT**

*In the historical hall of the Parliament at midnight of 30th July 2017, Government of India has introduced Goods and Services Tax (GST) with the slogan one country one tax. The concept GST is initiated during the regime of the then Prime Minister Vajpayee during the year 2000. After a prolonged period of nearly 17 years and odd, it became a reality during the period of the present Prime Minister Narendra Modi. The GST is governed by GST Council and its Chairman is Union Finance Minister of India - Arun Jaitley. It is a revolutionary tax reform after independence and one of the biggest economic reforms in India after 1991 economic reforms. It is simple to understand and easy to administer when compared to previous tax regime. France was the first country to implement GST in 1954, at present 160 countries in the world are implementing GST. GST is subsumed by all indirect taxes. The Government of India takes important measures to strengthen the economy of country by giving boost to exports and giving tax credits to imports. This paper tries to understand the difference between the new and the old tax structures, explore the implications of GST on exports and imports, tries to examine the registration system and filing system of GST and finally tries to identify the benefits of the new tax regime of GST*

*Keywords: GST, Tax regime, Government, cascading effect, imports*

---

**INTRODUCTION**

In the historical hall of the Parliament at midnight of 30th July 2017, Government of India has introduced Goods and Services Tax (GST) with the slogan one country one tax. The concept GST is initiated during the regime of the then Prime Minister Vajpayee during the year 2000. After a prolonged period of nearly 17 years and odd, it became a reality during the period of the present Prime Minister Narendra Modi. The GST is governed by GST Council and its Chairman is Union Finance Minister of India. It is supposed to be a historic achievement for whole country where there is a scope for economic development. It is a revolutionary tax reform after independence and one of the biggest economic reforms in India after 1991 economic reforms. It is simple to understand and easy to administer when compared to previous tax regime. France was the first country to implement GST in 1954, at present 160 countries in the world are implementing GST. GST is subsumed by all indirect taxes. It is the consumption based tax. In some countries, GST is levied a one level tax i.e., for all the goods and services only a single tax rate is applicable. For example, Singapore has single GST rate of 7% for all the goods and services throughout the country which is an ideal situation. On the other hand, there are some countries that have two level GST i.e., at state level and central level. For instance Canada and Brazil are following the two level systems.

GST also helps to remove the cascading effect of tax, i.e., tax on tax. GST is collected only on value added goods not on the total value. GST will give encouragement to exports and help domestic industry through tax credits. In the language of law, it is called as Goods and Services tax but benefit of GST is really Good and Simple tax. It is good because multiple taxes are removed and simple because it requires just one form and it is easy to use. GST is not just tax reform but it is an economic reform also. It is a fact that, it could be higher inflation in the first few years of introduction but would gradually increase overall GDP.

The Government of India has taken important measures to strengthen the economy of country by giving boost to exports and giving tax credits to imports. There are two schemes under GST. They are: (a) Normal scheme (b) Composition scheme. Under GST Act, Government of India imposes 5 slabs. They are - 5%, 8%, 12%, 18%, and 28%

**OBJECTIVES OF THE STUDY**

1. To understand the difference between the new and the old tax structures
2. To explore the implications of GST on exports and imports
3. To examine the registration system and filing system of GST
4. To identify the benefits of the new tax regime of GST

## METHODOLOGY

The paper is theoretical in nature and is based purely on the secondary data which is collected from various newspaper articles on GST and various online websites like Wikipedia, Ministry of Commerce and GST Council were also referred. The videos related to GST were also referred for conceptualizing the paper. The paper focuses on giving a brief idea on GST and its implications.

## IMPORTANT TERMINOLOGY IN GST

The buzz words that we frequently come across while talking about GST are:

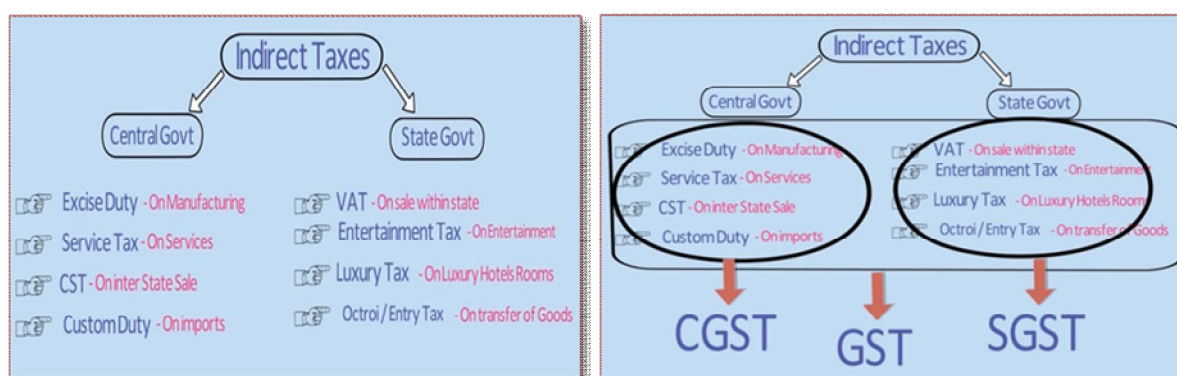
- Central Goods & Services Tax (CGST)
- State Goods & Services Tax (SGST)
- Integrated Goods & Services Tax (IGST)
- Union Territory Goods & Services Tax (UTGST)

In intra-state sale (i.e., sale within the same state), CGST is levied collected by central government and SGST is levied and collected by the respective state government in which sale is made. For example, a dealer in Maharashtra sells goods to the consumer worth Rs. 10,000. The GST rate is 18% comprising of CGST rate of 9% and SGST rate of 9%. In such a case the dealer will collect Rs. 1800, Rs. 900 will go to the central government and Rs. 900 will go to the Maharashtra government. In case of inter-state sales (i.e., sale from one state to another state) IGST levied and collected by the central government and share equally to the state government  $IGST = CGST + SGST$ . For example, a dealer in Maharashtra sells goods to its dealer in Rajasthan worth Rs. 1,00,000. The GST rate is 18% comprising of CGST rate of 9% and SGST rate of 9%. In such a case the dealer has to charge Rs. 18,000 as IGST. UTGST is more or less similar to SGST. In a state, SGST will be applicable while in a union territory UTGST will be applicable.

## THE DIFFERENCE BETWEEN TWO TAX REGIMES – OLD STRUCTURE AND GST

GST was introduced as the 101 Constitutional amendment acts and it came into force from July 2017. All the manufacturers, producers, companies, suppliers and customers have come under GST from 1<sup>st</sup> July, 2017. GST will replace all the indirect taxes that are levied by central and state governments previously. In this system, buyers will get credit only when the sellers pay tax to the government. The small business units whose turnover is less than 20 lakhs are out of the tax bracket. Manufacturers, producers, traders whose annual turnover is between 20 lakhs to 1 crore can opt for composition scheme. GST subsumed both indirect taxes of central government and state governments. Now both the Central and state governments have to depend on GST for their indirect tax revenue.

Chart showing the old Structure and New structure of Taxes



Source: From CA GauravJashnani's presentation on GST

## TAXES THAT ARE NOT SUBSUMED UNDER GST

- Property Tax & Stamp Duty
- Electricity Duty
- Excise Duty on Alcohol
- Basic Custom Duty
- Excise Duty on Petrol Diesel

**IMPACT OF GST ON IMPORTS AND EXPORTS:**

In the previous tax system, the imports of goods and services were subject to import duties such as custom duty, countervailing duty (equivalent to excise duty), and special additional duty (equivalent to value added tax), and the import of services was subject to service tax. Under the reformed tax structure, the integrated goods and services tax (IGST) replaces the previous indirect taxes imposed on the import of goods and services. Customs duty and other protective taxes, such as the anti-dumping duty and safe-guard duty will, however, continue to be levied on imports of goods – carrying over from the previous tax regime. In case of import of services, only IGST is levied.

Imports under GST are treated as inter-state supply. Since GST is a destination-based tax it means the country who is receiver of supply, IGST will be levied in the state where the imported goods are consumed and imported services are received. IGST can be paid using input tax credit of central goods and services tax (CGST), state goods and services tax (SGST), and IGST. Input tax credit is the credit that dealers can avail for taxes paid on their purchases, at the time of paying final tax on their sales. In case of CGST and SGST, no cross utilization of input tax credit is allowed. That means, input tax credit of CGST can only be utilized for CGST and IGST, and input tax credit of SGST can only be utilized to pay for SGST and IGST.

**IMPORT OF SERVICE IS TAXABLE IF:**

The supply of any service shall be treated as an “Import of service” when,

- a. The supplier of service is located outside India
- b. The recipient of service is located in India
- c. The place of supply of service is in India
- d. The supplier of service and the recipient of service are not merely establishments of a distinct person

**INTRA STATE SUPPLY**

Intra state supply means location of supply or place of supply of goods and services are within the state that supply is called as intra state supply. For example, A who is in Hyderabad selling his goods from Hyderabad to B who is situated in Warangal this is called intra state supply. In this case they have to pay CGST which is levied and collected by central government and SGST which is levied and collected by state government.

$CGST + SGST = 9\% + 9\%$

**INTER STATE SUPPLY:**

Inter state supply means location or place of supply of goods and services from one state to another state then it is called as inter state supply. For example manufacturer A from Haryana sells their goods to B who is situated in Chennai then it is called as inter state supply.

The supply of any service shall be treated as “Export of service” when,

- a. The supplier of service is located in India,
- b. The recipient of service is located outside India,
- c. The place of supply of service is outside India,
- d. The supplier of service and recipient of service are not merely establishments of a distinct person.

**Filing Returns under GST:**

GST filing of return is based on time period, rate of tax and turnover. There are two schemes.

- a. Regular Scheme
- b. Composition Scheme

**GST Regular Scheme:** Under this scheme, inter state and intra state exports and imports can be made. Every tax payer under regular scheme has to file minimum 3 returns monthly and one annual return. Tax payer must file 37 returns every year and fails to submit returns penalty will be levied for non-compliance.

- a. GSTR1-Details of Outward Supplies (sales)
- b. GSTR2- Details of Inward Supplies(purchases) and Input Tax Credits
- c. GSTR3- Details of In and Outward supplies
- d. GSTR9- Annual Returns

**GST Composition Scheme:** Getting registration under composition scheme is optional and voluntary. Any business which has a turnover is below 1crore (75 lakhs for northeast states) can opt for this scheme, if turnover crosses the mentioned limit, then he became ineligible for this scheme. There are 3 categories of persons who will eligible under this scheme

- a. Traders
- b. Manufacturers
- c. Services provided by Restaurant owner
- d. Under composition scheme it is need file a quarterly return and it is to be uploaded under GSTR-4
  - i. 18<sup>th</sup>July - 1<sup>ST</sup> quarter
  - ii. 18<sup>th</sup>October - 2<sup>nd</sup> quarter
  - iii. 18<sup>th</sup>January - 3<sup>rd</sup> quarter
  - iv. 18<sup>th</sup>April -4<sup>th</sup> quarter

#### Difference between Normal Scheme and Composite Scheme of GST

| DIFFERNCE                      | NORMAL SCHEME OF GST  | COMPOSITE SCHEME OF GST   |
|--------------------------------|---|---|
| 1.Turnover                     | No limit  | Limit is below 1crore (approved in 22 <sup>nd</sup> GST council meeting, 6 <sup>th</sup> oct)     |
| 2.Eligible Persons             | Persons supplying goods & services                          | Persons supplying goods only (persons providing restaurant services is allowed under this scheme) |
| 3.Conditions on supply         | No condition (inter state and intra state both are allowed) | Only intra state supply is allowed  |
| 4.Impact Tax Credit            | Allowed   | Not allowed   |
| 5. Tax Rates                   | Rates slabs i.e., 5%, 8%, 12%, 18%, 28%.                    | Fixed rates : Dealer 1%;Manufacturer 2%,;Restaurant services 5%                                   |
| 6.Tax collection from customer | Allowed: Tax invoice to be issued                           | Not allowed: Bill of supply to be used  |
| 7>Returns                      | Monthly returns: GSTR1- Detailes of Outward                 | Quarterly returns   |

#### BENEFITS OF GST

Ideally the tax structure of GST is one tax regime. But in India, 2 level tax structures are adopted. From the changed tax structure, the business sector, manufacturing and exporting units, consumers and the governments at central and state level are going to be benefited. The implications of the new tax regime may not be that effective in the short run but in the long run this will be more effective. The major benefits of GST are

- a. It is a simplified procedure as everything is going to be online i.e., through GSTN
- b. More transparency due to online electronic verification
- c. Multiple records need not be maintained for various tax purposes which reduces the maintenance costs of the business
- d. The cost of locally manufactured goods will come down due to subsumed tax implication
- e. There is a scope of increase in demand for the Indian goods in the global market scenario
- f. The leakages and mismanagement in the off line tax system can be avoided in the new system
- g. There is more transparency in the tax structure and implementation
- h. The government can become high revenue efficient in the long run
- i. The system is simple and easy to administer and use
- j. Mitigates the ill effects of cascading effect of the present tax structure

- k. It helps to create a unified national market
- l. It helps in increasing tax payer compliance

**CONCLUSION**

The concept of GST is good in theoretical terms but when we consider some practical aspects in our country, it seems complicated. For instance, the GST returns are to be filed only through online. In all the regions, especially in the rural areas, there is no proper infrastructure for the same which may sometimes hinder the practicality in implementing GST. The numbers of times the forms are to be submitted do not reduce. GST is a two sided coin where there are positive and negative effects. It will be successful in the long run and helps in the economic development of the country.

**BIBLIOGRAPHY**

1. Good and Simple Tax on the GST regime. (2017, September 15). The Hindu.
2. Good sense triumphs on the GST. (2017, Aug 4). The Hindu.
3. GST Countdown. (2017, June 5). The Hindu.
4. Midnight makeover - Adoption of GST. (2017, July 1). The Hindu.
5. Bhattad, V. (2017). Overview on GST. V'Smart Academy.
6. Goods and Services Tax (India). (n.d.). Retrieved from Wikipedia: [https://en.wikipedia.org/wiki/Goods\\_and\\_Services\\_Tax\\_\(India\)](https://en.wikipedia.org/wiki/Goods_and_Services_Tax_(India))
7. GST Council. (n.d.). Retrieved from [www.gstcouncil.gov.in/](http://www.gstcouncil.gov.in/)
8. Jashnani, C. G. (n.d.). What is GST. Retrieved from <https://www.youtube.com/watch?v=auPWG6yyP24>
9. Ministry of Commerce and Industry. (n.d.). Retrieved from <http://commerce.gov.in/>
10. Rao, M. G. (2017, July 1). Entering the age of GST. The Hindu.

**DETERMINANTS OF EXPORT PERFORMANCE: A COMPARATIVE ANALYSIS OF INDIAN AUTOMOBILE INDUSTRY AND INDIAN INFORMATION TECHNOLOGY FIRMS****Tinku Barik<sup>1</sup> and Dr. Byram Anand<sup>2</sup>**Research Scholar<sup>1</sup> and Assistant Professor<sup>2</sup>, Department of Management Studies, Pondicherry University, Karaikal Campus, Karaikal**ABSTRACT**

*Export is a substantial constituent of international trade and the role of exports to the growth of any economy has been empirically substantiated by researchers at different points of time (Lim and Ho, 2013). Export performance is probably most widely researched and least understood area of international marketing. Through this paper an attempt has been made to determine and compare the determinants of export performance of IAI and IT firms. Data has been obtained from BSE-500 index companies are measured for analysis using PROWESS (CMIE) database. Data analysis has been made using E-Views for the OLS regression both fixed and random effect has been used and the study has been postulated to public and private sector administrators, public policymakers, company managers and researchers concerned with the future export development and success by considering the various factors that affect the export performance.*

*Keywords: determinants, automobile industry, information technology firms, import-export*

**INTRODUCTION**

Developing countries are gradually establishing themselves as the growth engines of the global economic expansion (Berrill and Mannella, 2013). In the new millennium, emerging economy like India has perceived firmest growth among various markets across the globe, be it in manufacturing industries or services firms. Export is a substantial constituent of international trade and the role of exports to the growth of any economy has been empirically substantiated by researchers at different points of time (Lim and Ho, 2013). Export performance is probably most widely researched and least understood area of international marketing (Bonoma and Clark, 1988, 1). Exporting activities give firms in emerging countries like India, an opportunity to understand inventive avenues to develop their products and expand production processes (Parameswaran, 2009).

As per WTO data for the year ending 2015, India's export share in global trade is 2.30% and import share is 4.17% (in merchandise trade). India's export share is 5.37% and import share is 5.80% in commercial services trade at the end of 2015. Nearly 60% of India's exports come from manufacturing sector further 40% of India's imports are accounted by fuel imports. Major Indian exports include information technology, transportation equipment (automobiles and auto components), gems and jewel products, petroleum products, machinery, drugs and pharmaceuticals among other categories.

Thus it is very much appropriate to comprehend the issues affecting the export performance of various Indian industries. Hence, an attempt has been made to explore the determinants of export performance of India's in two main drivers of exports, in manufacturing industries: Automobiles and in services industry: Information Technology. These two industries are chosen for the study since they feature among the top five exporting industries for Indian economy. This paper structured as follows: following section one which gives brief introduction and significance of the study, a note of empirical literatures, research gap & research problem presented in section two, section three describes the objectives, methodology, variables of the study and the data employed, followed by section four and five will highlight the key finding and the implication of the study.

**2-LITERATURE REVIEW**

Numerous scholars have earlier analyzed the determinants of export performance of Indian firms. In line with the resource-based view (RBV) proposed by Barney (1991), various studies in the US and European as well as Indian context have examined the impact of firms internal resources on export performance. Size of the firm, capital intensity, research and development (R&D) expenditures, advertising spending and technological abilities are some of the internal resources examined by various researchers in the context of the research on determinants of export performance. In foreign context Calantone et al., (2006) testified the results of a cross-country (United States, Korea and Japan) study on the stimulus of internal and external firm factors on international product adaptation strategy and export performance. It was resolved that the greater the export dependence of a firm the greater is the product adaptation strategy. Sousa (2004) presented an evaluation of empirical research in literature regarding export performance measurement. The literature review reported the studies that used the size of the firm as an independent variable and most studies focused on the export performance of small to medium sized firms. Leonidou et al., (2002) examined the marketing strategy

determinants of export performance through a meta-analysis study. It was concluded that, in general, there appears to be a strong overtone between export marketing strategy and export performance measures. Literature review of the previous studies indicates that demographic characteristics of a firm had a significant impact on export performance of firms. Katsikeas et al., (1997) studied the perceived export success factors of small and medium-sized Canadian firms. The study concluded that a firm's successful export activity is associated with respect to different exporter categories in terms of degree of internationalization, company size and product type.

Some of the very important Indian studies on determinants of export performance include the studies by Aggarwal (2002) who explored the evidence regarding the export performance of 916 firms operating in 33 different manufacturing industries in India. Bhaduri and Ray (2004) examined the impact of technological strengths on export performance of Indian electronics and pharmaceutical firms. Bhat and Narayanan (2009) described the findings of research on export determinants of 121 organizations belonging to Indian chemical industry. In another research, Chadha (2009) studied the export performance determinants of 131 Indian healthcare firms. Ganguli (2007) reported that the export success factors of 165 firms belonging to Indian iron and steel industry. Jauhari (2007) analyzed the export performance of 164 firms that belong to the electronics industry in India. Majumdar (2010) studied the influence of R&D spending on export intensities of Indian IT and software firms. Pradhan (2007) investigated the export intensities of various firms in Indian manufacturing industries. Siddharthan and Nollen (2004) examined the export performance of firms from Indian IT industry. Singh (2009) extensively studied the export performance determinants of 3542 Indian firms that belong to multiple sectors of Indian industry.

Many of the studies have been found mainly in the context of United States and European countries, though some studies were done on firms in Asia. Very rare studies have been reported in the context of emerging economies, especially with reference to India's automobile industry and information technology firms. Hence this study attempts to scrutinize the determinants of export performance in both the industries. Due to the knowledge of technology-intensive nature, the study focuses on automobiles industries and information technology firms in India.

### 3-OBJECTIVES OF THE STUDY

The broad objectives of the study are:

- 1- To ascertain the various determinants of export performance
- 2- To examine the export performance of Indian automobile and Indian information technology companies
- 3- To recognize the inter-relationships between various demographic variables of the study.

### 4-RESEARCH METHODOLOGY

The list of BSE-500 index companies is measured for analysis using PROWESS – a Centre for Monitoring Indian Economy (CMIE) database. All the index companies have been categorized into various industries. A sample of 23 companies is considered for the analysis taking into consideration from the listed 27 companies as per the availability of data for Automobile industry, and from the list of 32 companies, the final sample size considered for the information technology firm was 26. Data has been scrutinized using descriptive statistics, and two regression models have been separately framed for the study of Informational technology and automobile industries. Analysis for research was done employing the ordinary least squares (OLS) regression method by comparison of results from the fixed effects model and random effects model. This is in accordance with the methodology followed by Lall and Kumar (1981), Ito and Pucik (1993) and Gartner et al., (2006). In both the model export intensity has been considered as the dependent variable. And Import from raw material, import from capital goods, royalties, advertising expenses, R&D expenses, profit after tax, net fixed assets, total sales considered as independent variables and age of the firms has been taken as control variable.

Model 1:

$$\text{EXPINT} = \alpha + \beta_1 \text{IRMINT} + \beta_2 \text{ICGINT} + \beta_3 \text{ROYINT} + \beta_4 \text{ADVINT} + \beta_5 \text{RDINT} + \beta_6 \text{PATINT} + \beta_7 \text{NFAINT} + \beta_8 \text{SALES} + \beta_9 \text{AGE} + \varepsilon \quad (\text{Automobile Industry})$$

Model 2:

$$\text{EXPINT} = \alpha + \beta_1 \text{IRMINT} + \beta_2 \text{ICGINT} + \beta_3 \text{ROYINT} + \beta_4 \text{ADVINT} + \beta_5 \text{RDINT} + \beta_6 \text{PATINT} + \beta_7 \text{NFAINT} + \beta_8 \text{SALES} + \beta_9 \text{AGE} + \varepsilon \quad (\text{Information Technology Firms})$$

The time period considered for the research study was from 2005-2016. This period is suitable as it was signatory to the performance of Indian organizations post-WTO from 1<sup>st</sup> January 2005.



**Table-1 Descriptions of Variables**

| Sl. No. | Variables            | Descriptions of Variables  |
|---------|----------------------|--|
|         | Dependent Variable   |  |
| 1       | Export Intensity     | Export sales/Total Sales   |
|         | Independent Variable |  |
| 1       | IRMINT               | Import of raw materials as percentage /total raw materials purchased (RS. In millions) |
| 2       | ICGINT               | Import of capital goods of firms (Rs. In Millions)                                     |
| 3       | ROYINT               | Royalties/sales  |
| 4       | Log SALES            | Total sales of the firm (Rs.in millions)   |
| 5       | RDINT                | R&D Expenditures/Total Sales   |
| 6       | ADVINT               | Advertising Expenditures/Total Sales   |
| 7       | PAT                  | Profit after tax (Rs. In millions)   |
| 8       | NFAINT               | Net fixed assets of the firms (Rs.in millions)   |
| 9       | AGE                  | Age of the firms since incorporations  |

### 5-FINDING OF THE STUDY

Table-2 Presents a proportional analysis of the OLS regression results using fixed effects model and random effects model. The outcomes from the fixed effects model and random effects model, indicate that only four independent variables (import of raw materials, import of capital goods, royalties paid, and sales of firm) have shown a significant effect on export intensity of Indian automobile industry using the fixed effects model. In contrast to the fixed effects model, results from the random effects model indicate that five independent variables (import of raw materials, import of capital goods age, royalties paid, sales and age of the firm) have exhibited a significant impact on export intensity of Indian automobile industry. Based on the results from the Hausman test it was decided that the fixed effects model be accepted for the study. The data has been tested for stationary using the panel unit root test and the data was found to be stationary.

**Table-2: Regression Results-Fixed effects and Random effects Model (Automobile Industry)**

| Variables               | FE-fixed effects |             |         | RE-Random effect |             |       |
|-------------------------|------------------|-------------|---------|------------------|-------------|-------|
|                         | Coefficient      | t-statistic | p-value | coefficient      | t-statistic | VIF   |
| Constant                | -5.8421          | -1.0651     | 1.020   | 5.6722           | 1.8566      |       |
| IRMINT                  | 0.7364           | 8.4544**    | 0.209   | 0.6453           | 8.356**     | 1.167 |
| ICGINT                  | 0.2439           | 3.1024**    | 0.341   | 0.1954           | 3.4354*     | 1.19  |
| ROYINT                  | 1.7201           | 7.4674**    | 0.215   | 1.7902           | 7.5477**    | 1.143 |
| Log SALES               | 4.6544           | 23.4399**   | 0.000** | 4.8221           | 24.1092**   | 1.702 |
| ADVINT                  | -1.7451          | -6.8421     | 0.000   | -0.4132          | -4.1132     | 1.698 |
| AGE                     | 0.0783           | 0.7603      | 0.000   | -0.1942          | -4.4078**   | 1.076 |
| RDINT                   | -0.0004          | -1.9642     | 0.000** | -0.0005          | -1.7333     | 1.245 |
| PATINT                  | 0.0006           | 0.7987      | 0.020** | 0.0006           | 0.6231      | 1.049 |
| NFAINT                  | 0.476            | 7.2441      | 0       | 0.7214           | 6.3114      | 1.921 |
| R-Square                | 0.9641           |             |         | 0.462            |             |       |
| Adjusted R-Square       | 0.6432           |             |         | 0.4467           |             |       |
| f-statistic             | 31.9617          |             |         | 118.19           |             |       |
| Durbin-Watson Statistic | 1.1371           |             |         | 0.561            |             |       |

Note: VIF, variance inflation factor.\* and \*\*Indicate statistical significance at 0.05 and 0.01%, respectively.

**Table-3: Descriptive Statistics: (Indian Automobile Industry)**

| Variables | No. of Variance | Mean   | Standard Deviation | Minimum | Maximum |
|-----------|-----------------|--------|--------------------|---------|---------|
| EXPORT    | 27              | 1467.8 | 4886.6             | 0.0     | 41528.2 |
| SALES     | 27              | 3755.2 | 6214.5             | 2.1     | 64561.4 |
| R&D EXP   | 27              | 174.5  | 531.4              | 1.2     | 5112.9  |
| PAT       | 27              | 574.6  | 2245.9             | -341.2  | 17882.6 |

|        |    |        |        |     |         |
|--------|----|--------|--------|-----|---------|
| ADVINT | 27 | 72.4   | 265.3  | 0.0 | 4712.4  |
| AGE    | 27 | 29.6   | 18.6   | 1.0 | 117     |
| ICGINT | 27 | 68.3   | 191.5  | 0.0 | 1784.4  |
| IRM    | 27 | 611.2  | 1670.6 | 0.0 | 15568.4 |
| NFA    | 27 | 1951.4 | 3841.5 | 0.0 | 43562.9 |
| ROYINT | 27 | 0.3    | 3      | 0.0 | 15.5    |

Table No-3 has shown the OLS regression results of Indian Information technology industries the data has been checked for multicollinearity issues and autocorrelation and it was found that there is no multicollinearity when the variance inflation factor (VIF) values were analyzed. Serious autocorrelation among the variables does not exist as per the values reported by the Durbin-Watson test. The outcomes from the fixed effects model and random effects model, indicate that only four independent variables (import of raw materials, import of capital goods, royalties paid, and sales of firm) have shown a significant effect on export intensity of Indian automobile industry using the fixed effects model.

**Table-4: Regression Results-Fixed effects and Random effects Model (Indian Information Technology Firms)**

| Variables               | FE-fixed effects |             |         | RE-Random Effect |             |       |
|-------------------------|------------------|-------------|---------|------------------|-------------|-------|
|                         | Coefficient      | t-statistic | p-value | coefficient      | t-statistic | VIF   |
| Constant                | -7.4421          | -1.0824     | 1.300   | 6.5433           | 1.4012      |       |
| IRMINT                  | 0.5462           | 5.6422**    | 0.240   | 0.8622           | 6.0431**    | 1.225 |
| ICGINT                  | 0.441            | 2.8861*     | 0.510   | 0.2144           | 4.2246*     | 1.262 |
| ROYINT                  | 1.4012           | 5.5669**    | 0.000   | 1.5504           | 5.339**     | 1.754 |
| Log SALES               | 6.7892           | 28.5566     | 0.000** | 6.0059           | 31.4432**   | 1.401 |
| ADVINT                  | -1.8701          | -6.5421     | 0.200   | -0.7821          | -2.012      | 1.470 |
| AGE                     | 0.17233          | 0.56401*    | 0.000** | -0.0693          | -3.6052**   | 1.801 |
| RDINT                   | -0.0042          | -1.0091     | 0.000** | -0.0003          | -1.6441     | 1.301 |
| PATINT                  | 0.0004           | 0.6341      | 0.042   | 0.004            | 0.409*      | 1.622 |
| NFAINT                  | 0.546            | 6.0034      | 0.000   | 0.5214           | 5.2112      | 1.822 |
| R-Square                | 0.8442           |             |         | 0.546            |             |       |
| Adjusted R-Square       | 0.4821           |             |         | 0.8003           |             |       |
| f-statistic             | 24.0042          |             |         | 111.92           |             |       |
| Durbin-Watson Statistic | 1.224            |             |         | 0.3683           |             |       |

Note: VIF, variance inflation factor. \* and \*\* Indicate statistical significance at 0.05 and 0.01%, respectively

In contrast to the fixed effects model, results from the random effects model indicate that six independent variables (import of raw materials, import of capital goods, royalties paid, sales, profit after tax and age of the firm) have shown a significant impact on export intensity of Indian information technology firms. The explanatory power of the model can be considered to be good due to the medium-high value of the adjusted  $R^2$  (0.483) and f-statistic of 24.0042.

**Table-5: Descriptive Statistics: (Indian Information Technology Firms)**

| Variables       | No. of Variance | Mean   | Standard Deviation | Minimum | Maximum |
|-----------------|-----------------|--------|--------------------|---------|---------|
| EXPORT EARNINGS | 32              | 1720.5 | 5134.5             | 0.0     | 58803.2 |
| SALES           | 32              | 4205.6 | 8134.9             | 1.0     | 82705.3 |
| R&D EXP         | 32              | 201.4  | 630.4              | 0.0     | 7553.8  |
| PAT             | 32              | 439.1  | 3420.5             | 0.0     | 21662.9 |
| ADVINT          | 32              | 102.4  | 440.6              | 0.0     | 8910.6  |
| AGE             | 32              | 30.4   | 21.4               | 1.0     | 131     |
| ICGINT          | 32              | 91.6   | 248.6              | 0.0     | 2798.1  |
| IRM             | 32              | 432.6  | 1344.6             | 0.0     | 12560.7 |
| NFA             | 32              | 1605.2 | 3480.4             | 0.0     | 54560.2 |
| ROYINT          | 32              | 0.4    | 5.2                | 0.0     | 19.3    |

---

**6-CONCLUSION AND IMPLICATION OF THE STUDY**

Research on firm appearances and performance in export markets has been provided a significant potential for research in the context of emerging economies. The findings of the studies can be of consequence to both public and private sector administrators, public policymakers, company managers and researchers concerned with the future export development and success by considering the various factors that affect the export performance. Various industries can be a guided principle for exporters. Various determinants like research and development expenditures, capital intensity of firms, import of technology, import of raw materials etc., can prove to be valuable indicators of export performance.

Results of this study can be used to explore the influence of other demographic non-demographic variables that affect the export performance. Future studies can investigate the impact of R&D expenditure, Technological capabilities on the number of patents obtained by automobiles and information companies and explore the decision-making and other executive characteristics that affect the export performance of the firms.

**REFERENCES**

1. Aggarwal, A. (2002), "Liberalisation, multinational enterprises and export performance: Evidence from Indian manufacturing", *Journal of Development Studies*, 38(3), 119–137.
2. Barney, J. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, 17(1), 99–120.
3. Banerji, A. (2012). "A selective study of exports of manufactured goods from India: Auto parts and pharmaceuticals." *Journal of International Business Research*, 11(2), 89–118.
4. Berrill, J. and Mannella, G. (2013). "Are firms from developed markets more international than firms from emerging markets?" *Research in International Business and Finance*, 27(1), 147–161.
5. Bhaduri, S. and Ray, A. S. (2004), "Exporting through technological capability: Econometric evidence from India's pharmaceutical and electrical/electronics Firms", *Oxford Development Studies*, 32(1), 87–100.
6. Bhat, S., & Narayanan, K. (2009), "Technological efforts, firm size and exports in the basic chemical industry in India", *Oxford Development Studies*, 37(2), 145–169.
7. Bonoma, T. V., & Clark, B. H. 1988. *Marketing performance assessment*. Boston, Boston, Massachusetts: Harvard Business School Press.
8. Cavusgil, S. T., and Zou, S. (1994). "Marketing strategy-performance relationship: An investigation of the empirical link in export market ventures." *Journal of Marketing*, 58(1), 1–21.
9. Chadha, A. (2009), "Product cycles, innovation, and exports: A study of Indian pharmaceuticals", *World Development*, 37(9), 1478–1483.
10. Christensen, C.H., Da Rocha, A. and Gertner, R.K. (1987). "An Empirical Investigation of the Factors influencing Exporting Success of Brazilian Firms". *Journal of International Business Studies*, Vol. 44, No. 3, pp. 61–77.
11. Cooper, R. G. and Kleinschmidt, E. J. (1985). "The impact of export strategy on export performance." *Journal of International Business Studies*, 16(1), 37–55.
12. Culpán, Refik (1989). "Export Behaviour of Firms: Relevance of Firm Size". *Journal of Business Research*, Vol. 18, pp. 207–218.
13. Diamantopoulos, A. and Kakkos, N. (2007). "Managerial assessments of export performance: Conceptual framework and empirical illustration". *Journal of International Marketing*, 15(3), 1–31.
14. Ford, I.D. and Leonidou, L.C. (1991). "Research developments in international marketing", in Paliwoda, S.J. (Ed.). *New Perspectives on International Marketing*, Routledge, London, pp. 3–
15. Ganguli, S. (2007), "Export performance analysis of business groups and standalone organizations in the Indian iron and steel industry" *The ICFAI Journal of International Business*, II (4), 40–50.
16. Jauhari, V. (2007), "Analysing export intensity of the select electronics firms in India", *International Journal of Innovation Management*, 11(3), 379–396.
17. Katsikeas, C. S., Deng, S. L., and Wortzel, L. H. (1997). Perceived export success factors of small and medium-sized Canadian firms. *Journal of International Marketing*, 5(4), 53–72.

18. Kumar, B. N., and Siddharthan, N. S.(1993),“Technology, firm size and export behaviour in developing countries: The case of Indian enterprises”, INTECH Working Paper, (9), 1–34.
19. Kumar, N., and Saqib, M. (1996),“Firm size, opportunities for adaptation and inhouse R&D activity in developing countries: the case of Indian manufacturing”, Research Policy, 25, 713–722.
20. Lall, S. (1983), “Determinants of R&D in an LDC: The Indian engineering industry”, Economic Letters, 13, 379–383.
21. Lall, S., and Kumar, R. (1981),“Firmlevel export performance in an inward looking economy: The Indian engineering Industry”, World Development, 9(5), 453–463.
22. Leonidou, L. C., Katsikeas, C. S., and Samiee, S. (2002). “Marketing strategy determinants of export performance: a meta-analysis”. Journal of Business Research, 55, 51–67.
23. Lim, S. Y. and Ho, C. M. (2013). Nonlinearity in ASEAN-5 export-led growth model: Empirical evidence from nonparametric approach. Economic Modelling, 32, 136–145.
24. Majumdar, S. (2010),“Innovation capability and globalization propensity in India’s information technology and software industry”, Information Technologies and International Development, 6(4), 45–56.
25. Parameswaran, M. (2009). International trade, R and D spillovers and productivity: Evidence from Indian manufacturing industry. Journal of Development Studies, 45(8), 1249–1266.
26. Pradhan, J. P. (2007), “How do Indian multinationals affect exports from home country?”Working Paper, (April), 1–41.
27. Raut, L. K. (2003), “R&D activities and export performance of Indian private firms”, Working Paper, (1), 1–24.
28. Saranga, H. (2007). “Multiple objective data envelopment analysis as applied to the Indian Pharmaceutical Industry”Journal of the Operational Research Society, 58(11), 1480–1493.
29. Serra, F., Pointon, J. and Abdou, H. (2012). “Factors influencing the propensity to export: A study of UK and Portuguese textile firms.”International Business Review, 21(2), 210–224.
30. Sousa, C. M. P. (2004). ”Export performance measurement: An evaluation of the empirical research in the literature”Academy of Marketing Science Review, (09), 1–23
31. Siddharthan, N., and Nollen, S, (2004),“MNE Affiliation, firm size and exports revisited: A study of information technology firms in India”, Journal of Development Studies, 40(6), 146–168.
32. Singh, D. A (2009).”Export performance of emerging market firms”, International Business Review,18, 321–330.
33. Young, Stephen, James, Hamill, Colin Wheeler and Davies, J. Richard (1989). International Market Entry and Development, Englewood Cliffs, N.J.: Prentice-Hall.
34. Zou, S. and Stan, S. (1998). “The Determinantsof Export Performance: A Review of the Empirical Literature between 1987 and 1997”. International Marketing Review, Vol. 15, No. 5, pp. 336–56.

---

**INDIA'S DIGITAL FINANCIAL INCLUSION: UNDERSTANDING OF THE YOUNG CONSUMER'S ATTITUDE TOWARDS DIGITAL PAYMENT METHODS**

---

**Dr. N. Prabhakar<sup>1</sup>, Dr. Byram Anand<sup>2</sup>**Guest Faculty<sup>1</sup>, Department of Commerce, Pondicherry University, KaraikalAssistant Professor<sup>2</sup>, Department of Management, Pondicherry University, Karaikal

---

**ABSTRACT**

*The Indian banking sector provides access to various electronic channels for delivering the digital financial services for the convenience of consumers at affordable cost. The intention to use digital transactions can help to active the objective of digital financial inclusion in India. It includes mainly Internet banking (IB) and mobile banking (MB) is few among them. The purpose of this paper investigates the young consumers' attitude to use digital payment methods (transactions without cash). The researchers collected a total sample of 210 cash less transaction users through proportionate stratified random sampling from university students aged between 21 to 35 years. The results of the study found that young consumers interested to use the digital payment methods, such as internet banking, credit card, debit card, mobile banking and Mobile wallets. The study also found that the young consumers' feel that the usage of digital payment methods saves transactions time which is evidence from the highest mean value score.*

*Keywords: Indian banking; digital financial services; Internet banking; mobile banking; e-business*

---

**INTRODUCTION**

The Information and communication technology (ICT) has shown a remarkable wave of technical innovation was driven by mobile phones, computer, and other communication devices has significantly metamorphose towards in the making of financial services in common and in the segment of retail banking services not only in the developed countries but also in emerging economies across the globe (Chiapa & Prina, 2017; Klein & Colin, 2011). With the prospects of reaching out billions of new consumers of banks and non-banks institutions, the service providers have started to offer digital financial services for financially excluded segment of society using a mobile phone or other digital mode devices (CGAP, 2015). As the results of digital revolution, it congregates in strengthen the digital financial transactions with continently and successfully carry out transactions with cashless on the go and often from the comfort of their residence as they can visit secure website and apps that have been developed and maintained by banks and other financial institutions. The transformation in ICT has supported to carry the banking and other financial services in harmony with the shifting requirements and partialities of banking consumers and considerably enhancement in all the extents connecting to financial feasibility, productivity, profitability and enjoys competitive advantage among the service providers (Leeladhar, 2005). This technology improvement could save time and cost of service providers and which allow them to delivering the basic banking services in the rural as well as urban segments with an effectively and efficient manner.

**INDIA'S DIGITAL FINANCIAL INCLUSION**

The concept of Digital financial inclusion is defined as, 'digital mode of access to and use of formal financial services by excluding and underserved population'. These services should be afforded to the bank consumers' needs and delivered responsibility at an affordable cost and sustainable for service providers (CGAP, 2015). Digital India, an ambitious initiative launched by the Government in 2015, fundamentally seeks to ensure that government services are made available seamlessly to citizens in electronic mode by improving the online infrastructure and increasing internet connectivity.

In addition, the Reserve Bank of India (RBI) has strengthened the Unified Payment Interface (UPI) in order to facilitate digital money transfer. In line with the digital strategy, the government has granted permission to a couple of payment banks, there by quick-starting the initiatives. Thus digital India and financial inclusion are closely connected.

With increased internet usage and penetration, the digital India initiatives facilitate a proper infrastructure pave the way for a seamless digital economy. The government has outlined its visions in this and highlighted three core areas including increase trust on setting up the required infrastructure as a utility to each and every citizen, provision of services on demand and governance and finally, digital empowerment of the citizens.

**LITERATURE REVIEW**

**Arun (2013)** studied the understanding Information and Communication Technology (ICT) role towards financial inclusion in India. The study has been highlighted the various initiatives are taken by the

Government of India, Reserve Bank of India (RBI), and commercial banks towards enhancing financial inclusion by role of ICT.

**Sreedevi and Meena (2011)** analyzed the ICT role in financial inclusion. The study found that various technology modes such as ATMs, credit cards, smart cards enable to access various financial services. And also found that literacy programmes on usage of technology helps to attain financial inclusion.

**Chiapa and Prina (2017)** discussed the access the conditional cash transfer (CCT) programmes into the formal financial institutions. The study highlights the opportunities that the combinations of CCTs and formal savings accounts have linked with promoting financial inclusion.

**Sundaram et al., (2016)** investigate the role of ICT on financial inclusion based on primary data in select districts of Tamil Nadu. The study found that ATMs usage, mobile banking, internet banking etc. have significant impact on digital financial inclusion. Further it was found that lack of financial literacy and income are the major factors identified for not using technology mode of tractions.

### OBJECTIVE OF THE STUDY

The main objective of this study investigates the young consumer's attitude towards the use of digital payment methods (DPM) to achieve the objective of digital financial inclusion in India.

### RESEARCH METHODOLOGY

The study is based both primary data source and secondary data sources. The primary data has collated from the university students a total of 210 respondents based proportionate stratified random sampling aged between 21 to 35 years and secondary data is based on Reserve bank of India (RBI) Bulletin reports, and other online data sources.

### DATA ANALYSIS AND INTERPRETATION

The descriptive statistics of demographic characteristics of the respondents were presented in Table 1. Out of 210 respondents, (59.05 per cent) are male and (40.95 per cent) are female respondents. With respect to the age factor, most of the respondents fall under the age group of 26-30 years and under the marital status, majority of the respondents (97.62 per cent) were unmarried. Majority of the respondents (92.38 per cent) were pursuing postgraduate degree and (7.62 per cent) of the respondents were doing doctoral degree programme.

| Table 1.Respondent's Demographic Profile |              |           |                |
|--|--------------|-----------|----------------|
| Measure                                  | Item         | Frequency | Percentage (%) |
| Gender                                   | Male         | 124       | 59.05          |
|  | Female       | 86        | 40.95          |
| Total                                    |              | 210       | 100            |
| Age                                      | 21-25 years  | 74        | 35.24          |
|  | 26-30 years  | 132       | 62.86          |
|  | 31-35 years  | 4         | 1.90           |
| Total                                    |              | 210       | 100            |
| Marital status                           | Married      | 5         | 2.38           |
|  | Unmarried    | 205       | 97.62          |
| Total                                    |              | 210       | 100            |
| Education degree pursuing at university  | Postgraduate | 194       | 92.38          |
|  | Doctorate    | 16        | 7.62           |
| Total                                    |              | 210       | 100            |

Source: Primary data

### EXPENDITURE AND PAYMENT PATTERN

Below the table 2, it shows the young consumer's payment pattern using the different digital payment methods. It finds that majority (57.60 Per cent) of the respondents prefer to use debit card for visit to mall, departmental stores. For buying the books majority (35.80 per cent) of the respondents like to use mobile wallets. For booking the railway tickets majority (45.26 per cent) of the respondents would like to use mobile wallets and for petrol (51.08 per cent) respondents prefer to use debit card facility. For entertainment majority 42.10 (per cent) of the respondents like to use debit card and for purchase of accessories and apparels majority 45.10 (per cent) of the respondents give preference to use debit card.

**Table 2. Payment pattern using the various digital payment methods**

| Type of expenditure                  | Mode of payment |            |                  |                |                |
|--------------------------------------|-----------------|------------|------------------|----------------|----------------|
|                                      | Cash            | Debit card | Internet banking | Mobile banking | Mobile Wallets |
| Buying books                         | 14.40%          | 26.70%     | 23.10%           | -              | 35.80%         |
| Railway Ticket Booking               | 5.34%           | 12.30%     | 33.50%           | 3.60%          | 45.26%         |
| Petrol                               | 48.92%          | 51.08      | -                | -              | -              |
| Medicines                            | 35.90%          | 23.02%     | 15.90%           | 13.75%         | 11.43%         |
| Visit to malls, departmental stores  | 42.4%           | 57.60%     | -                | -              | -              |
| Entertainment                        | 8.20%           | 42.10%     | 25.40%           | 13.50%         | 10.80%         |
| Purchase of accessories and apparels | 4.56%           | 45.10%     | 34.60%           | 7.43%          | 8.31%          |

Source: Primary data

Below the table 3, it shows the mean scores of young consumer's attitude towards use of digital payment methods (DPM). The results of the study find that the statement "Digital payment methods saves transactions time" evidence that the highest mean value score of (4.41), followed by statement "Digital payment methods minimizes the cost of transactions" appear mean score (4.34), followed by the statement "Digital payment methods provide more usefulness" the mean score is (4.32) and finally the young consumers give less importance to the statement "Digital payment methods involve transaction risk" (4.19).

**Table 3. Young consumer's attitude towards use of digital payment methods (DPM)**

| S.No | Statements   | Mean Score | Rank |
|------|--|------------|------|
| 1    | Digital payment methods save transactions time             | 4.41       | 1    |
| 2    | Digital payment methods minimizes the cost of transactions | 4.34       | 2    |
| 3    | Digital payment methods provide more usefulness            | 4.32       | 3    |
| 4    | Digital payment methods maximizes convenience              | 4.29       | 4    |
| 4    | Digital payment methods facilitate quick response          | 4.24       | 5    |
| 5    | Digital payment methods improve service quality            | 4.21       | 6    |
| 6    | Digital payment methods involve transaction risk           | 4.19       | 7    |

Source: Primary data

## CONCLUSION

This research work has focused on the young consumers' attitude to use the digital payment methods. The findings of this study showed that most of the young consumers prefer to use digital mode of payments other than cash transactions. The study found the majority of the young consumer would like to use debit card, internet banking and mobile wallets mode of digital payments. The results of the study revealed that majority of the respondents feel digital payment methods save transactions time and further the study found that respondents feel digital payment methods involve transaction risk. Hence, the service providers should communicate the safety measures for increase consumer's faith in use of digital payment methods and promote the safety of transactions.

## REFERENCES

- Arun, S.G. (2013). Understanding financial inclusion in India and role of ICT in ICT. International Journal of Innovative Research and Development, 2(12), 198-201.
- Chiapa, C., & Prina, S. (2017). Conditional Cash Transfers and Financial Access: Increasing the Bang for Each Transferred Buck?. Development Policy Review, 35(1), 23-38.
- Sreedevi, V., & Meena, K. (2011). ICT for financial inclusion. International Journal of Business Management, Economics and Information Technology, 3(2), 331-334.
- Sundaram.N., Sriram, M., & Kannaiyah, D. (2016). A comprehensive reach of financial inclusion by ICT: An investigation in select districts in Tamil Nadu. International Journal of Applied Engineering Research, 11(1), 353-358.

---

**A STUDY ON E-HEALTH CARE IN INDIA; PROBLEMS AND PROSPECTUS**

---

**Gadila Vakula Devi<sup>1</sup>, Dr. Byram Anand<sup>2</sup> and Krishna Prasada Rao<sup>3</sup>**Ph.D Research Scholar<sup>1</sup> and Assistant Professor<sup>2</sup>, Department of Management Studies, Pondicherry University, Karaikal Campus, PondicherryPh.D Research Scholar<sup>3</sup>, Department of Political Science & Public Administration, Sri Krishnadevaraya University, Anantapuram

---

**ABSTRACT**

*In this period of digital age everything is offered at the clicking of a button or the swipe of a finger, it makes no surprise that even a specialist or a professional doctor get his clinical report in this way, not only this even he may get online assignment, teleconsultation, in-home health care, genome-focused research, and development or alternate medicine consults, digital facilities provide different kinds of health care needs. To take up digital India initiative ahead, Ministry of Health & Family Welfare dawned varied initiatives in e-health on health care. By using the utility of e-health, know-how or information concerning best and sophisticated healthcare machine may be made accessible to faraway corners of India, where best rudimentary health infrastructure is available. At the very outset, we ought to well known that the main problem in India's health fitness sector isn't always the unavailability of drugs and human sources, but their right accessibility and distribution. Like in the whole thing else, the health sector in India is plagued greater by using the distribution lacunae than the manufacturing bottlenecks. The present study is descriptive in nature. This paper is primarily based on secondary sources of data. This paper studies the concept of e-Health care and various initiatives taken by the Government of India, and studied various problems facing by e-Health care in India, and finally offered empirical solutions for grand success of e-healthcare in India. At eventually this paper concludes with the words of Satya Nadella, "It is the responsibility of everyone to make sure technology addresses our biggest challenges — access to education and healthcare, empowering people with disabilities".*

*Keywords:* Digital facilities, Digital Health, Health care, Medical Professionals, Technology.

---

**INTRODUCTION**

"The inter twine of biological science and information and technological sciences is the colossal innovation of 21<sup>st</sup> century". -----\_Steve Jobs.

Healthcare in India remains one among the biggest sectors in terms of each employment and revenue generation. It is noticeable that 16.5% annual growth rate, which will be valued around \$280 billion by 2020. Though this much of quantity glitter there is huge dark shades exist, for instance, a single episode of unhealthy situation of a low income group families will eat their entire savings and lead them into the debt traps. , according to World Bank report-2012 , there is a huge gap existing in India as per world standard health care scale, WHO (World Health Organization) recommends 1 doctor/1000 people, but in India it is 1 doctor/1700 people. Moreover, only prime 20 cities having high quality 1.35 million beds (Around 65%) of entire health care system in India. This clearly shows huge gap between urban and rural health care system, though India's population 75% are living in rural areas without accessing quality health care. We can observe in rural villages superstitions, witch-craft etc., in health relevant problems. All these gaps will be fulfilled while proper implantation and adaptation of e-health programmes.

In this period of digital age everything is offered at the clicking of a button or the swipe of a finger, it makes no surprise that even a specialist or a professional doctor get his clinical report in this way, not only this even he may get online assignment, teleconsultation, in-home health care, genome-focused research, and development or alternate medicine consults, digital facilities provide different kinds of health care needs <sup>[1]</sup>. Due to the best efforts of the public as well as private sectors the adoption of computer knowledge and application is acquiring momentum in health care segment of India. The Prime Minister Narendra Modi Government launched his flagship programme called Digital India on 1 July 2015 to assure that Public services are made accessible to all citizens of India by enhancing Internet Connectivity and online infrastructure <sup>[2]</sup> Numerous innovative ideas like Digital India and with the help of private sector using Aadhaar for all transactions some private organizations has been taking initiatives for creating and adopting apps for mobiles, medical advice through telephone called telemedicine, and establishing innovative centers throughout India. With this kind of factors helped and influenced to raise the large scale digital health start-ups in India. Large scale penetration of private sector and Government of India initiatives in Health sector has still not been able to expand its services to the citizens not only in rural but also in Urban areas, due to the typical nature of economic and social conditions and factors have been appeared in Indian health care sector. Like deficiency of quality and quantity of doctors in primary



health care section in semi-urban and rural areas<sup>[3]</sup> and primary requirement of continues update knowledge of those doctors who do work in rural areas<sup>[4]</sup> doctors who are qualified for practice able to radiate extensively benchmark of quality care, number of practitioners working without proper qualifications on the whole<sup>[5]</sup>. To rectify all these sorts of drawbacks, for health care using Information and Communication Technology (ICT) will hit a potential role. E-health provides proper connection to quality care and health information and also improves the healthy data etc, is proved successful in developing as well as developed countries<sup>[6]</sup>. This paper is an effort to analyze e-Health activities of the Government of India and to study the problems and prospects in e-health care in India, and finally given empirical suggestions to make a grand success of e-health care in India.

### OBJECTIVES OF THE STUDY

1. To explain the concept of e-health care
2. To explain the government initiatives of e-health care programmes in India.
3. To study the major problems, while the execution of e-health care in the Indian context.
4. To make suitable suggestions to triumph the success of e-health care in India.

### METHODOLOGY OF THE STUDY

The present study is descriptive in nature and based totally on secondary sources of information. The knowledge and data for the analysis are collected from government publications, printed articles, journals, newspapers, reports, books, and official websites of various departments of the government of India.

### CONCEPT OF E-HEALTH CARE

The term electronic health (E-Health) may be a comparatively neoteric word for attention follow that is supported by electronic processes and communication. Everyone talks concerning e-health lately; however, few academicians come with transparent definition of this new word. After 1999, this word became popular in use and perception, currently anticipated to function a common "buzzword," will not to distinguish not solely "Internet medicine" or "Cyber medicine", however additionally just about everything associated with medical help through computers. This word was supposedly 1st employed through business marketers and heads instead of academicians, by using this word as an alternative "e-words" like electronic business/e-business, electronic commerce/e-commerce, electronic solutions/e-solutions etc., to transmit the rules and easiness, and adventure around electronic business in health care sector to tap its potentialities through fully adopting by the internet technology. For example, the Intel (IT stalwart) observed it "a conjunct effort undertaken by leaders in health care and high-tech industries to completely harness the advantages obtainable through convergence of the internet and health care." By using internet provide us new challenges and opportunities in health care business, employment about brand for new word deal with those problems appeared applicable. Innovatemedtec define E-health as,

"Health information technology (IT) is the application of information processing within digital health, involving both computer hardware and software that deals with the storage, retrieval, sharing, and use of healthcare information, data, and knowledge for communication and decision making. Health IT includes any type of technology used to manage the exchange of health-related information across computerized systems between patients, physicians, hospitals, governments, providers, insurers and other stakeholders"<sup>[7]</sup>.

Eysenbach G, in his article 'what is e-health', defined it as, "An emerging area in the intersection of medical informatics, public fitness, and enterprise, referring to health services and information added or more suitable through the net and related technology. In a broader experience, the time period characterizes not handiest a technical improvement, however also a state-of-thoughts, a manner of wondering, an mindset, and a commitment for networked, global wondering, to improve healthcare regionally, domestically, and international via the usage of statistics and ICT"<sup>[8]</sup>.

As per the World Health Organization ("WHO"), e-health is defined as "The effective-cost and comfortable use of ICTs in help of the health-care and fitness-associated fields which include healthcare, health surveillance and fitness training, knowledge and studies"<sup>[9]</sup>, electronic health means "the usage of ICTs for fitness of the body".

The definition, although very concise, isn't always very beneficial. The European commission has placed forth a greater intricate definition of e-fitness. E-health refers to "tools and services using information and communication technologies that can improve prevention, diagnosis, treatment, monitoring, and management". Consequently, the expression e-fitness on health may be correctly stated to encompass each equipment and services that use ICTs for functions linked to health.

From the above definitions, we can draw the following conceptual demanding situations of e-fitness on health care; these "new" challenges for the health care information era enterprise had been specially...

- (1) The potential aptitude of customers to act with their systems online (B2C = "Business/commercial enterprise to customer")
- (2) Improved potentialities for institution-to-group transmissions of information (B2B = "business to business");
- (3) New possibilities for peer-to-peer conversation of clients (C2C = "consumer to consumer").

### E-HEALTH INITIATIVES IN INDIA

The Ministry of Health & Family Welfare/MoHFW started various e-Gov initiations in health care as part of Digital India programme. It started a division called E-health division. Broadly speaking about e-health denotes as utilizing ICTs in health care. Due to rapid expansion of mobile using will make a distinction in India on e-health, and also India contains a robust presence in IT, the integrated health system serves the requirements of all stakeholders, aside contributory just about eight percent in gross domestic product<sup>[10]</sup>.

The e-Health initiatives have the vision to deliver higher output of Health in the words of:

- Connectivity/ accessibility
- Good quality
- More affordability
- Malady reduce
- Economic observance of health privileges of citizens.

The wide range of those initiatives is to provide all facilities regarding medical market from all over the world through using of ICTs like SMS or Call centers, internet, or mobile/telemedicine etc., The chief intention is provide online services on records maintain, consultation, medication, patient info exchange etc., Ministry is ceaselessly engaged in designing and introducing additional ICT initiatives. National eHealth Authority ("NeHA") was established in the year 2015 by the Ministry of Health and Welfare for controlling the rising utilization of ICTs in health care sector, particularly maintaining e-health info on records in India. The objective of NeHA, "to guarantee development and promotion of eHealth system in India for sanctioning, the organization, management and provision of effective people-centered health services to all or any in an economical, cost-efficient and clear manner".

Innovations on integration of healthcare & technology are serving to an outsized health care connection to the public. Functioning in vision for NeHA the Govt drew a draft bill for electronic security in its health care Act<sup>[11]</sup>. ("DISHA"/ "Draft Bill"). The objects of DHISA as mentioned in its preamble as,

- i. Set up Exchanges for health information, "NeHA" and "SeHA"/ State eHealth Authorities,
- ii. Standardize and regularize the methods associated with the assortment, using, storing, and sharing the digital data on health.
- iii. To conform dependableness, information on confidential, secure, and privacy of electronic data on health

The Ministry has been taking the following initiatives of ICTs.-

#### 1. National Health Portal<sup>[2]</sup>:

National Health Portal with an aim to produce single purpose access for genuine health info for citizens across the country. The Ministry of Health and Family Welfare (MoHFW) had come upon a portal by the intensive efforts of "National Knowledge Commission" called "National Health Portal" for providing connected data on health care for Indians. The target of putting in place of National Health Portal is to function one point of access for consolidated authentic health info, application, and resources with the aim to cater to a large spectrum of users like academicians, citizens, students, attention professionals, researchers etc. The mission of the National Health Portal is additionally to attain the on top of vision by collection, validator and diffusing info on health literacy and health care delivery services connected info for all citizens of Bharat.

Keeping in mind the above vision, the MoHFW established the Centre for Health informatics (CHI) as a secretariat as a managing authority of "NHP" at "National Institute of Health & Family Welfare"("NIHFW"), New Delhi. The CHI is the nucleus of all activities for developing, planning and maintaining the National Health Portal. CHI is for a rollout of a federate nationwide Health IT system to support a seamless transfer of information across the health applications all health care provider-public (Centre or States) and private.

---

**2. National Health Portal – Voice Web<sup>[13]</sup>:**

National Health Portal (NHP) launched the Voice internet service as a section of the digitalization of the Health segment the NHP voice-based internet portal for 24X7 toll-free health services.

This voice portal has been developed for providing health-related data and to handle queries associated with numerous problems associated with health, diseases, lifestyle, first aid, directory services, health programs, policies, laws, and tips. This 24X7 toll-free helpline helps users get authentic health data on a telephone. The number 1800-180-1104 is a toll free, users ought to dial and talk about the information that they're seeking-e.g. name of the sickness, national health programme or the other information associated with health. This system has a capacity of identifying user voice input. Presently, the voice net service is obtainable in Hindi, English, Bengali, Tamil, and Gujarati and additional Indian languages would be lined in future.

The intent of exploitation telephone technology as a medium to circularize info is to succeed in bent on masses in remote locations, wherever there's no internet access so, overcoming the barrier of illiteracy. NHP Voice internet permits users to act in their preferred language for obtaining the requisite and authentic info.

**3. E-Hospital<sup>[14]</sup>:** It is software for Govt hospitals especially for “Hospital Management System” working on primarily ICT based resolution. This comprehensive software undertakes major segments in health care as, patient centric care, lab related services, exchange of documents based on workflow, manpower, and hospital records etc., Currently, 321 hospitals concerned in this programme, and 7, 66, 12,807 patients are registered for treatment from Sept 2015 to date.

**4. “Online Registration System” (“ORS”)<sup>[15]</sup>:**

It is a schema for linking hospitals from different parts of India, based on Aadhaar through online appointment, registration where desk based fully Out Patient appointment, and registration will be done by digitally in Information system for Hospital Management software. It has been hosting by NIC on Cloud services. This portal provides on-line appointments by using eKYC information of Aadhaar with registered mobile number by “UIDAI”, if the number is not registered it uses the name of the patient. A patient who has got appointment will get a “UHID” (Unique Health Identification Number). If the patient “UHID” number connected with the Aadhaar number already, then the number for appointment and “UHID” can stay identical.

Easy appointment method:

Less complication will be possible for your first visit to the doctor in a hospital on appointments and registrations. All you have got to try is just check your Aadhaar number and choose date, department and hospital for appointment and then receive your appointment through SMS.

**5. “Mera Aspataal (Patient Feedback) Application”<sup>[16]</sup>:**

To encourage citizen's participation for increasing the delivery of health care services by getting feedback on facilities, quality services, patient centric responsible aid system, to gather information on patient level satisfaction this application was developed. It is getting feedback through multiple channel approach like SMS, web portal, mobile apps etc., with this client is going to get effective services and acceptable care. Thus far total feedback 3021272, from the 2579 hospitals, among these 2286088 visitors glad, and 735184 visitors discontented

**6. ‘Central Drug Standards Control Organization’, (“SUGAM”)<sup>[17]</sup>:**

For multiple stake holders like Pharmacy traders, drug controllers, and clients etc., concerned within the SUGAM allows a single window system, for applications, approvals in online primarily for medication, clinical trials, ethics panel, cosmetics, vaccines and medical devices.

**7. FSSAI (“Food Safety and Standards Authority of India”)<sup>[18]</sup>:**

“Food Safety and Standards Authority of India” is providing easy services for stake holders of food sector like License, Clearance, Product approval etc., through online food business people. There's a compulsory demand for displaying FSSAI registration number at food premises. The FSDB can replace this demand within the Food Safety and Standards laws that necessitate food businesses to show FSSAI Registration/license. FSDBs won't solely build the registration/license range visible however will inform the client and therefore the food handler regarding the vital food safety and hygiene practices needed to stay food safe. It'll additionally offer details of varied feedback choices offered to achieve FSSAI.

**MOBILE APPLICATIONS**

In India mobile connectivity and net work penetration is exceeded more than one billion connections, taken this as an advantage the government of India launched several mobile apps, namely, as,

1. **“Vaccine tracker Indradhanush Immunization”**<sup>[20]</sup>: Mission Indradhanush launched by ‘MoHFW’ in 2014 December for shooting of all the susceptible, and also part of immunized kids below the Universal Immunization Programme. A mobile application “NHP Indradhanush” provides elaborated info regarding vaccines obtainable in India and their schedule. It’s designed to alert folks for his or her kids immunogenic who are up to sixteen years older. The vaccine schedule is organized mechanically by providing the date of birth of the kid. The user will register any number of kids that he/she would really like to induce vaccination alerts. The user also can add the other immunogenic, if counseled by the medical practitioner, to the reminder list.
2. **India Fights dengue APP**<sup>[21]</sup>: This App launched in April 2016, it permits for users to envision symptoms of Dengue and will get the nearest blood bank information, hospitals and also share feedback. It’s obtainable within the Google Play store.
3. **NHP Swastya Bharat App**<sup>[22]</sup>: info dissemination on a disease, Lifestyle, First Aid.) The appliance provides elaborated info relating to the healthy manner, illness conditions (A-Z), symptoms, treatment choices, first aid, and public health alerts.
4. **NHP Mobile Directory Services App**<sup>[23]</sup>: This application incorporates all India level data on hospital and blood banks. This application is easily access to nearby blood banks and hospital by user location. This application uses GPS for getting location of the users. The app can be downloaded from Google play store. It is compatible with Version 2.3 Android and higher than. The user can access the list of nearby blood banks and hospitals range is maximum 100 Kms and minimum 5 Kms.
5. **NO more Tension Mobile App**<sup>[24]</sup>: Stress is perceived nowadays as one of the important factors touching physical and psychological state. The Mobile Application provides info regarding stress, which has content with relevancy Details regarding Stress, its Causes, Indicators and Stress Management techniques. Also, the application incorporates a stress meter that calculates the strain level of a person and provides an answer, as per their stress level.
6. **“Pradhan Mantri Surakshit Matritva Abhiyan” (“PMSMA”)**<sup>[25]</sup>: PMSMA App could be a volunteer engagement dais and taking part under the ‘Pradhan Mantri Surakshit Matritva Abhiyan Programme’. This app is a dais for making registrations by the private, volunteer, retired obstetricians, radiologists, and physicians who are ready to serve pre-natal care on 9<sup>th</sup> of every month in govt health centers for pregnant ladies. And also it receives suggestions and feedback from the users.

**PROBLEMS OF E-HEALTH CARE IN INDIA**

- Rural India having a serious deficit in health care professionals which impacts operations of eHealth. To fill this gap Government struggling to coach and retaining of trained personnel in rural India, even encouraging and usage of mHealth also inadequate.
- Inadequate incentives in public sector are a serious drawback, for maintain top quality of standard health care.
- Budget Allocation: The foremost barrier is lack of earmarked budget allocation. Although there's a progressive increase in health budget in consecutive annual budgets the majority of this can be spent for maintenance of basic health services, up gradation of infrastructure, medical education and research. There's no ear-marked allocation to e-health and telemedicine out of the restricted resources.
- Lack of infrastructure: several peripheral health centers lack dependable electrical supply and basic infrastructures like telephones, computers and net connectivity.
- Trained personnel: There gross lack of trained personnel to manage the program.  
Through the ICTs training and participating of nurses, doctors, and different professional in health care making sure that the potential of economic health care systems is maximized.
- Need to determine Central management and regional coordination centers at state capitals
- Legal and moral problems to be mentioned at length at varying levels
- There pressing need for formulation of guidelines for acceptable use of e-health

- Patient awareness and acceptance through health education
- The biggest challenge in nowadays is protection of data base because of the significant competition between non-public hospitals. Patients and health care professionals alike have to be compelled to feel 100 percent assured regarding the confidentiality of digital health systems.
- Apps for health care, of that there are over 100000 currently on the market in public and private domains, have to be compelled to be higher absorbed into health care systems. They additionally have to be compelled to be rationalized, standardized and simplified to assist worth and usefulness.

## SUGGESTIONS

- To overcome the above issues prevailing e-healthcare in our country, the subsequent suggestions may invariably enhance medical facilities and services and can have a profound impact on the health of all people.
- For electronic health information protection maintain protocols, guidelines, and standards for data transmission, and collection, storage.
- Properly defined protocols will protect the information by any larceny or mischief and also supply measures of data protection at all levels in the process of the information, that should be a minimum of embrace cryptography, access of controls, and trails of audit.
- While receiving electronic health information from different nations proper protocols should be established for data protection.
- Make it mandatory for getting certificate; systems of digital health care and stake holders for maintain proper norms and standards.
- Maintain regular investigations and checks for making sure consent with the law. Several mobile apps that collect large amounts of health information so as to supply tracking the users for medical practices and medicine suppliers in the market which connect practice's with patients. These types of apps not in the range of "Clinical Establishment".
- It is believed that block-chain technology would possibly facilitate keep secure of data. The Estonia already being successfully employed.
- The business purpose of using digital data whether it is anonymous or identifiable The "DISHA" prohibits. But in operational part India is witnessing misusing of Aadhaar data by various private organizations. It should be made a strict surveillance.
- Exchange of information by "need to know stand basis" appears large and it may be important of foundations within the "Draft Bill" will build it a lot of distinct.
- Indemnity of information violations, together with assessment must have some specific and strict timelines.

## CONCLUSION

By using the utility of e-health, know-how or information concerning best and sophisticated healthcare machine may be made accessible to faraway corners of India, where best rudimentary health infrastructure is available. At the very outset, we ought to well known that the main problem in India's health fitness sector isn't always the unavailability of drugs and human sources, but their right accessibility and distribution. Like in the whole thing else, the health sector in India is plagued greater by using the distribution lacunae than the manufacturing bottlenecks. Except we take care to make a respectable health system reachable to the multitude of our populace (accessible in terms of fee, demographics, and geography), But, all stated and carried out, we've taken only a few fumbling forays towards knowing the apparently significant capacity of e-health fitness in our healthcare scenario, and there are miles to head. At eventually, we can conclude this paper with the words of Satya Nadella<sup>[26]</sup>, "It is the responsibility of everyone to make sure technology addresses our biggest challenges — access to education and healthcare, empowering people with disabilities".

## REFERENCES

1. Vinod Kumar Reddy posted on 'Your Story' opinion section, on 27th January 2018. <https://yourstory.com/2018/01/boom-digital-healthcare-indias-opportunity-build-global-telemedicine-companies/> (accessed on 3/01/2019).
2. Hans India, published on Feb 01 2016, <http://www.thehansindia.com/posts/index/Young-Hans/2016-02-01/E-Governance-Initiatives-in-India/204109> (accessed on 03/01/2019).

3. Rao M, Rao KD, Shiva Kumar AK, Chatterjee M, Sundararaman T: Human resources for health in India. *Lancet* 2011, 377(9765):587–598.
4. Syed-Abdul S, Scholl J, Jian W-S, Li Y-C: Challenges and opportunities for the adoption of telemedicine in India. *J Telemed Telecare* 2011, 17(6):336–337.
5. Das J, Holla A, Das V, Mohanan M, Tabak D, Chan B: In urban and rural India, a standardized patient study showed low levels of provider training and huge quality gaps. *Health Aff (Millwood)* 2012, 31(12):2774–2784.
6. Piette JD, Lun KC, Moura LA Jr, Fraser HSF, Mechael PN, Powell J, Khoja SR: Impacts of e-health on the outcomes of care in low- and middle-income countries: where do we go from here? *Bull World Health Organ* 2012, 90:365–372.
7. Innovatemedtec, 'the digital health net work', published in 'Health IT' section, <https://innovatemedtec.com/digital-health/health-it> (accessed on 06/01/2019).
8. Eysenbach G, What is e-health? *J Med Internet Res* 2001;3(2):e20 URL: <https://www.jmir.org/2001/2/e20> DOI: 10.2196/jmir.3.2.e20 PMID: 11720962 PMCID: PMC1761894.
9. The Fifty-eighth World Health Assembly, the Report on e-health, WHA58.28, p.121, [https://apps.who.int/iris/bitstream/handle/10665/20378/WHA58\\_28en.pdf;jsessionid=6184979D0F3D7EC566BE9643B7222BCB?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/20378/WHA58_28en.pdf;jsessionid=6184979D0F3D7EC566BE9643B7222BCB?sequence=1) (accessed on 06/01/2019).
10. e-Health in India, Published by NHP Admin, on May 29, 2017. [https://www.nhp.gov.in/e-health-india\\_mty](https://www.nhp.gov.in/e-health-india_mty) (accessed on 26/01/2019).
11. "Digital information Security in Healthcare, act (DISHA)" in public domain for comments/views-re8. [https://www.nhp.gov.in/NHPfiles/R\\_4179\\_1521627488625\\_0.pdf](https://www.nhp.gov.in/NHPfiles/R_4179_1521627488625_0.pdf) (accessed on 26/02/2019).
12. [https://www.nhp.gov.in/about-national-health-portal\\_pg](https://www.nhp.gov.in/about-national-health-portal_pg) (accessed on 29/01/2019).
13. <http://healthyindiachronicle.in/national-health-portal-transforming-health-sector/> (accessed on 29/01/2019).
14. <https://ehospital.nic.in/ehospitalso/faqHospital.jsp> (Accessed on 29/01/2019), and <http://dashboard.ehospital.gov.in/dashboard-testing2/> (accessed on 29/01/2019).
15. Online Registration System, Ministry of Electronics and Information Technology, Government of India, <https://ors.gov.in/index.html> (accessed on 31/01/2019).
16. <http://meraaspataal.nhp.gov.in/> (accessed on 31/01/2019).
17. <http://www.cdsc.nic.in/forms/Default.aspx> (accessed on 31/01/2019).
18. "Food Safety Standards Authority of India", Ministry of Health and Family Welfare, Government of India, <https://fssai.gov.in/home/about-us/introduction.html> (accessed on 01/02/2016).
19. <http://www.notto.nic.in/> (accessed on 01/02/2019).
20. NHP Indradhanush App available at Google Play Store, [https://www.nhp.gov.in/nhp-indradhanush\\_pg](https://www.nhp.gov.in/nhp-indradhanush_pg) (accessed on 03/02/2019).
21. <https://play.google.com/store/apps/details?id=com.nhp.ui&hl=en> (accessed on 03/02/2019).
22. NHP Swastya Bharat Published by National Health Portal on April 01, 2016, [https://www.nhp.gov.in/nhp-swasth-bharat\\_pg](https://www.nhp.gov.in/nhp-swasth-bharat_pg) (accessed on 03/02/2019).
23. NHP Health - Directory Services Mobile Application, get the app from Google Play Store, [https://www.nhp.gov.in/nhp-health-directory-services-mobile-application\\_pg](https://www.nhp.gov.in/nhp-health-directory-services-mobile-application_pg) (accessed on 03/02/2019).
24. This App launched in November 2016, available at Google Play Store, <https://www.nhp.gov.in/mobile-no-more-tension> (accessed on 3/02/2019).
25. Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA), launched in November 2016, available at Google Play Store, <https://www.nhp.gov.in/mobile-pmsma> (accessed on 03/02/2019).
26. Microsoft CEO Satya Nadella on January 22, 2019 asked world leaders to ensure that technology addresses the challenges facing humanity, including access to education and healthcare. Address a press conference here as a co-chair of the World Economic Forum Annual Meeting 2019, the Indian origin business leader said computers have become embedded in the fabric of everyday life. <https://www.financialexpress.com/industry/technology/how-microsoft-ceo-satya-nadella-wants-technology-to-address-key-aspects-in-life/1451449/> (accessed on 03/02/2019).

---

**IMPLIMENTING GST IN SECTOR OF SMALL BUSINESS OF WHOLESALERS & RETAILERS**

---

**Vanama Lakshmi Haritha**Lecturer, Department of Commerce and Business Management,  
University P. G. College, Kakatiya University, Khammam

---

**ABSTRACT**

India's goods and services tax (GST) has increased the regulatory burden on small businesses. Reforms must bring simplicity and not disruption. Goods and services tax was an opportunity for India to reform its cobweb like indirect taxation structure and reboot the system afresh. Unfortunately, the ground realities suggest otherwise. The way GST has been introduced is too onerous for small businesses. This may further thwart their growth. GST or Goods and Services Tax is a value added tax, levied at all points in the supply chain with credit allowed for any tax paid on inputs acquired for use in making the supply. Therefore, it is the end consumer who bears this tax as the last person/entity in the supply chain. The introduction of GST in India is expected to result in major simplification of indirect tax structure at both Centre and State levels – replacing the multiple layers of complex taxation currently existing in India. Currently, businesses like restaurants or computer sales and service – which sell goods and provide services as a package, have to comply with both VAT and Service Tax regulations. This creates complexity for the business and they have to calculate taxes for the transaction based on different rates for different items. With the introduction of GST, the distinction between Goods and Services will be gone – thereby making compliance easier. Further, invoicing will be easier for businesses as only one rate would be adopted.

*Keywords: Small Business, invoicing, Consumer*

---

**INTRODUCTION**

Economic Reforms Programme of 1991 in India did not provide for any special package for agriculture. Moreover, Narasimham Committee on Financial Reforms (1992) recommended for the dilution of priority lending including agriculture by the commercial banks. Though agricultural credit has been a priority item, credit from commercial banks to agriculture received a severe blow. Rural branches of the commercial banks have decreased and cultivators are constrained to turn to money lenders accepting to pay higher rates of interest (NSSO 2003). Crop failures, natural calamities, un-remunerative prices to the agricultural products and escalating costs of cultivation have landed the cultivator households in distress leading to growing debt burden because of which crop holidays and farmer suicides in different states are a recurring feature. As per the report of the expert group on agricultural indebtedness (2007) the share of money lenders as a source of credit increased from 17.5 percent to 26.8 percent between 1991 and 2002.

The combining of Central (CGST) and state (SGST) taxes in the new tax regime, enterprises that annual turnover of Rs 20 lakh or above (10 lakhs in some specific states) will have to follow all the GST provisions. The new GST rule will adversely influence the SMEs working capital. Under the previous tax regime, the exemption limit for SMEs was Rs. 5 lakhs, whereas in the new tax regime the exemption limit is enhanced to Rs. 20 lakhs (10 lakhs in some specific states) which have a positive impact.

Ease of doing business removes cascading effect (double taxation), reduces the tax burden on new businesses, improved logistics and faster delivery of services are some of the positive points of the newly implemented of Goods and Services Tax (GST).

**IMPACT ON FMCG COMPANIES**

According to the report by Edelweiss Securities stated that advertising and consumer promotion spending will be recovered in the second half of FY17, along with 15% percent growth. According to the reports, it is expected that customers will spend a more money on FMCG in the festive months rather than the other months in a financial year. To increase customer base, some FMCG companies have decided to invest a money in advertisements. Some of the renowned **FMCG companies** including Marico, Pepsico, Dabur, and Parle have big expectations with the festive seasons and are trying to enhance their investments in ads over coming months. It is expected that in the period of October- December accounts for 40 percent of ad- industry revenues.

**DISTRIBUTOR'S ROLE –**

- Shares a commercial relation with the manufacturer;
- He may deal with not one but several product lines, but ensures that none of these product lines are in competition with or conflict with each other;

- Services the products to retailers, but may also service wholesalers;
- He deals with providing labour support to retailers to help them become established and may also provide services which primarily include provision of credit to the manufacturer, but also other services such as providing product related information, estimation of valuation, technical support, post sales services;
- Most distributors enter into agreements with the primary manufacturer who in turn supplies products to only limited distributors within a particular territory;
- They are usually very organized and maintain healthy margins with respect to their sales;
- They share a similar equation with retailers as the equation shared with them by the manufacturer.

#### WHOLESALE'S ROLE –

- Rarely has any commercial or business obligations and operates on his own terms;
- Receives goods in bulk from the distributor for the purpose of resale, usually in bulk to other retailers, distributors and even to other wholesalers;
- Purchases goods at a lower cost due to purchase being in bulk;
- May purchase a vast range of products and is not restricted in purchase as long as he is making a profit;
- Mostly rural and some urban retailers prefer buying their products from distributors for the lower cost of purchase and absence of too many terms and conditions;
- Works on narrow margins and thus rarely offers credit; rarely in the business of taking back any unsold stock or products.

Manufacturers ultimately benefit from the collaboration between retailers and wholesalers as they can achieve their sales from markets where they are not expected to handle sales and shipping directly.

Under GST Law, retailers can avail input tax credit on closing stock held before the implementation of GST. This however, is subjective to certain conditions such as, there should be a record of invoices that reflect tax levied on transactions to be able to claim tax credit. In most of the cases, the VAT / excise tax chain stops with the first stage dealers – wholesalers, and the tax is passed on to the retailers as additional cost. If this way of business operation continue post GST, retailers will be forced to pass on the tax cost to their customers, making their prices much less in comparison to other players in the market. This will lead to retailers across the chain having to de-stock the inventory during the transition phase, and again re-stock under the new GST regime. This business activity of retailers will have an adverse effect on the wholesalers who too will have to de-stock. If only the wholesalers become GST Compliant, sale through the hurricane akin to the demonetization phase, this could all translate into a steep rise in demand for goods as a result of a widespread re-stocking of goods by wholesalers.

#### IMPACT OF GST ON THE WHOLESALE MARKET –

Distributors and wholesalers alike share a very integral role in the supply chain and it is obvious that manufacturers cannot survive without their collaboration. Even though manufacturers have begun to brace themselves as to what to expect with the advent of the GST, they face major concerns from their retailers and wholesalers and whether these players are able to get up to speed to GST compliance so that the process can function smoothly. Post the demonetization era, the wholesale market has been wounded, however, with the coming into effect of the GST; hopefully the market will recover and boost growth better than ever, due to the primary reasons of transparency and better organization.

snapshot of the ways in which the wholesale market will be impacted by the GST –

| Impact   | Details   |
|--|---|
| Tax increases for wholesalers – bringing them into the tax bracket and ensuring compliance | <ul style="list-style-type: none"> <li>• Most wholesalers make transactions in bulk and pay cash upfront as consideration – from both manufacturers and distributors – albeit, with a difference in their tax liability towards each of these market participants.</li> <li>• It is difficult for wholesalers to pass on the excise tax liability to the subsequent buyer in the supply chain as most of them do not possess</li> </ul> |



|  |   |
|--|---|
| <p>Destocking against the shift from the indirect tax regime to the GST regime</p> | <p>excise registration themselves – therefore, they are unable to avail of any tax credit.</p> <ul style="list-style-type: none"> <li>• The primary activity of a wholesaler is to buy and sell products – however under the current indirect tax regime they are also burdened with the requirements of maintaining invoices, being compliant with several tax laws etc. – leading them astray from their primary course of work. Additionally, wholesalers find it difficult to maintain compliance constantly because of complex transactions and tax structures, and owing to non-registration, they are not under scrutiny. Thus their tax liability is reduced significantly and they are able to undercut the prices prevalent in the market thereby generating higher sales.</li> <li>• Under the GST regime however, all invoices are required to mandatorily upload against the registered GSTN portal and the invoice must also be simultaneously accepted by a buyer. Further, since all the taxes have been subsumed into a common unified tax, tax credit has become more seamless and smooth across the supply chain, notwithstanding the buyer or the seller involved with the wholesaler.</li> <li>• An advantage is that multiple registrations have been struck out and thus wholesalers can be compliant with ease. The idea of tax evasion has been cordoned off completely, however despite this, there still may be several wholesalers who try to evade the compliance route – nonetheless, since there is a system of checks and balances under the GST and buyers and sellers have to confirm sales and purchases, non-compliance will be unlikely in the long run.</li> <li>• Wholesalers will ultimately be forced to be GST compliant in order to maintain and sustain their business relations with the other players in the supply chain.</li> </ul><br><ul style="list-style-type: none"> <li>• The entire wholesale market is dependent on very low margins. Especially in the wake of demonetization, the entire wholesale market reverted to de-stocking its inventory in order to get higher liquidity because of the cash crunch that hit the nation.</li> <li>• Big names in the fast-moving consumer goods sector such as Dabur and Tata fear that the same situation will arise once again with the GST coming into effect especially because of the fear that retailers have instilled within themselves regarding availing of input tax credit on existing stock of goods.</li> <li>• To give a clearer picture, retailers are registered under their respective state VAT laws under the current indirect tax regime and are required to make VAT payments on the stock held by them as at the date of transition. It is pertinent to note that even though the VAT has been allowed as input credit under the GST regime, there are certain conditions imposed by the government on availing any input tax credit on closing stock – which means that some retailers may be left out.</li> <li>• 100% input tax credit shall be available on goods on which the excise duty has been paid and there are invoices to ascertain the same – in case the invoices are not available then only 40% of the input tax credit may be availed.</li> <li>• Tax on excise is applicable only to the wholesalers and distributors – to the retailers, such excise is passed as an additional cost and due to this reason, retailers are usually unable to claim the entire amount of credit, owing to an absence of information on the invoices.</li> <li>• Pursuant to the GST regime, this cost shall be borne by the consumer, amounting to less competitive prices to other players thereby triggering destocking of inventory by the retailers across the nation (during the transition to GST phase) and then restock their inventory post the</li> </ul> |
|--|---|

|                              |   |
|------------------------------|---|
|                              | <p>transition has settled.</p> <ul style="list-style-type: none"> <li>• This means that for the transition period, wholesaler demand may die down which would amount to wholesalers undergoing to the destocking exercise as well.</li> <li>• Finally, because of such restocking, the ultimate demand for goods is expected to be on the rise.</li> </ul>  |
| Direct Distribution Channels | <ul style="list-style-type: none"> <li>• Wholesalers, especially those linked to provision of fast-moving consumer goods and durable goods, have become wary of wholesale business as the GST date moves closer. The managing director of HUL, Mr.Sanjiv Mehta was recently noted saying that the entire wholesale sector in India would take some time to stabilize post the GST transition, leading to a downturn in the sector when compared to direct distribution channels.</li> <li>• But obviously, the GST regime is expected to cause disruption in the wholesale sector such as bulk transitions, sale for cash consideration, lack of giving credit, maintenance of liquidity, operating on wafer thin margins etc.</li> <li>• More wholesalers shall become part of the tax bracket, increasing both cost and effort. The principal manufacturers shall become extremely important as their role would include servicing the retailers in urban as well as rural areas.</li> <li>• Manufacturers will have to further provide incentives in the form of lower costs and increased commissions to wholesalers – nonetheless, the burden on the direct distribution channel is expected to be lesser as distributors would have entered into agreements with manufacturers for becoming GST compliant, investing in technology and fixed assets.</li> <li>• The wholesale sector thus is envisaged to becoming more expensive as opposed to direct distribution. It is also pertinent to note that manufacturers in the fast-moving consumer goods and durable goods sector shall begin to extend direct reach in an effort to become more cost effective.</li> <li>• The GST regime could lead to an increase in outlets directly owned by the company and an increase in distribution channels – leading to positive news for organized wholesale participants in the market, e-commerce outlets and cash &amp; carry models of business that shall easily take over and crush the unorganized sector.</li> </ul> |
| Open Market policy           | <ul style="list-style-type: none"> <li>• Most supply chain models are made keeping tax liabilities in mind as multiplicity of taxes can lead to greater costs especially when it comes to transactions taking place interstate. This causes wholesalers to enter into business agreements with manufacturers and retailers on an intrastate basis, and limits them from reaching outside the state or growing their business.</li> <li>• Under the GST regime, a more positive boost to wholesalers is expected as firstly the multiplicity of taxes will be struck down. This will lead to the entire nation becoming the marketplace. Further, input tax credit availability will allow manufacturers to become more competitive both intrastate and interstate.</li> <li>• Manufacturers shall have wider room for access when it comes to reaching out to distributors and wholesalers across the country thereby leading to an expansion in the business portfolio. This helps in generation of sales from both the existing retailers as well as serving a higher number of retailers within the same state.</li> </ul>   |

---

In conclusion, the GST is expected to impact the wholesale market greatly. Even though this impact may not be what the market expects with the first few hits, just like how demonetization was rolled out, eventually the ecosystem will see the benefits and advantages of GST. Anyone can survive this wave if there are ready to be in compliance with the taxation, as ultimately, such adherence will allow all players in the market to reap benefits and achieve higher revenue and overall growth.

**REFERENCES**

1. GST website
2. Goods and Services Tax Council. . Retrieved from <http://www.gstcouncil.gov.in/>
3. Roychowdhury, P. (2012). Vat and GST in India - A note. *Paradigm*, 16 (1), 80 - 87
4. Garg, G. (2014). Basic concepts and features of goods and services tax in India. *International Journal of Scientific Research and Management (IJSRM)*, 2 (2), 542 – 549
5. Jain, J. K. (n.d.). Goods and service tax. Retrieved from <https://www.caclubindia.com/articles/goods-and-st-basics25424.asp>

---

**INFLUENCE OF WORKPLACE SPIRITUALITY ON COUNTERPRODUCTIVE BEHAVIOUR  
WITH MEDIATION EFFECT OF PERCEIVED ORGANISATIONAL SUPPORT**

---

**Vishnu Prasanna J<sup>1</sup> and Madhavaiah C<sup>2</sup>**Research Scholar<sup>1</sup> and Assistant Professor<sup>2</sup>, Department of Management, Pondicherry University, Karaikal

---

**ABSTRACT**

*Workplace spirituality and counterproductive behaviours plays vital role for the development of human resource development, this study is all about to find the relationship between workplace spirituality and counterproductive behaviour. The main objective of this study is to know what extent does employees try to adopt and follow workplace spirituality in automobile sectors that helps to reduce the counterproductive behaviour and for this study 200 samples were taken and the participants were the manager level and questionnaires were used in this study and statistical SPSS were used in this study and to test through regression, correlation were used. The study reveals that counterproductive behaviour can be controlled only through the practices of workplace spirituality. The mediation role of perceived organisational support was supported as well.*

*Keywords: Counterproductive behaviour, Workplace spirituality, perceived organisational support*

---

**1. INTRODUCTION**

Workplace spirituality plays important role in all types of organisation and also which human resource development considering the issues towards organisation and workplace spirituality helps HRD for the strategic planning in the organisational context which determines the success and failure of the organisation. Many researchers are interested towards the topic workplace spirituality and counterproductive behavior of employees and by develop the models for it. Literature has given clear view of understanding both the concepts of workplace spirituality and counterproductive behavior and perceived organisational support plays equal important role which has the positive effect on workplace spirituality and counterproductive behavior and many researcher mentioned the issues and effects of workplace spirituality on counterproductive behavior and helps to manage the counterproductive behavior at workplace and boost the organisational productivity.

Many researchers found that negative behavior of employees can be reduced only by practices of workplace spirituality and pointed out that workplace spirituality as the tool for organisation for not only short term but also for long term success of the organisation and trying to adopt some strategies which helps them to work efficiently at workplace.

The concept of perceived organisational support is followed in many organisation and practices in different fields such as hospitality, education, manufacturing etc. Perceived organisational support can be explained in both employee and management point of view and employee has to be supported by immediate supervisors and identifying the issues related to organisation and also problems faced by employees at workplace their supervisors has to identify those issues to overcome immediately so that employee will focus towards the work without flaws and employee has the responsibilities and has to address the management related with the issues so that both management and employee can solve the issues and it helps to pay way for the organisational success.

This study helps for extent for the contribution to the human resource field through counterproductive behaviour. Current study focus towards the improvement of workplace spirituality among employees at workplace which helps to reduce the negative behaviour of employees at workplace through proper support from organisation at right time required at workplace. This study highlight the importance of counterproductive behaviour that helps organisation helps to reduce the risk of physical damage and helps to achieve the goals. Higher degree practices of workplace spirituality leads to achieve the tasks of organisation by overcome the problems at workplace. Many factors which influence the workplace spirituality such as inner life, meaningful work, sense of community, organisational values of which examines relationship with counterproductive behaviour, This study focus on the workplace spirituality and counterproductive behaviour in automobile industries in Chennai and also explore the relationship with workplace spirituality and counterproductive behaviour and mediator with perceived organisational support. Final contribution towards this study is to examine how workplace spirituality reduces the counter productive behaviour.

The concepts of workplace spirituality, counterproductive behaviour will be reviewed and defined in literature and the relationship with related concepts such as perceived organisational support by introducing the theoretical framework of this study.

---

## **2. LITERATURE REVIEW**

(Pawar, 2009) Organisational behaviour concepts has been explained through workplace spirituality and study is about the identifying and following the self-interest towards the work and explained with four concepts of organisational behaviour such as transformational leadership, organisational citizenship behaviour, procedural justice and support from organisation. The result found that organisational behaviour concepts have the positive relationship with workplace spirituality.

(Geigle, 2012) results found that workplace spirituality has the body of knowledge and it has positive effect of workplace spirituality with self-career management, and helps to reduce the frustration and self-esteem and ultimately focus on organisational behaviour.

(Garcia, 2003) explained about the phenomenon and workplace spirituality with the moral principles with spiritual values and impact on productivity and helps to reduce the fear of violating the principles in both private and public sectors which leads to increase the performance and develop the organisational effectiveness and helps to achieve the organisational goals

(Neal, 2003) results found that spirituality in organisation discuss issues related to organisational and also measure the organisational outcomes related to values through spirituality and the spirituality practices at workplace which leads to productivity of the organisation.

(Shrivastava, 2003) results states that workplace spirituality helps to provide good space for work environment where employees will get benefited and promotes the harmonious relationship with employees which is more profitable and fulfil the spiritual need of the organisation.

## **COUNTERPRODUCTIVE BEHAVIOUR**

(Fox, 2011) results found that negative relationship between counterproductive behaviour and workplace behaviour with citizenship behaviour and which perceptions will have the job stress and to overcome those stress workplace spirituality which leads to protects the organisational property such as managing wastage of materials and piece of equipment.

(Clive, 2014) results found that wellbeing of employees which stimulates the counterproductive behaviour and has the impact towards the conflict and managing the wellbeing and organisation which involves the unethical business which leads to aggression and sabotage.

(Bruursema, 2011) results found that positive relationship with boredom with counterproductive behaviour with several factors such as internal and external stimulation and which understand the employees which commit counterproductive behaviour such as theft, sabotage, deviance in production etc. and which suggesting that understanding the reason for boredom with the intervention of counterproductive behaviour.

(Balducci, 2011) results has the negative outcomes which the model of counterproductive behaviour with the job demands such as workload and interpersonal with the role conflict and there decision with support and promotes the organisation and helps to reduce counterproductive behaviour.

(Hunter, 2011) results found that conscientiousness with emotional stability through resource management varies with the function through resources and it has the positive relationship among the employees who has the low emotional stability.

## **PERCEIVED ORGANISATIONAL SUPPORT**

Different approaches and study has been done in the topic perceived organisational support of which it defined as the support which it defined as the support from management either moral or issues related to support from their management and also seek help from employees for smooth running of the organisation and employees who are really focus on the beliefs towards the management and their organisational values and care on the socio emotional needs of an organisation and they focus towards the positive dynamic process which employees tend to work towards rewards and recognition of the employee in an organisation. Perceived organisational support focus on the organisation towards the fairness, supervisor support and organisational rewards and condition of the job.

## **3. STUDY OBJECTIVES**

- To study the relationship between workplace spirituality and counterproductive behaviour
- To analyse the workplace spirituality and counterproductive behaviours which mediates by perceived organisation
- To suggest some ways to control and manage the counterproductive behaviour at workplace.

#### 4. ANALYSIS

##### RELATIONSHIP BETWEEN VARIABLES WITH PERCEIVED ORGANISATIONAL SUPPORT

Researchers revealed that employees will get support from organisation which the resources and proper support from immediate supervisor which has to extent with the contribution of their wellbeing and focused on the esteem with the benefits supported by the organisation because of the fairness the support should be equally shared with the employees and which it leads to reduce in counterproductive behaviour and the reward for employees in an organisation is the important factor which it convert the employees into positive and negative behaviour of which determines the success and failure of the organisation and given equal importance given to values and believes.

Researcher pointed out counter productive behaviour focus on the behavioural activities such as sabotage like damaging the property and those who enjoy the work with organisation values will feel the enjoyable work culture and environment.

Independent variables such as workplace spirituality and dependent variable are counter productive behaviour with the mediator variables such as perceived organisational support.

| Variables in this study      | Mean | Std.deviation | Skewness | Kurtosis | Alpha |
|------------------------------|------|---------------|----------|----------|-------|
| Counter productive behaviour | 3.71 | .5872         | -0.732   | 0.601    | 0.75  |
| Workplace spirituality       | 3.70 | .5162         | -0.613   | 0.632    | 0.78  |
| Individual support           | 3.20 | .55320        | -0.631   | 0.172    | 0.73  |
| Organisational support       | 3.19 | .62101        | -0.802   | 0.687    | 0.72  |

Bivariate correlation analysis

Correlation of which it shows that there is a significant relation among variables in this study and which it indicates the right directions

| Items       | 1     | 2     | 3     | 4    |
|-------------|-------|-------|-------|------|
| CWB         | 1.00  | -     | -     | -    |
| WS          | 0.291 | 1.00  | -     | -    |
| Ind Support | 0.258 | 0.514 | 1.00  | -    |
| Org support | 0.353 | 0.237 | 0.285 | 1.00 |

\*\*Correlation is significant at the 0.01 level (2-tailed)

It's clearly shows that variables workplace spirituality as the independent has the significant relations with counterproductive behaviour 0.291 with workplace spirituality and the moderating variable with perceived organisational support also has the positive correlation with counterproductive behaviour.

#### 5. FINDINGS

Workplace spirituality has shaped the organisation who serves the spiritual practices at workplace and which it leads to increase in productivity and the results of the study which has both positive and negative results and it focus on the individual and organisational outcomes which creates the environment with specific set of values in an organisation workplace spirituality has the specific set of relation which has the positive relation with organisation which influence the outcomes such as counterproductive behaviour with values which investigates the positive strengthening the the relationship and employees with its values of which increase in the salary of which rewards with the commitment with the finding and meaningful work and become friendly of which inner self and reduce the damage in the organisation and the values and the importance of workplace spirituality with counterproductive behavior relationship is justified.

#### 6. CONCLUSION

Correlation promotes the support for the results with the relationship around the workplace spirituality and counterproductive behaviour and present study analysed the relationship between two construct employees in organisational findings with the meaning of work and helps to reduction in the counter productive behavior and those who felt the feelings of workplace spirituality and paves ways for reduction in negative behavior at workplace.

---

**REFERENCES**

1. Balducci. The job demands resources model and counterproductive work behaviour and the role of job related affect. *European journal of work and organisational psychology*, (2011). 2-8.
2. Bruursema. Bored employees misbehaving the relationship between boredom and counterproductive work behaviour. *An international journal of work, health and organisation*, (2011). 4-8.
3. Clive, B. Corporate psychopaths, conflict, employee affective well being and counterproductive behaviour. *Journal of business ethics*, (2014). 12-17.
4. Fox, S., The deviant citizen measuring potential positive relations between counterproductive work behaviour and organisational citizenship behaviour. *Journal of occupational and organisational psychology*, (2011) 11-16.
5. Garcia. Workplace spirituality and organisational performance . *Public administration review*, (2003), 7-9.
6. Geigle, D. Workplace spirituality empirical research : A literature review. *Business and management review*, (2012). 12-14.
7. Hunter, L. Personality and counterproductive work behaviour by using conservation of resources theory to narrow the profile of deviant employees . *Journal of occupational and organisational psychology*, (2011). 8-10.
8. Neal, J. Introduction the leading edge in research on spirituality and organisation. *Journal of organisational change management*, (2003). 2-4.
9. Pawar. Some of the recent organisational behaviour with precursors to workplace spirituality. *journal of business ethics*, (2009). 12-16.
10. Shrivastava, S. (2003). The enneagram system for enhancing workplace spirituality . *Journal of management development*, 12-17.

# MANUSCRIPT SUBMISSION

## GUIDELINES FOR CONTRIBUTORS

1. Manuscripts should be submitted preferably through email and the research article / paper should preferably not exceed 8 – 10 pages in all.
2. Book review must contain the name of the author and the book reviewed, the place of publication and publisher, date of publication, number of pages and price.
3. Manuscripts should be typed in 12 font-size, Times New Roman, single spaced with 1” margin on a standard A4 size paper. Manuscripts should be organized in the following order: title, name(s) of author(s) and his/her (their) complete affiliation(s) including zip code(s), Abstract (not exceeding 350 words), Introduction, Main body of paper, Conclusion and References.
4. The title of the paper should be in capital letters, bold, size 16” and centered at the top of the first page. The author(s) and affiliations(s) should be centered, bold, size 14” and single-spaced, beginning from the second line below the title.

**First Author Name1, Second Author Name2, Third Author Name3**

1Author Designation, Department, Organization, City, email id

2Author Designation, Department, Organization, City, email id

3Author Designation, Department, Organization, City, email id

5. The abstract should summarize the context, content and conclusions of the paper in less than 350 words in 12 points italic Times New Roman. The abstract should have about five key words in alphabetical order separated by comma of 12 points italic Times New Roman.
6. Figures and tables should be centered, separately numbered, self explained. Please note that table titles must be above the table and sources of data should be mentioned below the table. The authors should ensure that tables and figures are referred to from the main text.

## EXAMPLES OF REFERENCES

All references must be arranged first alphabetically and then it may be further sorted chronologically also.

### • Single author journal article:

Fox, S. (1984). Empowerment as a catalyst for change: an example for the food industry. *Supply Chain Management*, 2(3), 29–33.

Bateson, C. D.,(2006), ‘Doing Business after the Fall: The Virtue of Moral Hypocrisy’, *Journal of Business Ethics*, 66: 321 – 335

### • Multiple author journal article:

Khan, M. R., Islam, A. F. M. M., & Das, D. (1886). A Factor Analytic Study on the Validity of a Union Commitment Scale. *Journal of Applied Psychology*, 12(1), 129-136.

Liu, W.B, Wongcha A, & Peng, K.C. (2012), “Adopting Super-Efficiency And Tobit Model On Analyzing the Efficiency of Teacher’s Colleges In Thailand”, *International Journal on New Trends In Education and Their Implications*, Vol.3.3, 108 – 114.



- **Text Book:**

Simchi-Levi, D., Kaminsky, P., & Simchi-Levi, E. (2007). *Designing and Managing the Supply Chain: Concepts, Strategies and Case Studies* (3rd ed.). New York: McGraw-Hill.

S. Neelamegham," Marketing in India, Cases and Reading, Vikas Publishing House Pvt. Ltd, III Edition, 2000.

- **Edited book having one editor:**

Raine, A. (Ed.). (2006). *Crime and schizophrenia: Causes and cures*. New York: Nova Science.

- **Edited book having more than one editor:**

Greenspan, E. L., & Rosenberg, M. (Eds.). (2009). *Martin's annual criminal code: Student edition 2010*. Aurora, ON: Canada Law Book.

- **Chapter in edited book having one editor:**

Bessley, M., & Wilson, P. (1984). Public policy and small firms in Britain. In Levicki, C. (Ed.), *Small Business Theory and Policy* (pp. 111–126). London: Croom Helm.

- **Chapter in edited book having more than one editor:**

Young, M. E., & Wasserman, E. A. (2005). Theories of learning. In K. Lamberts, & R. L. Goldstone (Eds.), *Handbook of cognition* (pp. 161-182). Thousand Oaks, CA: Sage.

- **Electronic sources should include the URL of the website at which they may be found, as shown:**

Sillick, T. J., & Schutte, N. S. (2006). Emotional intelligence and self-esteem mediate between perceived early parental love and adult happiness. *E-Journal of Applied Psychology*, 2(2), 38-48. Retrieved from <http://ojs.lib.swin.edu.au/index.php/ejap>

- **Unpublished dissertation/ paper:**

Uddin, K. (2000). A Study of Corporate Governance in a Developing Country: A Case of Bangladesh (Unpublished Dissertation). Lingnan University, Hong Kong.

- **Article in newspaper:**

Yunus, M. (2005, March 23). Micro Credit and Poverty Alleviation in Bangladesh. *The Bangladesh Observer*, p. 9.

- **Article in magazine:**

Holloway, M. (2005, August 6). When extinct isn't. *Scientific American*, 293, 22-23.

- **Website of any institution:**

Central Bank of India (2005). *Income Recognition Norms Definition of NPA*. Retrieved August 10, 2005, from <http://www.centralbankofindia.co.in/home/index1.htm>, viewed on

7. The submission implies that the work has not been published earlier elsewhere and is not under consideration to be published anywhere else if selected for publication in the journal of Indian Academicians and Researchers Association.

8. Decision of the Editorial Board regarding selection/rejection of the articles will be final.



# INDIAN ACADEMICIANS & RESEARCHERS ASSOCIATION

## Major Objectives

- To encourage scholarly work in research
- To provide a forum for discussion of problems related to educational research
- To conduct workshops, seminars, conferences etc. on educational research
- To provide financial assistance to the research scholars
- To encourage Researcher to become involved in systematic research activities
- To foster the exchange of ideas and knowledge across the globe

## Services Offered

- Free Membership with certificate
- Publication of Conference Proceeding
- Organize Joint Conference / FDP
- Outsource Survey for Research Project
- Outsource Journal Publication for Institute
- Information on job vacancies

## Indian Academicians and Researchers Association

Shanti Path ,Opp. Darwin Campus II, Zoo Road Tiniali, Guwahati, Assam

Mobile : +919999817591, email : [info@iaraedu.com](mailto:info@iaraedu.com) [www.iaraedu.com](http://www.iaraedu.com)



# EMPYREAL PUBLISHING HOUSE

- Assistant in Synopsis & Thesis writing
- Assistant in Research paper writing
- Publish Thesis into Book with ISBN
- Publish Edited Book with ISBN
- Outsource Journal Publication with ISSN for Institute and private universities.
- Publish Conference Proceeding with ISBN
- Booking of ISBN
- Outsource Survey for Research Project

**Publish Your Thesis into Book with ISBN “Become An Author”**

## EMPYREAL PUBLISHING HOUSE

Zoo Road Tiniali, Guwahati, Assam

Mobile : +919999817591, email : [info@editedbook.in](mailto:info@editedbook.in), [www.editedbook.in](http://www.editedbook.in)