



PBME

PERSPECTIVES ON BUSINESS MANAGEMENT & ECONOMICS

Volume II • September 2020

Book Editors

VIJAYA KITTU MANDA

Lead Consultant
Vijay Technologies, Visakhapatnam
Andhra Pradesh, India

DR. NAVEENAN R.V.

Assistant Professor
Koshys Institute of Management Studies (KIMS)
Bengaluru, Karnataka, India

DR. RAJESH RENGASWAMY

Associate Professor & Head
Department of Commerce (IT, Banking & Insurance)
Hindusthan College of Arts & Science, Coimbatore
Tamil Nadu, India

DR. HARMEET MATHARU

Assistant Professor
Department of Commerce (Finance & Marketing)
St. Claret College, Bengaluru
Karnataka, India



Published by

Archers & Elevators Publishing House
Bengaluru, Karnataka, India

ISBN: 978-81-947738-1-8 • Website: www.PBME.in



PERSPECTIVES ON BUSINESS MANAGEMENT & ECONOMICS

VOLUME II • SEPTEMBER 2020

Editorial Team

VIJAYA KITTU MANDA

Lead Consultant, Vijay Technologies
Visakhapatnam, Andhra Pradesh, India

DR. NAVEENAN R.V.

Assistant Professor, Koshys Institute of Management Studies (KIMS)
Bengaluru, Karnataka, India

DR. RAJESH RENGASWAMY

Associate Professor & Head, Department of Commerce (IT, Banking & Insurance)
Hindusthan College of Arts & Science, Coimbatore, Tamil Nadu, India

DR. HARMEET MATHARU

Assistant Professor, Department of Commerce (Finance & Marketing)
St. Claret College, Bengaluru, Karnataka, India

Peer Reviewers

DR. ARUNA POLISETTY

Assistant Professor, Department of Finance, GIM
GITAM Deemed to be University, Visakhapatnam, Andhra Pradesh, India

DR. PRATIMA MERUGU

Assistant Professor, Department of Marketing, GIM
GITAM Deemed to be University, Visakhapatnam, Andhra Pradesh, India

DR. SOWDAMINI THATTA

Assistant Professor, Department of Human Resource Management, GIM
GITAM Deemed to be University, Visakhapatnam, Andhra Pradesh, India

Publisher

ARCHERS & ELEVATORS PUBLISHING HOUSE

131, AGB Layout, 6th cross, Hesharagatta Main Road, Bengaluru 560 090, Karnataka, India
Phone: +91 91643 62263; E-mail: archerselevators@gmail.com; Website: www.aeph.in

Web: www.pbme.in
ISBN: 978-81-947738-1-8



All rights reserved. No part of the publication can be used in any form or by any means without prior permission in writing by the Editors. The opinions and views expressed in the book are based on the personal judgment of the author(s); they do not represent the views of this book, the editors, or that of the associated organization. We believe that the papers/articles given by the author(s) are original and have not been published in any publication in part or full, are found so; this book shall not be responsible.

While every effort is made to avoid mistake/error in the book, the publishers and editors shall not be responsible for any error caused due to oversight nor shall they own any responsibility for the loss or damage caused to any individual/organization due to such omission or error. The views expressed in the articles in PBME do not necessarily reflect the opinion of the publishers.

Perspectives on Business Management & Economics

Volume II • September 2020

Copyright : Editors

ISBN : 978-81-947738-1-8

Price : Rs. 600

Publishers:

Archers & Elevators Publishing House

131, AGB Layout, 6th cross, Hesharagatta Main Road, Bengaluru 560 090, Karnataka, India

Phone : +91 91643 62263

E-mail : archerselevators@gmail.com

Website : www.aeph.in

Printed by A&E Press, Bangalore.



PREFACE

We are sure that the current volume will give an exciting insight to the readers. As the world is moving through the COVID-19 pandemic, we are going to mark the start of an era. Experts worldwide have already started speaking about the same, and many industries have started their transition in response to what is hinted. Each and every paper contributed to this volume has its own significance. Few papers will give the readers an idea about the scenario pre- COVID-19; few papers highlight the transition phase and give an insight on how post- COVID-19 is going to be. Thus, we believe that this volume has to potential to help the researchers in conceptual development, research Gap identification etc.

The **Perspectives on Business Management & Economics - Volume II** is a multi-starrer. Yes, it has papers touching a variety of streams ranging from Tourism to Engineering. The issue was called for with the intention of creating a volume, which provides food for the thoughts of readers of multiple streams. The contributions of our respected authors have made our dream come true. A book volume is not just a collection of papers holding relevant information but is more than that. It not only provides information related to a stream but also kindles the thought of the researcher within the reader. It opens the scope of research by showing the link between concepts and fields. Thus, we believe that this volume is a collection of values contributed by the ignited minds of researchers. We are hoping that the flame of knowledge will grow with the constant support of all stakeholders.

The PBME team has put constant efforts in setting higher research standards to the contribution, only with the ambition of creating a research sensitive society. We here believe in learning and growing together. Our effort is consistent, and we are persistent in doing what we believe. Let us strive together for a better tomorrow.

Editorial Team

Perspectives on Business Management & Economics

Volume II • September 2020



ABOUT THE EDITORS

Mr. Vijaya Kittu Manda has near to 11+ years' experience in capital markets, financial planning, and investing. He is an Advocate, an IT Entrepreneur, and an Investment Trainer. He started his investing in college days and is an avid reader of magazines and periodicals on the subject since then. He has 10 University Postgraduate Degrees on different subjects and has NISM Certified in multiple topics. His passion for investing made him study MBA and MA (Economics), and he is currently pursuing a Ph.D. in Management with a specialization in Mutual Funds. He always encourages everyone to learn any subject that drives them towards their life goals. He also guides Undergraduate and Postgraduate students of Management and Engineering disciplines in their project work. As a securities market researcher, he is the author of several research papers that were published in reputed International Journals and Case outlets. Some of his scholarly papers are accessible at <https://bit.ly/KWJ-GS> He is a peer reviewer to several international journals.

Vijaya Kittu is an avid writer and is the author of an academic book – *Foreign Exchange Markets* and *The Basics of Trade & Commerce: An Introductory Guide to Business Essentials*. He was a columnist to several magazines on IT and newspapers but has switched his focus to investing; he currently writes for four leading financial weeklies – Smart Investment (in English & Gujarati), Smart Plus Newsletter (English), and Smart Bonanza (Gujarati). He also writes to other national newspapers regularly on topics related to Finance and Economics.

Dr. R.V.Naveenan is an Assistant Professor at the Koshys Institute of Management Studies (KIMS), Bengaluru. He has done his undergraduate in the stream of B.Sc (Physics) at Nesamony Memorial Christian College and his post-graduation in MBA Finance and Marketing from Noorul Islam College of Engineering. His area of expertise is Finance and Banking. A dedicated teacher and a dedicated student of research, he has close to 11 years experience in teaching. He worked for several institutions including at the School of Commerce and Management Studies, Dayananda Sagar University, Bengaluru.

Dr. Naveenan has published various papers related to banking in 11 National and International Journals and has presented 24 papers in various national and international conferences. He is a resource person for several events at various institutions.



Dr. Rajesh Rengaswamy is an Associate Professor and Head, Department of Commerce (Information Technology), and Department of Commerce (Banking & Insurance), Hindusthan College of Arts and Science (Autonomous), Coimbatore. He has 20+ years of teaching and research experience. He is a Postgraduate in Commerce and has received a Ph.D. in Commerce from Bharathiar University.

Dr. Rajesh has authored four books published by leading International and National publishers. He has published papers in several high quality and reputed journals. He has served as Member of the Board of Studies in reputed Institutions. He is a reviewer for many National and International Journals. His areas of interest include Accounting, Finance, Strategy, and Information Technology. He has guided and produced 9 M.Phil., Scholars, and is presently guiding 4 Ph.D., Scholars.

Dr. Harmeet Matharu is a Doctorate in Management, PGDEM, MBA with dual specialization in Finance & Marketing and a Commerce graduate is working as an Assistant Professor at St. Claret College, Bangalore. She has 15 years of vast teaching and industrial experience. Having pursued her education from Punjab, she has rich experience in the academic industry catering to the needs of graduate and postgraduate students in the streams of Commerce and Management. She has guided many postgraduate students with respect to their project works.

Dr. Matharu has shown her expertise in the fields of finance and marketing related subjects. Her several papers were published in National and International journals, and presented papers at several Conferences. She authored a book on Banking Law and Operations for Bangalore University and on Organisational Behaviour for Mysore University. She was awarded as Indo Global Exemplary Educator award from Indo Global Chamber of Commerce and Agriculture Industries, Pune. She is a Review member for the Journal of Emerging Technologies and Innovative Research and the Associate Editor of the International Journal of Commerce and Management Studies.



CONTENTS

Chapter Number	Title of the Chapter & Author(s)	Page Number
1.	COVID-19 IMPACT ON INTERNATIONAL TRADE <i>KIRTI SRIVASTAVA</i>	1
2.	THE INVISIBLE TRIBAL TOURISM IN ANDAMAN & NICOBAR ISLANDS <i>MOUSIME XALXO</i>	15
3.	UNDERSTANDING B TO B INDUSTRY CONSUMPTION DEMAND: A CASE STUDY OF STEEL USAGE IN CERTAIN INDUSTRIES <i>SONIA PURANG</i> <i>DR. RAYCHAUDHURI P.S.</i>	24
4.	SUSTAINABILITY OF PEER TO PEER LENDING <i>MONISHA DEVARAJAN</i> <i>SARANYA SASIDHARAN</i>	37
5.	USE OF SOCIAL MARKETING IN THE PUBLIC HEALTH SECTOR <i>MANJU M. KAIMAL</i> <i>DR. SAJOY P.B.</i>	46



Chapter Number	Title of the Chapter & Author(s)	Page Number
6.	DIGITAL TECHNOLOGY EVOLUTION IN HEALTHCARE: INDIA'S STRATEGY TO FIGHT AGAINST COVID-19 <i>SHIVAM SHUKLA</i> <i>DR. RAYCHAUDHURI P.S.</i>	54
7.	ROLE OF DIGITAL TECHNOLOGIES FOR WOMEN ENTREPRENEURSHIP IN INDIA <i>DR. JYOTI CHANDWANI</i> <i>DR. SUSHMA VERMA</i>	62
8.	ECONOMICS AND FINANCE - AN ENGINEERING PERSPECTIVE <i>DANIEL DAS A.</i>	72
9.	A STUDY ON THE IMPACT OF SOCIAL MEDIA MARKETING ON BUYING BEHAVIOR OF APPARELS IN YOUNG ADULTS IN BANGALORE NORTH REGION <i>SHWETHA C</i> <i>MALLIKARJUN CHANMAL</i> <i>DR. RASHMI BH</i>	85
10.	GREEN HUMAN RESOURCES MANAGEMENT TRENDS IN PRESENT SCENARIO <i>SIREESHA PIDAPARTHI</i>	95



Chapter Number	Title of the Chapter & Author(s)	Page Number
11.	GREEN HRM: A PATHWAY TO SUSTAINABLE BUSINESS <i>ASHITHA AB</i> <i>DR. ANU L</i>	106
12.	THE ROLE OF FINANCIAL INTERMEDIARIES IN ECONOMIC DEVELOPMENT <i>DR. VENKATA RAMAKRISHNA RAO GANDRETI</i>	118
13.	STRESS MANAGEMENT: TECHNIQUES TO TACKLE STRESS AT WORKPLACE <i>POOJA BHOWMICK</i>	129
14.	THE ROLE OF FARMERS PRODUCERS ORGANIZATIONS IN LINKING FARMERS TO AGRI-COMMODITY MARKETS <i>DR. SAFEER PASHA M</i>	138
15.	REAL-TIME GOVERNANCE SYSTEM IN FARMING: A CROSS-COUNTRY COMPARISON <i>SREEYA NARRA</i>	146





COVID-19 IMPACT ON INTERNATIONAL TRADE

KIRTI SRIVASTAVA

Assistant Professor
Christ Academy Institute of Law, Bengaluru, Karnataka, India
ORCID: 0000-0002-3136-2835

ABSTRACT

The impact of COVID-19 that started from local China has sent a ripple impact globally. Since the identification of COVID-19 in December 2019, the world has become a witness to its impact on the economy and human life loss. Global markets are in free fall with the disruption in the supply chain and reduced manufacturing due to lockdowns and restrictions. With the reduced global trade and falling GDP forecasts, the world is stepping towards an anticipated recessionary period. This chapter covers the impact of COVID-19 on international trade and its issues and actions. Trade is an essential system that protects livelihoods and boosts the country's economy. Due to ongoing COVID-19, the impact on trade is severe. The demand for non-essential commodities has fallen sharply. Though the impact of trade is less for developed countries, its impact on developing countries is far worse. Due to the ongoing pandemic, the GDP has fallen by an overall 2 percent for the world, where we have observed that 2.5 percent is for developing countries and 1.8 percent for the developed countries. It is too early to assess the full impact of COVID-19 on the trade, but in this uncertainty, the country can do the following to keep the impacts minimized. 1) Improve transparency about trade policy, which will boost confidence in traders. 2) The supply of essential products should not be disturbed, and 3) Restrictions on export should be reduced. The Government also needs to ensure that the decisions are taken keeping in mind the impact on producers and consumers. Though this study is illustrative, it still gives a clear understanding of the extent of global economic pain for developing countries and the assistance that will be needed to bring the economy back on track.

KEYWORDS: COVID-19, COVID burden, global trade, economic impact

JEL CLASSIFICATION: E00, B17, F10, F13, F17

CITE THIS ARTICLE: *Srivastava, Kirti. (2020, September). COVID-19 Impact on International Trade. In Perspectives on Business Management & Economics (Vol. II, pp. 1-14). Retrieved from <http://www.pbme.in/papers/41.pdf>*

ARTICLE HISTORY: Received: July 20, 2020; Accepted: September 22, 2020;
Published: September 30, 2020



INTRODUCTION

This research aims to come up with early evidence for the impacts of the ongoing coronavirus pandemic on international trade. The World Health Organization (WHO) recognized the pandemic on March 11, 2020. According to the WHO website, as of May 16, 2020, more than 300,000 deaths from COVID-19 have been reported worldwide. Many countries imposed some form of rules and restrictions on people, work, and businesses so as to control the spread of the COVID-19. Almost many countries have decided to declare citywide or nationwide lockdowns. Also, many countries have restricted an entry ban on foreigners. These restrictions imposed by different countries have seriously hurt the worldwide economy. For example, China's Economy diminishes by 6.8 percent in the first quarter of 2020. This fall is the first contraction since 1992 when China began releasing its GDP data. According to the World Economic Outlook, April 2020 by the International Monetary Fund (IMF), the global economy is projected to contract by –3 percent in 2020 sharply. Economists have responded quickly to this pandemic and investigated the economic impacts of COVID-19. COVID-19 can be expected to impact international trade in various ways substantially. Naturally, a high level of negative impact in an exporting country can decrease the volume of production, which is the main reason for the decrease in export supply. Exports will decrease particularly in industries and countries where remote work/operation is less feasible. The impact of COVID 19 in an importing country is basically due to a fall in aggregate demand in that country. The ongoing pandemic and current pattern of salary cuts in all the sectors and even fewer visits to the retail stores is the main reason to fall in demand for the goods. The impact of COVID 19 on international trade in one country may also be affected by the burden in its neighboring countries. For example, fewer exports from an affected country generate export opportunity for its neighbor countries. On the other hand, decrease production shocks due to COVID-19 in a country may reduce production in neighboring countries through supply-chain networks. The world is going through a hard time – socially, politically, and economically. The COVID-19 pandemic has taken away nearly 657,276 lives globally, and almost 16,674,047 of people are affected by the virus. And this is a big loss in terms of human lives. If we see another side, the effect of this virus is not in control the world is in a deep economic slowdown right now. The COVID 19 pandemic has given us unexpected and complicated challenges that are very difficult for the global economy and international trade. The world market hit very badly due to the pandemic and damage to it is undesirable. The world trade organization (WTO) has compared the economic loss that has resulted from pandemic with the financial crisis of 2009 and the great depression of 1929. It has also predicted that global trade will fall from 13 percent to 32 percent.

Here the question is, why the situation has taken a serious turn?

Whereas if we differentiate the ongoing economic slowdown because of COVID 19 with the financial crises of the year 2009 and time of 1930s great depression the COVID 19 pandemic harms and loss on the Economy and worldwide market is bigger and very remarkable. If we focus on the Great Depression, 1930s the economic situation in reasonable shape even the banking system was not short of capital. However, the case of the COVID 19 pandemic is different. This is clear that in the coming years almost the next 5 to 8 years we are going to



face the same situation and ongoing loss in the production and banking sector. After coming up with this pandemic situation, the financial reserve is all gone, and plans of economic growth stop or not in progress. Due to this serious virus, the whole sector of economies is shut down. If we look back at the time when this virus was not identified, we were trying to achieve a better economy and putting all positive efforts to reduce the trade tension between different countries and slow growth of the economy, in the year 2019 trade and worldwide market was already shaking. Also, the situation of the transport and travel sector very badly hit by the pandemic was not during the financial crisis 2009 the time of ten years ago. The WTO has clearly announced that all sectors in the world will face double-digit declines in imports and exports in 2020 and coming years, except for Africa, the Middle East, and the Commonwealth of Independent States (CIS). The world's major economic powers such as the U.S., China, UK, Germany, Italy, France, Japan, and many other rising economies like India, etc. are on the verge of collapse. The prices of crude oil have fallen off a cliff and the OECD stated that global growth could be cut in half to 1.5 percent in 2020 if the virus continues to spread. For production, the world needs human labor, and half of the globe at present is under lockdown for an indefinite period which is going to have a huge impact on the economy and trade in general.

OBJECTIVES OF THE STUDY

1. To understand the Impact of COVID-19 on International Trade
2. To discuss the consequences of COVID-19 on international trade.
3. To discover actions that can minimize the impact of COVID-19 on International trade
4. To determine the relation between GDP and international trade.
5. To discuss international trade post-COVID- 19 scenarios.

FINDINGS

1. IMPACT OF COVID-19 ON INTERNATIONAL TRADE

Growing nationalism and countries trying to protect domestic industries by taxing imports has put a brake on the growth that the world trade was witnessing over the past years. It has also impacted tourism and globalization. We all know that the ongoing tension between the United State and China has already impacted the global trade in 2019, on top of that COVID-19 has acted as an accelerant and ignited the rate of fall. The world trade organization has already estimated the trade to drop from 13 percent to 32 percent depending on how severe the pandemic becomes. If the situation gets worse then trade fall will be more and if the situation is controlled the impact will be less. "These numbers are unbelievable" WTO Director-General Roberto Azevedo mentioned in a press conference in the matter while highlighting the role of free trade on the path to recovery. If a country wants to encourage the investment post-COVID-19 it would need to keep its market open and predictable, also it needs to create an environment that will favor the growth of the business. To make sure that the economy grows and recover faster it would be the job of not just one but all the countries to come together and work on it. COVID-19 Burden in Exporting Countries: The spread of COVID-19 has imposed social distancing and lockdown measures on every step of the growth these measures almost stop the people's mobility in their workplace and other service areas.



Closures of the different sectors reduce the size of the workforce. death is the reason which directly reduces the strength of work and power of the labor force and these changes reduce supplies of goods and services and lower their price elasticity even negatively affect all other production work, moving the country's supply curve upward and making it steeper.

COVID-19 Burden in Exporting Countries

We know that COVID19 impact on an exporting country diminishes the volume of production, which is the basic reason for reduced export supply. However, there are two main components in determining the net effect on export supply. So, the first element is a fall in domestic demand for export goods. The COVID 19 impact is not only the production of products but even domestic demand for that product too. If the fall in domestic demand is bigger than the fall in production, a net increase in exports could be realized by diverting the amount not consumed at home to the export market the other component is the effect of introducing remote work/operation on productivity. various countries have attempted to sustain economic activity by introducing such telecommuting systems. If these systems improve productivity or efficiency in production, the export volume could increase. If remote work/ operation is less feasible then the scale of production would decrease. For example, in labor incentive industries/country these remote work operations will not feasible because industries need person presences at the time of the work; even some industries with less developed information technology infrastructure would not be feasible. There are maximum chances in these types of countries and industries where exports are likely to decrease due to decreased productivity.

COVID-19 Burden in Importing Countries

The burden of COVID 19 on an importing country's trade is decreasing the aggregate demand of that country. Because of ongoing lockdown and sudden salary cuts from all the sectors of employees reduce people's earning and lead to a fall in aggregate demand; due to this cut off people started less visit for supermarket and retail stores resulting in decreased demand. As is mentioned by Eaton et al. (2016), who find the effect of the global recession in 2008-2009 on trade, negative demand shocks could decrease spending on durable goods more than spending on non-durable goods. This greater fall is because durable products are "postpone-able" (Baldwin and Tomiura, 2020). On the other hand, uncertainty about the future or "panic buying" may improve the demand for non-durable goods. Also, the import demand for sanitation products, such as face masks and hand sanitizer, may increase due to increased demand for products that defend against COVID-19 infection.

COVID-19 Burden in Neighboring Countries

The international trade of one country can be affected by the COVID-19 burden in its neighboring countries. Decreased exports from a country's neighbors due to COVID-19 create an export opportunity for that country because importing countries may change their import source from the neighboring countries to that country. We may call this effect the "substitution effect." Also, decreased imports in the neighboring countries affected by COVID-19 may lower



market prices due to decreased demand levels. This decrease in trade prices in the international market may increase imports in other countries. The other impact is a negative effect, which we call the "contagion effect." Negative production shocks resulting from COVID-19 in a country may reduce the production of other countries through supply-chain networks.

2. CONSEQUENCES OF COVID-19 ON INTERNATIONAL TRADE AND WHETHER IT IS TEMPORARY TURBULENCE OR PARADIGM SHIFT

International trade is one of the sectors that has been hugely impacted by the current pandemic. Since it is too early to measure and conclude on the impact that this pandemic is going to leave and how the decisions taken by country are going to impact the trade, in the long run, makes the study limited. Instead of identifying and analyzing the probabilities of different scenarios, we are considering and categorizing the study in two parts i.e. short term and long-term consequences. As part of these two, we will understand and cover how COVID is going to impact trade on a short-term basis and what mark it is going to leave on the longer run.

Short-term consequences of the COVID-19 pandemic

The COVID-19 outbreak has already caused deep disruption to world trade, affecting both the availability and demand sides of the worldwide economy. Government across the world has proposed and in cases ordered lockdown as part of which the non-essential manufacturing facilities were shut off temporarily. Multiple corporations have also taken such measures due to a reduction in demand and supply of labor. The impact of the COVID-19 pandemic on the international service sector is the most visible. As per the assessment done by the United Nations Conference on Trade and Development (UNCTAD), they have estimated that global foreign direct investments are likely to shrink by 5-15 percent in 2020. As the consumers are also not willing to spend on non-essential commodities, the demand for the non-essential commodity has also seen a deep dive. The reason for this phenomenon is unemployment that is created due to industries either being shut down or closed due to lockdown and uncertainty. This decline is going to continue further if there is no improvement in the current pandemic situation.

These past weeks have also seen a major increase in states' recourse to COVID-19-related foreign policy measures. While some countries have decided to restrict or control the export of medical products due to the current pandemic, others were concerned with the food and essential commodities. Thus, there has not only been a restriction on ventilators and certain drugs there have also been restrictions on agriculture products. These decisions had led to genuine concerns about food and medical equipment shortage in the global market. The seriousness of this matter led to a joint statement by the Directors-General of the Food and Agriculture Organization, the Global Health Organization, and also the World Trade Organization (WTO), during which they noted that "uncertainty about food availability can spark a wave of export restrictions, creating a shortage on the worldwide market". They also called on the countries to assure and ensure that their trade-related measures don't disrupt the food supply chain. However, it'd be a slip-up to think that this epidemiological situation has



only resulted in an exceedingly wave of trade restrictions. the image is far more complex. A variety of states have recently removed or suspended some trade controls. The aim of all of those measures is to confirm that there are sufficient supplies to domestic markets.

Interestingly, some trade restrictions are reduced (at least temporarily) even between the USA and China, the rivals that are stuck during a trade war for the last two years. Specifically, the USA has decided to exclude a spread of medical protective gear and equipment from additional duties imposed previously under its Section 301, and new products could also be added thereto list within the future. Similarly, China has granted temporary exclusions for sure U.S. goods (reagents or disinfectants) from its counter-duties. The pandemic has also stalled the progress of varied international trade initiatives around the globe, as states are currently preoccupied with the crisis. a decent example is that the new agreement between the USA, Mexico, and Canada (so-called USMCA) that's alleged to replace the present NAFTA arrangement. Although it's already been ratified by all three parties, its entry into force depends on the successful implementation of its obligations at the national level.

While the initial plan was slated for June 1 2020, this initiation date is now unsustainable. Similar problems could also be faced by the US-China Phase 1 trade deal concluded in January 2020 – the preliminary agreement that sets prerequisites for ending (again, a minimum of temporarily) the trade war between the countries. On its basis, China undertook to get more U.S. goods and repair, while the U.S. agreed to lower a number of its tariffs introduced for Chinese products between 2017 and 2019. it is unclear whether, within the present situation, China is going to be able to meet the specified purchase thresholds, and equally whether the USA is ready to deliver a sufficient number of products and services. On the opposite side of the Atlantic, talks between the United Kingdom and also the EEC over future trade relations have also stalled. in step with the withdrawal agreement, the transition period for the United Kingdom ends on December 31, 2020. If no deal is reached, the mutual trade relations are going to be governed by WTO rules.

Long-term consequences of the COVID-19 pandemic

The global economy is constructed on the specialization of labor across countries. In line with the speculation of comparative advantage, which provides the muse for the present system of the international exchange of products and services, such specialization allows for maximization of total output and improvement in welfare. The COVID-19 pandemic has shown, however, that clear benefits of the system include costs. When a country becomes a "single-source provider for a particular product, it can create a difficult situation in case of crisis. It has largely been observed in this pandemic situation as well, where these disruptions had significant impacts both on individual and global systems. Such a situation becomes particularly problematic in times of crisis when production facilities don't seem to be fully operational, while the demand of the domestic market may require countries to redirect a part of their export. this can be also true for other sectors, whether or not the results of possible disruptions don't seem to be so dramatic.

This newly discovered risk may eventually result in profound changes in existing supply chains. The first signs of such a process are visible over recent years with the Trump Administration



pressuring American companies (albeit for various reasons) to maneuver their production back to the USA or outside of China. While these actions or proposals have only been partially successful earlier, it is going to get a strenuous response after the outbreak. Interestingly, it seems that both private companies and governments may now have an interest in introducing such modifications. From the purpose of view of personal companies, shortening and diversifying supply chains will be a rational strategy that permits them to make sure smoother operations and eliminates the chance of supply shortages. For governments, this could be how to limit dependence on one country (particularly in emergencies) and as a consequence, make them better prepared for future crises. U.S. Secretary of State Mike Pompeo in an interview, stressed the necessity to "fundamentally review our supply chains and confirm that we all know those supply chains and have control over them for moments similar to this."

It seems that this approach is followed irrespective of who wins the upcoming Presidential election. Within the past, regulatory initiatives geared toward reducing vulnerabilities in supply chains have attracted bipartisan support within the American Congress. Based on the historical data, we can implicate that the impact of the pandemic is even more far-fetching. They forecast a resulting deep and lasting transformation of the method of globalization. The new world, needless to say, to emerge, are characterized by tighter immigration rules, newly erected trade and investment barriers, and technological decoupling, with a central role reserved for states instead of for international institutions (as it seems that only states are capable of offering solutions to existential challenges like the COVID-19 pandemic). It seems that some fundamental reorganization of the worldwide economy and international order has been occurring for a few times. Global trade restrictions are on the increase for the last number of years, and that they don't seem to be limited to the economic relations between the USA and China. The European Union, which is traditionally very receptive international trade, has recently taken a more assertive stance in its willingness to impose more vigorously its anti-dumping duties, countervailing measures, and trade sanctions, moreover, on undertake strategic investment screening. Technological decoupling – seen by both China and therefore the USA in terms of competition for global technological supremacy – has been a vital part of their trade war. A series of the recent competition proceedings by the European Commission against American technological companies also seem to constitute one among the weather of this process. Whether this may result in the resurrection of national states (as suggested above) or rather to a segmentation of the planet that may be supported regional economic blocs around local hegemony that compete against one another within the global power game remains an open question.

3. ACTIONS THAT CAN MINIMIZE THE IMPACT OF COVID-19 ON INTERNATIONAL TRADE

In a challenging and unsure situation, trade is important to save lots of lives –and livelihoods COVID-19 could be a humanitarian crisis on a world scale. The foremost recent estimates within the June 10 OECD Economic Outlook suggest an unprecedented collapse within the half of 2020 – an almost 13 percent decline in global GDP. Trade is crucial to avoid wasting both lives and livelihoods. But keeping trade flowing requires co-operation and trust –for example, that the market will supply essentials, that countries won't impose export restrictions,



which imports don't pose health risks. This can be a selected challenge at a time of trade tensions, where the international trading system was already subject to an increased number of recent restrictions and distortions, from tariff increases among major traders to significant government support in key sectors. Efforts at dialogue to manage and forestall tensions through ongoing negotiations are now complicated by mobility restrictions. With these tensions and the economic situation growing it is important to avoid the present trade tensions. Despite considerable uncertainty, the following four actions can be taken now:

Boost confidence in trade and global markets by improving transparency

World Trade Organization needs to bring and improve transparency in the trade and global market, which will not only boost but also bring confidence in the market. A transparent, shared, and strong information base is critical when we talk about trade flows between countries. Countries should also notify trade measures that have been taken in response to COVID to WTO and also be lenient to the cargos that had left and about to reach before the measures were enforced. Trade-related actions that are being taken by the countries impacting and non-impacting other countries are continuously being shared with WTO by the OECD. It is also assessing the impact of these actions and what should be done to deal in case it created a crisis.

Keep global supply chains going, especially for essentials

The priority of every country during the pandemic should be to keep the supply chains for essential goods going. This can include medical and food products and ICT goods and services. This though will not be as easy as it sounds, and there will be several challenges to keep these trades going. The challenges are:

1. Limited availability of air cargo while shipping of essentials goods due to cancellation of passenger flights due to travel ban. This has increased the price of air cargo.
2. Drop-in cargo shipments were observed on important shipping ports between 10-20 percent due to changed port protocols due to port closure and quarantine measures. This is even after some countries have set up "green lanes" to accelerate the processing of cargo.
3. Due to restrictions in the movement of containers due to the spreading of viruses, a large number of shipping containers got stuck in the ports. This led to a shortage of products in the market and an increase in the price rise.
4. Due to laborers migrating back to their hometowns, there has been unavailability and raised costs due to increased protective measures.
5. Lockdown has also limited mobility and thus affected the trade process.

The above challenges have added pressure on the time and costs of international trade. The need for the hour is to find the solutions to the logistical constraints and this needs to be coordinated between the Government and private sector. An immediate issue is to facilitate essential commodity which is needed to tackle COVID-19. For example, before COVID-19 China was the main manufacturer of surgical masks but during the pandemic period it was not enough and even they had to import it from other countries. China increased production from



20 million to 116 million by the end of February and is now exporting to other countries. To keep the trade-in essential supplies flowing we would need to remove the barriers such as tariff, expediting certification procedures, and enhance trade facilitation to keep good moving as quickly as possible. Countries would also need to ensure the flow of food supply to quarantined areas, and ensure that COVID-19 related sanitary and phytosanitary (SPS) requirements remain nonrestrictive.

In the short term, we can do the following things to keep trade flowing:

1. Speed up and digitize border checks for medical products and food items and minimize the need for physical interaction.
2. International co-operation on the risk management needs to be boosted to tackle the further spread of the virus.
3. Keep trade moving through enacting regulations to enable e-payments, e-signatures, and e-contracts.

Avoid making things worse

Due to the ongoing pandemic, there have already been many unavoidable costs that industry or organization is bearing, so in this tough time, we should avoid actions that can add up to the costs for traders and consumers. Countries at first need to avoid the export restrictions on essential goods such as medical, food, and childcare. Currently, more than 60 countries have restricted exports on essential goods taking into consideration their own country and are stockpiling these commodities. These restrictions though lower the domestic prices and raise availability these are only temporary. This diversion in supply from the world market also puts pressure on international prices, which impacts the countries that are mostly dependent on international trade.

Export restrictions also risk and undermine the confidence in international markets and can lead to the importing countries in hoarding and panic buying. The current market condition shows positivity and prices look to stay low. But if the restrictions continue then this can lead to the creation of avoidable problems. I won't suggest that it is wrong for a country or the Government to keep the concern of the nation first but in doing so they should not forget or consider its impact on other countries. If it is not considered then the impact of the second or third wave will be severe in the underdeveloped and developing countries.

Developing or economically weak countries that are dependent on the import of goods cannot bear the cost of developing the supplies in their own country as it will increase the cost. Areas which are isolated due to virus will have the worst impact as they have to rely on the local economy to guarantee the supplies of the essential commodity. Transparency, global dialogue, and co-operation are essential in building confidence in global supply. If export restrictions cannot be avoided entirely in the current political context, agreements to place strict conditions on their temporary use are vital. More broadly, to maintain confidence in global markets and co-operation, there is a need to avoid further escalation in ongoing trade tensions.



Comparing the current situation with the Global Economic Crisis

The world has faced a similar economic crisis earlier as well, and the question on everyone's mind is whether the situation is going to change. The best way to do so would be comparing the current situation with the Global Economic Crisis 2008-2009.

How is the current economic situation different?

1. The first difference is the limitation/ restriction in mobility restrictions which impose additional costs
2. Pandemic impact, particularly medical equipment and biosecurity for food.
3. Given that the current pandemic is more limited to physical contact, it can be considered more as services-driven
4. This crisis has a varying impact on MSMEs. While in some sectors it is more in others, it is less.
5. There has been a disruption in the productions due to lockdowns, which has resulted in the increased pressure on supply chains.

Similarities

1. Impact on employment will be similar in both the cases, with significant implications for supporting workers in mass unemployment
2. The crisis has staggered effects globally, with Africa likely again to be last to experience (but also least equipped).
3. Governments are facing the challenge of having to act rapidly and on a large scale across a wide range of policy areas.
4. Governments have to think about the immediate term and long term at the same time.

Look beyond the immediate and on the long run how to bring trade on track

While the country goes through a tough time, it is also needed to not just focus on immediate recovery but a mechanism to make a recovery stay on track for a longer run. A possible agreement among countries could include elements such as:

1. **Ensuring transparency:** AMIS, created in the wake of the food price crisis of 2007-2008 for governments to share information on markets, policies, and stocks for key commodities, has underscored the value of timely information and transparency in preventing crises induced by panic buying, hoarding, or export restrictions. Ensuring transparency concerning trade-related measures related to medical supplies, such as through sharing information with the WTO, can play an important role in maintaining confidence in global supply.
2. **Cutting tariffs on essential medical products:** Countries could explore a WTO, including the plurilateral, initiative to remove tariffs on a to-be-agreed list of essential medical supplies (similar to the agreement reached on Information Technology products).



3. **Disciplines on export restrictions:** This could range from agreement to prohibit export bans for certain kinds of goods, or to codify strict conditions on their use, building on the current G20 agreement that states that: "emergency measures designed to tackle COVID-19, if deemed necessary, must be targeted, proportionate, transparent and temporary, and that they do not create unnecessary barriers to trade or disruption to global supply chains, and are consistent with WTO rules".
4. **Upfront investments in co-operative solutions:** The creation of stockpiles of essential medical supplies could include co-operative arrangements for the creation of such stockpiles, including on a regional basis.
5. **Addressing the needs of the most vulnerable countries:** Measures, for example with export restrictions and creation of regional stockpiles, could include specific exemptions or assistance to address the needs of the poorest countries.

4. THE RELATION BETWEEN GDP AND INTERNATIONAL TRADE

Compared to China export losses are also expected to be high for EAP countries, the study suggests. The novel coronavirus shock could reduce global exports by 4.6 percent and global gross domestic product (GDP) by 3.9 percent, according to a study published by the World Bank. The study by Maryla Maliszewska of the World Bank and other authors consider two scenarios. First, a global pandemic where all countries are assumed to bear 50 percent of the shock felt by China. Second, an amplified global pandemic where the economic shock for the rest of the world is prolonged. In estimating the hit to trade and output, the study examines four different shocks: A small reduction in labor supply, a significant rise in trade costs, falling tourism, and a shift in household demand for consumption goods from outdoor services. In the amplified scenario, these shocks are assumed to be double compared to the baseline. For a non-prolonged scenario, the authors estimate a 2 percent decline in global GDP, a 3.7 percent decline in China's GDP, and a 2.5 percent drop in international exports. For high-income countries, GDP loss is estimated to decline by 1.9 percent. On the other hand, the decline is larger at 2.5 percent for developing nations. In an amplified scenario, the study sees global GDP falling by 3.9 percent, China's GDP falling by 4.3 percent, and global exports declining by 4.6 percent. In both scenarios, the study finds East Asia Pacific (EAP) countries witnessing the largest loss. Depending on the pandemic's intensity, Cambodia and Thailand may likely see a 3-6 percent GDP loss, the highest in this cohort. Singapore, Hong Kong, Malaysia, and the Philippines are expected to witness a bigger impact on their output.

5. INTERNATIONAL TRADE POST-COVID- 19 SCENARIO

The COVID 19 pandemic is the biggest reason for the economic imbalance in the world, as with the health crisis emerging the world trade is witnessing a sharp decline. International trade is expected to decline by 13 percent and 32 percent in 2020 as the ongoing pandemic negative effect disturbing normal economic activity and life around the world. Some countries have been hit with disturbance in the supply chain like the USA, Australia, Canada, and Europe as the flow of trade from China has been disrupted from China forcing them to look for alternate trade partners.



The Coronavirus has shown the susceptibility of our current economic status, the unpreparedness to overcome the crisis in terms of retaining economic stability. The current issues have shed light on the need for modernization of our trade practices, to adapt to a more sustainable economic model. Risk assessment has now become more important than ever, for companies to design a rational plan to deal with unexpected future economic disturbances.

Increasing Role of Digital Trade

In post-COVID 19 scenarios, technology is going to play a very important role, as it will provide countries smarter supply chain system. According to the Economic Forum, the digital trade system is very crucial for current economic recovery. As the direct movement of goods and people is restricted due to COVID 19, digital trade has played a critical role in maintaining the flow of goods and services -virtually. With time, the dependence on digital trade is increasing. Ongoing lockdown and social distancing norms have changed the behavior of the consumer and the demand approach; the recent demand pattern is migrating to a more minimalist app with e-commerce demand witnessing a surge.

Consumers around the world are using digital platforms to procure essential items as well as on OTT media platforms for the source of entertainment. Digital payments are the preferred mode of payment for domestic trade as well as cross border e-commerce transactions. With technologies like artificial intelligence and the Internet of Things, supply chains could quickly switch to alternative providers when regular suppliers face disruption (Jesse Lin, 2020). The trend is envisaged to continue even after the pandemic ends, given the fact that is much more efficient and reliable, and economically profitable. Cross-border digital connectivity is proving to be a major platform for supporting multinational corporations to function. All businesses are running through digital communication; people can connect while sitting in different parts of the world from the comfort of their homes. It has served as a smart solution for businesses while following the social distancing measures accurately. Along with maintaining connectivity, it has also proved to be an economically smart option by reducing the running costs such as office premises maintenance costs for businesses currently failing to make high profits, it has helped sustain global businesses in this uncertain time.

Diverse Sourcing

The problem with International trade is their over-reliance on single sources to procure material and at times usage of conventional and unreliable supply chains. The need for the hour is to have multiple sources and spread of suppliers to avoid over-dependency thereby have a robust and sustainable supply chain. Nations all across are doling out economic revival package with special provisions like tax reduction, lower interest rates for loans to SMEs and MSMEs to support their sustained economic activity and growth. With the supply gap increasing from trade partners based abroad, the need for domestic industries is to source from a chain of local partners who are more reliable options in the current time. More changes are witnessed in the Health Industry in this health crisis as many medical equipment-like masks, PPE Kits and Ventilators are being produced in-house due to the rapid surge in their prices in the international market due to the emergency need.



CONCLUSION

The COVID-19 pandemic is likely to be known as that inflection point in history which changed the nature of the post-World Trade Organization (WTO) global trade policy environment. Last time when the world witnessed a similar situation it led to the establishment of WTO. When China informed WHO about the Coronavirus, the last of the judges at the appellate body of WTO retired without any replacement being appointed by the members. This has impacted the ability of WTO to ensure members adhere to its rule. The impact of COVID on trade and economy is not hidden from the world and how it has led to a reduction in demand and collapsing trade flow is well known. The world has been dependent on production networks and supply chain disruptions that we have observed puts a question on it. The current economic situation has already been compared to the Great Depression of the 1930s and the financial crisis of 2008-09.

While the global institutions are already trying their best to soften the impact and the world bank released guidance of Do's and Don'ts, WTO still estimates the world trade to fall by 13 - 32 percent. Organizations have also asked the Government across the world to ease out the restrictions on trade. There was already disruption in the global economy pre COVID phase due to unilateral and arbitrary actions. In India, too, the signs of the trade policy turning inward-looking were appearing. These signs include India's hesitation in signing on to the Regional Comprehensive Economic Partnership (RCEP) Agreement without the inclusion of specific measures to protect its interests, increase in anti-dumping and other trade protection actions, and increasing its import duties and new import licensing requirements.

In the post-pandemic environment, many countries are restricting exports to reboot their industries and protect their vital and essential supplies. Taking a lesson from the current pandemic situation industries are ensuring the availability of essentials not only to protect their critical domestic industries but also to diversify their supply chains. This would need diversified policies to achieve the goal. Trade policies can, thus, be expected to become more conservative. This approach is likely to be reflected in the national trade policy of countries in multiple ways. There can be an increase in import tariff and non-tariff barriers. Countries may also look to defend their existing domestic industries through increased recourse to trade remedial measures, such as anti-dumping duties, anti-subsidy duties, and safeguard duties. This would be necessary for the domestic industries, not inherently efficient, to retain their profitability. For India, the rising global uncertainties have also brought the opportunity to attract the American and European manufacturers that intend to migrate or relocate out of China. Other countries such as Japan is reported to offer support to its industries who are planning to move their base back to the home country. Creating a foreign investment-friendly policy environment, focusing on sectors that, amongst other objectives, will also substitute India's import needs, maybe India's best bet to get a head-start in reviving the economy.

REFERENCE

Baschuk, B. (2020, April 06). *A Trade Collapse That's Heading into the History Books*. Retrieved from <https://www.bloomberg.com/news/articles/2020-03-26/supply-chain-latest-a-trade-plunge-worthy-of-the-history-books>



- COVID-19 and international trade: Issues and actions.* (2020, June 12). Retrieved from COVID-19 and international trade: Issues and actions: https://read.oecd-ilibrary.org/view/?ref=128_128542-3ijg8kfswh&title=COVID-19-and-international-trade-issues-and-actions
- Curran, E. (2020, April 6). *Urgent Demand for Medical Equipment is Making Air Cargo Fees Absolutely Crazy.* Retrieved from <https://www.bloomberg.com/news/articles/2020-03-30/-absolutely-crazy-air-cargo-fees-highlight-supply-chain-squeeze>
- Dziedzic, S. (2020, June 13). *China seems intent on using its economic heft to intimidate Australia — but the Government is eyeing off a new plan.* Retrieved from <https://www.abc.net.au/news/2020-06-13/coronavirus-china-australia-foreign-students-threats-federal-gov/12350738>
- Evenett, S. J. (2020, August 12). *Exports at Risk from Non-Tariff Measures: The Experience of Commonwealth Countries.* Retrieved from <https://www.globaltradealert.org/reports>
- GRUSZCZYNSKI, L. (2020). The COVID-19 Pandemic and International Trade: Temporary Turbulence or Paradigm Shift? *Public Health Emergency COVID-19 Initiative*, 337–342.
- Making Trade Work for All- OECD.* (2017). Retrieved from <https://www.oecd.org/trade/understanding-the-global-trading-system/making-trade-work-for-all>
- Malviya, C. (2020, July 10). *International Trade in Post-COVID-19 Scenario.* Retrieved from <https://diplomatist.com/2020/07/10/international-trade-in-post-covid-19-scenario/>
- Mathew, D. S. (2020, May 07). *COVID-19 And its Impact on International Trade.* Retrieved from <https://diplomatist.com/2020/05/07/covid-19-and-its-impact-on-international-trade/>
- Richter, F. (2020, May 29). *The COVID-19 economy: does it mean the end of globalization?* Retrieved from <https://www.weforum.org/agenda/2020/05/globalisation-covid19-gdp-drop-2008-financial-crisis/>
- Sen, A. (2020, May 2). *Trade Policy Scenario in Post COVID era.* Retrieved from https://www.ey.com/en_in/tax/trade-policy-scenario-in-post-covid-19-era



THE INVISIBLE TRIBAL TOURISM IN ANDAMAN & NICOBAR ISLANDS

MOUSIME XALXO

Assistant Professor, Indian Academy Degree College, Bengaluru

ORCID ID: 0000-0002-7034-7646

ABSTRACT

The Andaman Islands consist of 527 islands that lie in the Andaman Sea and Bay of Bengal. A total land area of 8249 sq. kms forms this beautiful union territory. The island can sustain these tribes and carry them as one of the major attractions in tourism. Tribal tourism is one of the major sources of income and attraction for tourists. Tourism and agriculture are the primary sources of income on the island. The original population of the Andaman and Nicobar Islands consists of aboriginal indigenous people that are tribal. They dwell in the forest and remain isolated for thousands of years.

Tribal tourism connects to tribal culture, values, traditions, tourism products owned and operated by the tribal people. But the tribal population of the islands is not aware of the opportunity and challenges faced by them. Tribes lack in all the facilities provided by the Government because they don't like to surround or interact with the population and are indirectly is the source and contribution to tourism.

The finding of the paper states that education is the key to tribal development. Tribal children have very low levels of participation in social-cultural activities. Though the development of the tribes is taking place in India, the pace of development has been rather slow. If govt. will not take some drastic steps for the development of tribal education

KEYWORDS: Tribal tourism, sustainable tourism, challenges and opportunities

JEL CLASSIFICATION: D00, E00, E71

CITE THIS ARTICLE: *Xalxo, Mousime. (2020, September). The Invisible Tribal Tourism in Andaman & Nicobar Islands. In Perspectives on Business Management & Economics (Vol. II, pp. 15-23). Retrieved from <http://www.pbme.in/papers/24.pdf>*

ARTICLE HISTORY: Received: June 28, 2020; Accepted: September 16, 2020; Published: September 30, 2020



1. INTRODUCTION

The Andaman and Nicobar Islands, a union territory comprising of a unique blend of flora and fauna and blessed with emerald greenish-blue beaches. The south Andaman Island consists of vegetation, ferns, and orchids whereas the middle Andaman has moist deciduous forests. The union territory consists of 572 islands out of which 37 are inhabited and lies in the juncture of the Bay of Bengal and the Andaman Sea. Port Blair is the capital of Andaman and Nicobar and the territory is divided into three districts they are Nicobar District, South Andaman, North, and Middle Andaman. The Andaman Islands are the home to the uncontacted people. North Andaman is characterized by the wet evergreen forest. The interesting fact is that grassland is found in the Nicobar and while the deciduous forest is common in Andaman.

GEOGRAPHY

The Andaman has 325 islands which cover an area of 6408 km² with the Andaman Sea to the east between the islands and the coast of Burma. The ten-degree channel separates the Andaman from the Nicobar Islands to the south. The highest point is located on North Andaman Island. There are at least eleven mud volcanoes on the islands. Rainfall is irregular and the islands enjoy a typical tropical climate all through the year with an average temperature of around 23 Celsius and not exceeding 30 Celsius. The Andaman Islands are hot and humid. The islands are situated in the hot zone. There are only two seasons, the rainy season and the summer season.

The natural vegetation of the Andaman's is a tropical forest with mangroves on the coast. Most of the forests are evergreen, but there are areas of deciduous forest on North Andaman, Middle Andaman, Baratang, and parts of South Andaman Island. The Middle Andaman's have mostly moist deciduous forests. North Andaman's is characterized by the wet evergreen type, with plenty of woody climbers. The South Andaman forests have a profuse growth of epiphytic vegetation, mostly ferns, and orchids. The Andaman forests are largely unspoiled, despite logging and the demands of the fast-growing population driven by immigration from the Indian mainland. Andaman forests contain 200 or more timber-producing species of trees, out of which about 30 varieties are considered to be commercial.

The Andaman Islands are home to several animals, many of them endemic. It includes mammals and birds. The islands also have several endemic reptiles, toads, and frogs. There are sanctuaries 45 miles (72 km) from Havelock Island for saltwater crocodiles.

The one thing that takes Andaman and Nicobar is well known for the list of tourist destinations in India is the adventure possibilities present here. The seas surrounding these islands are perfect to indulge in sports like Scuba Diving and snorkeling. The lagoons are full of diverse species of fishes and live coral that makes adventure in these waters a real treat. And there could not be a better place than the hills of Andaman and Nicobar Islands for a trekking experience that is heart pumping and tranquil at the same moment.

WHO ARE INDIGENOUS PEOPLE?

An invisible area that is less explored and complicated at the same time is distinct from the cultural group who are wanting to be different and giving importance to self-identification. They



enjoy a unique relationship with the natural environment and can live and connect in harmony with nature from thousands of years. Indigenous people live a slow life because they want, through their experiences even though they are slow in progress according to the current scenario. As it is estimated that there are more than 370 million indigenous people spread across seventy countries worldwide. They practice unique tradition by retaining social, cultural, economic, and political characteristics that differentiate them from native people. These indigenous people have self-identification and the term indigenous states the first people, ethnic group, or Adivasi and hill people. Their occupation is hunting, gathering fruits, tubers, and honey from nature. They hunt turtle, fish with handmade bows and arrows. Indigenous diet is complex but is sufficient enough to gain the required nutrition. The food system is the knowledge that is evolved through culture and patterns through the ecosystem. The indigenous community is a group of tribes who are involved in sharing their own culture and hold unique language, knowledge, and beliefs holding a special attachment with their traditional land having a lack of social access to services. Most of the indigenous have a strong bond towards ecological belief and focus more on dance, costumes, masks, ritual, and sacred artifacts.

SLOW FOOD IN TRIBAL COMMUNITY

The tribal community is known for slow food movement where they encourage people to initiate traditional food and old methods of cooking by discouraging fast food. Slow food that is prepared using local and typical ingredients and promotes regional cuisines and encourages the framing of the tribal or local community. The slow food community faces numerous risks because of climate change and depending more on natural resources because of global warming like a rising sea. The focus is not just on promoting traditional food but preserve culture and heritage related to food. Tribal culture is more on the utilization of natural food products which is directly obtained from nature.

A fresh flavor is present in the local food which satisfies the tribe community and since it is clean and consumed directly from the environment. The tribes are efficient enough in sensing the right taste of food. It is about sustainable development, herbal medicine, forest conservation, climate change, water management, and tribal art and cultural identity. Slow food teaches us both ancient knowledge and establishing close contact with nature. The tribal community set an excellent example in term of slow food as the forest is the basic support system which offers watershed protection, prevents soil erosion, and mitigate climate change.

TRIBES OF ANDAMAN AND NICOBAR ISLAND

If we talk about the tribal culture of Andaman and Nicobar Island now called as the Swaraj Dweep or Shahid Island situated near the Bay of Bengal. It is home to the indigenous people, an uncontacted people. These islands are shimmering with turquoise water fringed surrounded by jungle with virgin beaches. Andaman invited the end number of travelers from different countries and states to explore the untouched beauty of the islands with the twinkling blue-green shoreline. The island is also famous for the indigenous tribes who are isolated from the world. There are six tribes such as Jarawa, Onges, Andamanese, Nicobarese, Shompen, and Sentinelese. There is a division among the six tribes, one is called the Negrito tribes under which the great Andamanese, Onges, Jarawa, and Sentinelese come and the other is group



is Mongoloid tribes of Shompen and Nicobarese. They are called as the schedule tribe of India. One of the interesting facts about these tribes is that Sentinelese tribes are considered to be the most dangerous tribes in the world, as they stay in one of the most isolated places in Andaman and Nicobar. Whereas Jarawa tribes live in parts of South Andaman and Middle Andaman island where they are

the present number is estimated to be two-fifty to four hundred and are considered to be friendly. The Andaman tribes do not practice cannibalism. They don't practice cultivation and are involved more in hunting, fishing, and probably live on fruits and tubers that grow wild on the island using their weapon made up of woods and stones. The traditional dress of men is girdles made of hibiscus fiber made to carry tools when they go for hunting, the women on the other hand wear dress containing leaves around their waist as a belt and paint their body with mud.

PHYSICAL FEATURES OF TRIBES IN ANDAMAN

The physical features of the tribes consist of dark skin color, short in stature, and have frizzy hair. They have a weak immune system. These indigenous tribes are excellent craftsmen as they are skilled in making tools and arrows. They are fond of red color clothes and the majority of them are seen nude. They are known to attack with poisonous arrows. They wear seashells necklaces and paint their face and body with clay.

TYPES OF TRIBES IN ANDAMAN ISLAND

1. Jarawa: Andaman including tourists, settlers that bring disease and transmit to the tribes. Many outsiders sexually abuse the Jarawa women by influencing them to take alcohol and tobacco and increase the chance of AIDS and STDs among tribes. Another major issue faced by the Jarawa community is tourism activities, the private owner such a tour operator encourages the tourists to take photographs and view their lifestyle as a commodity. The tourism department of Andaman and Nicobar has issued a legal warning to stop all these activities. Some of the tour operators bring tourists close to Jarawa areas and shoot their lifestyle and make a documentary, in 2001 a video shot by the tourists showed women encouraged to dance by an off-camera policeman. The Government had now banned all such activities and if anyone found misleading or violating the rule will be punished.

2. Onges: The Onges tribes are called the Asian tribes and Onges means men who are closely related to Negrito population and the common language is Onges. It is also noticed that the Onges community has less fertility rate because of the demographic problem some men and boys face problems as they are unable to have marriage mates and the population is decreased because of the change in food habits. Friendly contact with Onges was made in the year 1855 but before that, there have been several violent and aggressive encounters with the outsiders. The Onges are monitored by Andaman Adim Janjati Vikas Samiti set up by the Government. One interesting fact is that the groups are headed by a leader or the Onges king called Tai who is responsible for



giving advice and no orders. They are involved in collecting coconuts which available abundantly hence they don't have any idea on the storage of food articles and depending more on seafood. Another interesting fact about Onges is that men go out to the forest for hunting and the women stay at home and search the local fruits and roots. Onges have a little interest in cultivation and more involved with nature. The Onges rub special herbs to avoid the bee stings while they collect the honey from the hives. They depend more on sea products such as fish dugong, pig, and turtle. Andaman government has encouraged these tribes to learn cultivation by paying these tribes and issued clothes to them.

Looking into their family lifestyle Onges are so organized, but the economic burden is not shouldered only by the husband but wife too who takes care of the children in rearing the responsibility. Onges have an interesting ceremony to celebrate adolescence and adulthood whether it is a boy or a girl. In the case of the boy, the ceremony begins with setting out of hunting, if he succeeds in killing a male wild boar and then the ritual starts followed with celebration by the beating of the tree buttresses and the boy enters the hut through a small open of the hut and the main entrance carrying a pig in his back and then the elder member helps the boy to sit on the belly of the pig, then the pig is cut and then he is made to drink the clotted blood of the pig and hence there is no ritual performed in the next day. The third day the boy is beautifully decorated by his elder brother's wife as per the customs and he is carried to the sea on the back of his sister's husband followed by some men and then they dip the boy till the waist by residing some rituals.

There are certain rituals described when a girl gets her first menstrual discharge where she is restricted to eat any kind of meat during her period at the end of the menstrual period, she is taken to the sea for a bath along with some women followed with rituals. Marriage in Onges a beautiful bond between two souls where is restricts marriage with close relatives or with the same band instead, they encourage cross-cousin marriage. The remarriage of widows and widowers is a common feature among the Onges. The simple ceremony takes place in the night with the help of relatives

3. Nicobarese: The Nicobarese people are settled in the main and largest island of great Nicobar and the term Nicobarese refers to the dominant tribes of Nicobar Island and belong to Mongoloid race. These people are an Austroasiatic speaking people of the Nicobar island of India. The Nicobar tribes follow Christianity religion which was taught to them by Father John Richardson which they follow and practice till today and celebrate all festivals. These tribes have learned Hindi and English to communicate with the outer world and are vibrant in government jobs because the Andaman governments have given them relaxation in terms of age, caste, and education to raise them in the society and avoid discrimination. They have upgraded themselves with time and consider themselves among us as both the men and women have equal



status, the men give equal importance to the women as they take care of the households and also involve themselves in agriculture. They also hunt, fish, raise a pig, and make pottery and canoes. Nicobarese is becoming educated over time and is active in every field.

4. Shompen: The Shompen are shy in and are prompt to diseases. They are the indigenous people of great Nicobar island who practice hunting and gathering food and keeping with the tropical climate of the islands their traditional attire includes clothing below the waist made up of bark cloth, decorating themselves with bead necklaces and armbands and women wear a knee-length skirt of bark cloth along with bamboo earplug and bead necklace and both sexes are barefoot. They keep pigs as pet and farm yams, roots, vegetables, and tobacco. Their house is built for four people, whereas once a child is grown enough, he makes his hut. Because of their isolated lifestyle away from the city contact they were protected from the tsunami and earthquake.

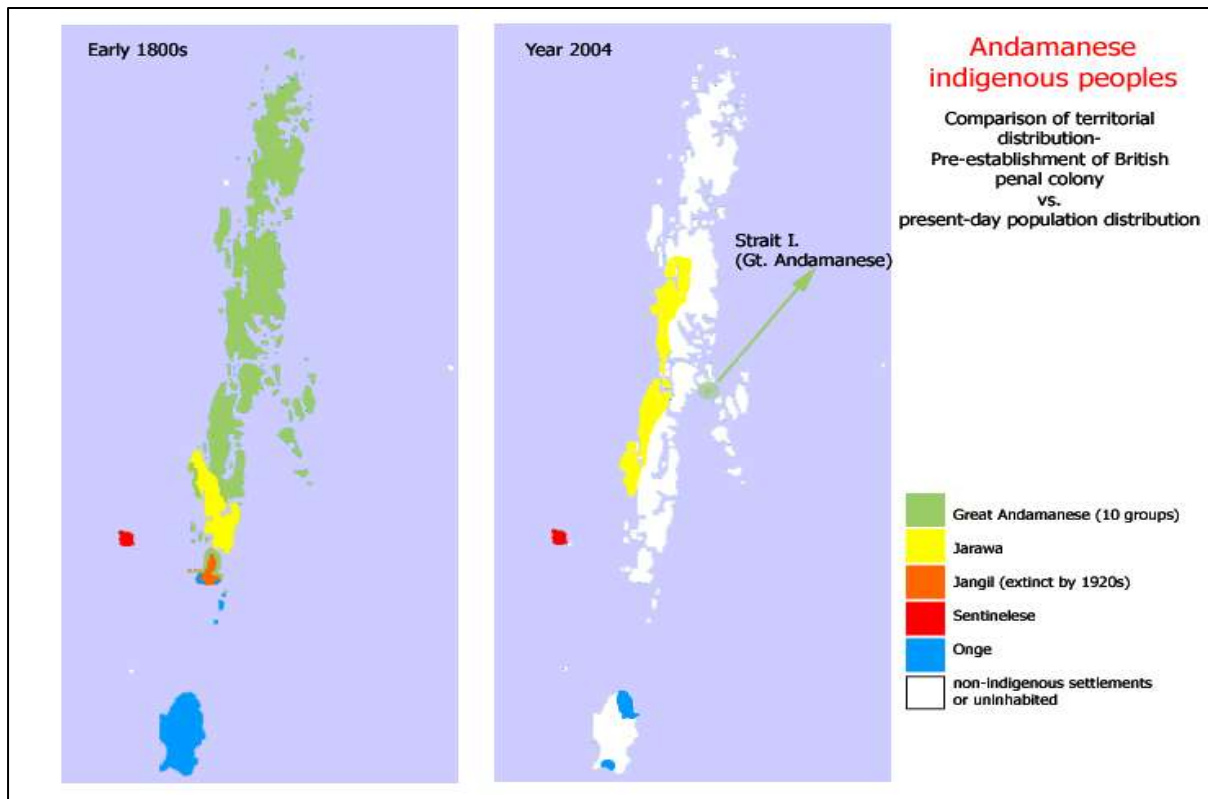
5. Sentinelese: This tribe is said to be so hostile that their homes have been named as the hardest place to visit in the world. They are isolated from the world and nobody knows exactly how they look like. Since 1967 the Indian Government with the help of anthropologists has tried to make contact with the tribe by giving them food, coconuts but the tribes showers arrows and stones on whoever comes near them, even the helicopters flying near their island is greeted by arrows. The Government had always got a poor response and whenever they tried to extend their helping hand that why the Government issued a notice saying that any access to North Sentinel Island is strictly forbidden.

SCOPE OF THE STUDY

The scope of the study is found in middle Andaman and south Andaman. The middle Andaman and Nicobar Island is home for many indigenous people and the main occupation is agriculture and fishery. South Andaman is the third largest island, with Port Blair the capital of the islands. The Middle and South Andaman carries a lot of potential in tribal tourism because it the home for many indigenous tribes.



Figure 1: Andamanese Indigenous people



Source: <https://decolonialatlas.wordpress.com/2014/12/14/colonization-in-indias-andaman-islands/>

GOALS OF THE GOVERNMENT

1. To protect the tribal culture and natural resources of Port Blair
2. To make the local community aware of the tribal culture importance and integrity in the island.

GOALS OF THE LOCAL COMMUNITY

1. Provide information and educational experience to tourists
2. More accepting of the future, leave conservation and preservation to outside groups

GOALS OF THE PRIVATE INDUSTRY

1. Promotion of culture and heritage of Andaman and Nicobar Island
2. Maintain cleanliness of the city.
3. Concerned with public image want to be friendly with the local community, through eco-friendly practices.

PROBLEMS FACED BY THE INDIGENOUS TRIBES

Increase in the rate of sightseeing tours that are operated by the private company, where tourists attempt interaction with Jarawa, who are often found in the highways that had led to widespread encroachment, poaching, and exploitation of Jarawa lands.



The biggest threat to the Jarawas was from the construction of Andaman Trunk Road which is considered as the lifeline for the local community. The Andaman Trunk road is called as national highway NH4. This road running from the capital city of Port Blair to Diglipur connecting all major towns of Ferrargunj, Baratang, Kadamtala, Rangat, Billy Ground, Nimbudera, Mayabunder, and Diglipur. The Andamanese were the first victims

Due to more contact with other tribal cultures, the issue of Christian missionaries' problem of bilingualism has developed which led to indifference towards tribal language. This resulted in tribal people imitating western culture in different aspects of their social life and leaving their own culture. It has led to the degeneration of tribal life and tribal art such as dance, music, and crafts.

INITIATIVES TAKEN BY THE ADMINISTRATION TO PROTECT THE TRIBES OF PORT BLAIR

Tribes of Andaman and Nicobar are vulnerable to diseases; the tribes are considering having low immunity. The current pandemic situation in Port Blair is critical and will affect the tribes. The tribes who are exposed to non-tribal passing through Andaman Trunk Road may have chances to get infected. Therefore, administration has restricted movement and only allows essential goods carrying vehicles, ambulance, and emergency travel of public on the ATR. The tribal have been sensitized about COVID -19 with pictures and videos in their language. All the Jarawas are shifted to west coast as a containment measure, where there is minimal possibility of interaction with outsiders. The administration is providing some food as supplementary nutrition to reduce their tendency to interact or return to ATR. Intensified patrolling has been put in place on the west coast to prevent any contact of fishermen or local communities with the help of the police and fishery department.

CONCLUSION

The second group which came in contact with the outer world is Onges and their number is declining with time. Whereas the Nicobarese tribes are friendly and have grown rapidly and multiplied and Jarawa are the third group who is isolated and is at the urge of development with the help of Government and in recent time they were the topic of discussion because of the issues which took place because of outsider. The Andaman Adin Jan Jati Vikas Samti played an important role in the protecting the tribal culture, its focus is to protect the tribal culture. The Sentinelese are the most dangerous and hostile one and are less discussed and studied.

There is a question which had arisen with time is that when Nicobarese have developed themselves with time then why are Shompen and Sentinelese lagging behind.



REFERENCE

1. Pratt, S., Gibson, D., & Movono, A. (2013). Tribal Tourism in Fiji: An Application and Extension of Smith's 4Hs of Indigenous Tourism. *Asia Pacific Journal of Tourism Research*, 18(8), 894–912. <https://doi.org/10.1080/10941665.2012.717957>
2. Pereira, C. (2017). Religious dances and tourism: perceptions of the “tribal” as the repository of the traditional in Goa, India. *Etnografica*, vol. 21 (1), 125–152. <https://doi.org/10.4000/etnografica.4850>
3. Abraham, I. (2018). The Andaman's as a “sea of islands”: reconnecting old geographies through poaching. *Inter-Asia Cultural Studies*, 19(1), 2–20. <https://doi.org/10.1080/14649373.2018.1422344>
4. Sasikumar, M. (2019). The Sentinelese of North Sentinel Island: A Reappraisal of Tribal Scenario in an Andaman Island in the Context of Killing of an American Preacher. *Journal of the Anthropological Survey of India*, 68(1), 56–69. <https://doi.org/10.1177/2277436x19844882>
5. Bhargava, N. (1983). Ethnobotanical studies of the tribes of Andaman and Nicobar Islands, India. I. Onge. *Economic Botany*, 37(1), 110–119. <https://doi.org/10.1007/bf02859311>
6. Sharief, M. U., & Panda, S. P. (2018). Material culture of the ethnic aboriginal Jarawa folk in Andaman Islands, India. *Genetic Resources and Crop Evolution*, 65(5), 1369–1384. <https://doi.org/10.1007/s10722-018-0620-y>
7. Lung Ming Tsai, & Kongkidakarn Sakulsinlapakorn. (2016). Exploring Tourists' Push and Pull Travel Motivations to Participate in Songkran Festival in Thailand as a Tourist Destination: A Case of Taiwanese Visitors. *J. of Tourism and Hospitality Management*, 4(5), 1–8. <https://doi.org/10.17265/2328-2169/2016.10.001>
8. Pandya, V. (2019). How do you 'know' a tribal when you see one? How do you 'see' a tribal when you know one? *Journal of the Anthropological Survey of India*, 68(1), 7–26. <https://doi.org/10.1177/2277436x19844908>



UNDERSTANDING B TO B INDUSTRY CONSUMPTION DEMAND: A CASE STUDY OF STEEL USAGE IN CERTAIN INDUSTRIES

SONIA PURANG

MBA (Pharma Management, Final Year Student)
School of Management & Business Studies, Jamia Hamdard, New Delhi, India
ORCID- 0000-0001-6699-478X

DR. RAYCHAUDHURI P.S.

Assistant Professor, School of Management & Business Studies
Jamia Hamdard, New Delhi, India
ORCID: 0000-0002-7726-0383

ABSTRACT

Over the past few years, B (Business) to B (Business) has become the standard form of transactions involving a manufacturer & manufacturer, manufacturer & wholesaler, or wholesaler & retailer. The study aims at understanding the buying behavior in B to B setting for capturing the market demand of consumption of steel by pharmaceutical industries, medical equipment, and hospitals as well as evaluation of the scenario of demand post-COVID-19. The study is done for two months based on a questionnaire administered in different regions of India among the manufacturers of pharmaceutical equipment, medical equipment, and hospital furniture, and the data published in various articles, journals, and brochures. It consummated to understand their buying behavior about the demand and consumption of steel. The methodology for the analysis mostly dealt with percentages and average methods. The study revealed the buying behavior, the actual consumption of steel, the effect of COVID-19 on consumption, and the scenario of demand post-COVID-19. The study helps in understanding the buying behavior in the B to B setting. Hence, contribute to capturing the market demand in the present and future.

KEYWORDS: B TO B Industry, buying behavior, market demand, steel consumption, pharmaceutical equipment, medical equipment

JEL CLASSIFICATION: M30, M31

CITE THIS ARTICLE: Purang, Sonia., P.S., Raychaudhuri. (2020, September). Understanding B to B Industry Consumption Demand: A Case Study of Steel usage in certain industries. *In Perspectives on Business Management & Economics (Vol. II, pp. 24-36)*. Retrieved from <http://www.pbme.in/papers/39.pdf>



ARTICLE HISTORY: Received: July 17, 2020; Accepted: August 30, 2020;
Published: September 30, 2020

1. INTRODUCTION

Over the past few years, B (business) to B (Business) is the most common form of transactions between professions involving a manufacturer(supplier)& manufacturer, manufacturer & wholesaler, or wholesaler & retailer. (Chen James, 2020)

B to B is a form of marketing that focuses on the value of enhancing productivity and eliminating waste. The type of marketing is far less interested in trends and is more systematic while making decisions for purchase and always follows a careful formal process. The single decision-maker in B to B marketing is rarely involved, and are generally a team of people who stipulates to know how exactly your offerings are worth their money. The people who insist on B to B marketing are more interested in the facts that, how they will earn a good return on investment from your business. Hence, the ultimate target of B to B marketing is the individual's need, challenges, and interest that purchase the benefit of their organization rather than, themselves thus making the organization their customers. (Lee Anthony, 2020)

Different authors have defined the organizational buying behavior in their terms, but/ each definition must comprise three features: the study of human behavior, the research of the organization's behavior, and the organization's effectiveness could be, enhanced by knowledge on human behavior. (UKEssays, 2018).

According to Pete.D. Bennett, organizational buying behavior is the decision-making process by which a buying group establishes the needs for goods and services and identifies, evaluates, and chooses among alternative brands and suppliers.

According to W.M. Pride and O.C.ferrel, "organizational buying behavior refers to the purchase behavior of producers, government units, institutions, and resellers. (BlogSpot Analysis Project, 2014).

Likewise, different authors have defined consumer buying behavior in their terms. Some of which are clarified below:

According to Engel, Blackwell& Mansard, "consumer behavior is the actions and decision processes of people who purchase goods and services for personal consumption" (Cottman Tamera, 2008)



According to Louden and Bitta, “consumer behavior is the decision processes and physical activity, which individuals engage in when evaluating, acquiring, using, or disposing of goods and services. (Chand Smriti,2014).

Thus, a reader must understand the main differences between organizational buying behavior and consumer buying behavior, mentioned below:

Organizational buying is an acquiring of goods and services (raw material) to produce another good with an intention to earn the profit. Here, the buyer is not the final consumer. Whereas, consumer behavior is the purchase of goods and services done by the final consumer for their consumption. (in. Brainly, 2019).

LITERATURE REVIEW

FACTORS INFLUENCING B TO B PURCHASE DECISIONS: The factors that create an impact in influencing the purchase decision in B to B marketing are- The external factors, the internal factors, and the conditional factors

Economic Conditions: Variations in the money market and the rate of interests creates an impact on the buying decisions and strategies of B to B marketing. However, both interest rates and business buying have an opposite relation, which means that a rise in purchase rates will lead to a decline in interest rates and vice versa.

Social Environment: The businesses have to continuously adapt themselves according to the evolving changes to meet the demand of the customers. Business objectives, Manpower skills, and Technologies factors are the internal factors that influence the B to B buying decisions.

Business Objective: The prime element that determines the purchase decision of any business is its goals and objectives. For instance, if the business wants to target/ attract the customers with cheaper goods, they will purchase from suppliers with low cost; however, if the company wants to target the market with Good quality, the outcome then/ purchase from a satisfactory supplier is made.

Technological Factors: The compatibility of new products with technology is the foremost consideration when the decision-maker buys the input material product. Hence, in some cases, technology becomes the factor that influences the buying decision.

Present financial condition is the conditional factor that influences the buying behavior in B to B setting.

Present Financial Conditions: In the case of low running cash or budget, the B to B organization can take one of the two alternatives that are they may buy a product from the



supplier that provides long term credit OR they may buy the cheaper products that come in their budget. (Salezshark, 2020).

BUYING CENTRE IN ORGANIZATIONAL BUYING

The buying center in an organization consists of various members-

Initiators: The person who starts the buying process by recognizing the need for the product and use the product or service.

Users: The person as dominant as initiators who plays a vital role in the buying process and ultimately uses the product & assess the worth of the product after purchase.

Deciders: The person who chooses the product after determining the requirement and specifications of a product.

Buyers: The person who plays a vital role in selecting the suppliers/ vendors and negotiating the purchase terms and sometimes even assist the shape of the product specifications.

Gatekeepers: The person who manages the flow of information between the buying centers, they are general secretaries or tech people. They are also sometimes referred to as "Filter of Information" (Com? This Know, August 2018)

FACTORS AFFECTING ORGANIZATIONAL BUYING BEHAVIOR

Generally, two types of decisions taken in an organization are autonomous or joint decisions. Joint decisions/ lay hold of by experts representing different departments of a firm. On the other hand, an Autonomous decision is to lay hold by an individual. The factors that influence the organizational buying behavior are listed below-

Economic factors: The factors by which the firm has an indirect influence. They include Government policies, current economic conditions, and competitive advantage, and technological advancements.

Organizational factors: It further consists of three internal factors- organization size, orientation, and degree of centralization. For instance, in a small organization or small family-owned firm, the decisions will be centralized. Whereas, in the case of larger firms, the decision is to lay hold of by the team of experts representing the different departments of a firm leading to a joint decision.

Political and legal factors: Some policies affect the firm positively while/ some may affect the firm negatively. The political factors include the government policies & concessions announced timely. (.com wisdom jobs, 2009)



OBJECTIVES OF THE STUDY

1. To understand the structure of the steel industry, types of steel manufacture, and its user industries.
2. To understand the market demand and consumption/ buying pattern of steel by small business organizations in Pharmaceutical equipment, medical equipment, and hospital equipment industries.
3. To study how COVID 19 has affected consumption.
4. To evaluate the scenario of demand post COVID-19
5. To understand the operations, the business relationship between big steel manufacturers and small steel equipment manufacturers, and hence the business buying behavior of small business buyers.

SCOPE OF THE STUDY

1. The study covers a survey with a structured questionnaire from manufacturers of Pharmaceutical equipment, Medical equipment, and hospital equipment around different regions of India.
2. The study will help to understand B to B setting. Hence, contribute to capturing market demand in the present and future.
3. The study will help the reader to understand the structure of the steel industry.
4. The study will also help to enhance the readers' knowledge about the different categories of steel available and types of steel employed by pharmaceutical industries, Medical equipment, and hospital equipment.

Different categories of steel

The reader must understand the three types of steel available, and their main differences the hot-rolled, the cold-rolled, and the galvanized steel. The primary differences between the different steels are the way they manufactured at the mill, and not in regards to the product specification or grade. The situation where précised shapes and tolerance are not required the Hot-rolled steel/Is preferred. Whereas, in a condition where précised shape/ tolerance play a vital role, cold-rolled steel, is preferred. On the other hand, galvanized steel is an ideal option for the conditions of high humidity and external environments. (Supermarkets Metal, 2014)



Pharmaceutical Industries

The pharmaceutical equipment/ employed of four types of stainless steel 304,304L, 316, and 316L. Pharma equipment must/ made up of material that should not react with the excipients or with the active material. Out of the four grades, SS- 316 & 316L used in the construction of Pharma equipment that has direct contact with Pharma products, including water system tanks and, pipelines whereas in non-contact parts such as valves SS304 is used. The reason for using ss-316,316L over ss-304 is more resistance towards strong acids and bases. The examples of finished pharmaceutical equipment are Capsule filling machinery, Tablet compression machinery, Tablet coating pans, etc. (Choudhary Ankur, 2015)

Medical Equipment

The medical equipment has to cope up with two challenges the design and the fabrication process. The stainless steel employed in medical equipment is SS 304. The reason behind this is that no other grade of steel comes in so many forms, finishes with such a diverse application. Examples- Oxygen concentrator/ Ventilators/ Hematology Analyzer. Moreover, it is a logical choice for medical devices specification because of its unique matter characteristics. There are multiple reasons for using SS 304 in medical equipment; the prime reasons are its high corrosion resistance, its strength, its reliability, its good formability, its manufacturing precision, and its hygiene. (AZoM, 2012)

Hospital Equipment

As medical industries require special inspections to pass the standards, stainless steel is well-suited to metal for the medical industry because no other metal stands out the test and provides such great results. The second reason be a high requirement for sanitization and cleanliness

Widely used austenitic stainless steel/ also known as 18/8 stainless steel, a type of stainless steel 304 is used in hospital equipment because of its good forming and welding properties as well as a powerful strength and corrosion resistance. Also, it can devise a variety of shapes. Some examples of equipment used in hospitals are Hospital beds, Examination couch, Medical racks, and cabinets, etc. (Abouleish Reba, 2012)

RESEARCH METHODOLOGY

Research Design: It is informative and explanatory. Both qualitative and quantitative approaches have been/ adopted.

Questionnaire Design: The questionnaire consists of different sections of questions related to variables under study and variables mapped to objectives to obtain what we are trying to



find out from the respondents. The questions are weighted in percentages marked by manufacturers for each question as per their perceived consumption.

Sources of Data: The researcher collected the data by getting a questionnaire filled up by various manufacturers among different regions of India, which helped in doing quantitative analysis. The telephonic interview assists/ to have a profound qualitative insight into manufacturers. The researcher has also referred to various articles, journals, and brochures on websites.

Sample Design: For analysis, a sample of at least 150 manufacturers was chosen from different regions of India. The manufacturers were approached based on their availability manufacturers, were appealed to respond. We cannot force them to respond. Manufacturers from the different - regions were selected so that geographical distribution gives a representative of the population of manufacturers under study.

ANALYSIS AND DISCUSSION

A plot of around 70 manufacturers was done, which helped clarify the variables under the main study. The descriptive method of result analysis was adopted. Google Forms is used to generate bar charts, while Microsoft Excel is used to derive pie charts for analysis and interpretations. The averages were calculated based on the percent response.

DIFFERENT GRADES OF STEEL

Figure 1: Pharmaceutical Equipment

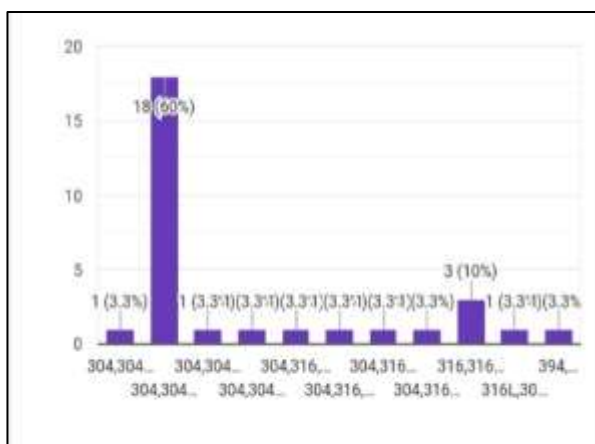


Figure 2: Hospital Equipment

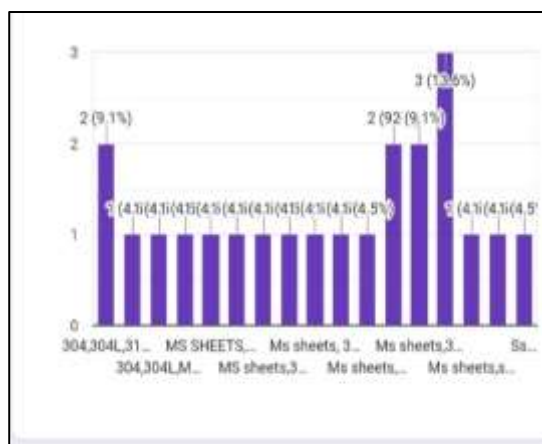
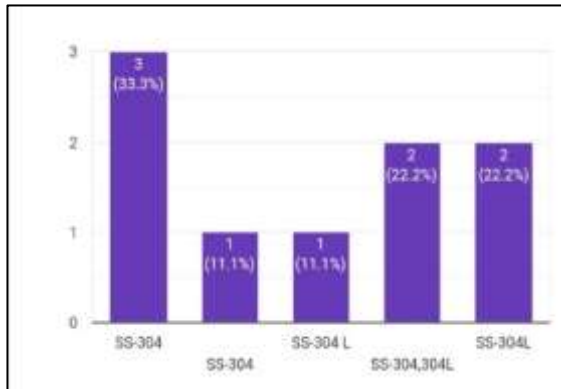




Figure 3: Medical Equipment



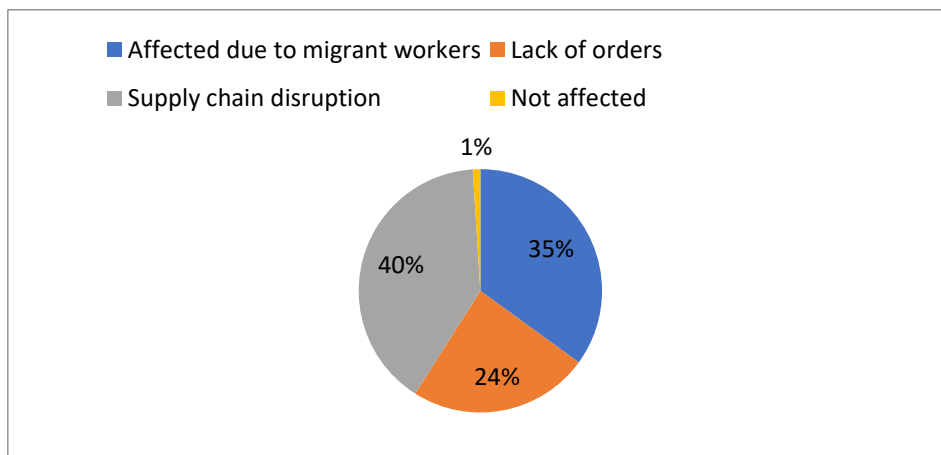
Source: Researcher's Survey

DATA INTERPRETATION

- The X-Axis represents the different grades of steel utilized.
- Y-Axis represents the maximum number of the same responses.
- Figure 1 represents the grade of the steel used in pharmaceutical equipment.
- Figure 2 represents the grade of steel used in hospital equipment.
- Figure 3 represents the grade of steel used in medical equipment.
- Stainless steel – 316,316L, 304 &304L, are used in pharmaceutical equipment (Figure 1), in hospital equipment (Figure 2) - as mentioned in the secondary data, SS-304,304L are used in manufacturing, but during the survey, it was analyzed that MS Sheets of varying thickness is also used along with SS-304 & 304L. Whereas, in the case of medical equipment-SS-304 is preferred

COVID-19 AFFECTED PRODUCTION

Figure 4: COVID-19 affected production: Pharmaceutical Equipment

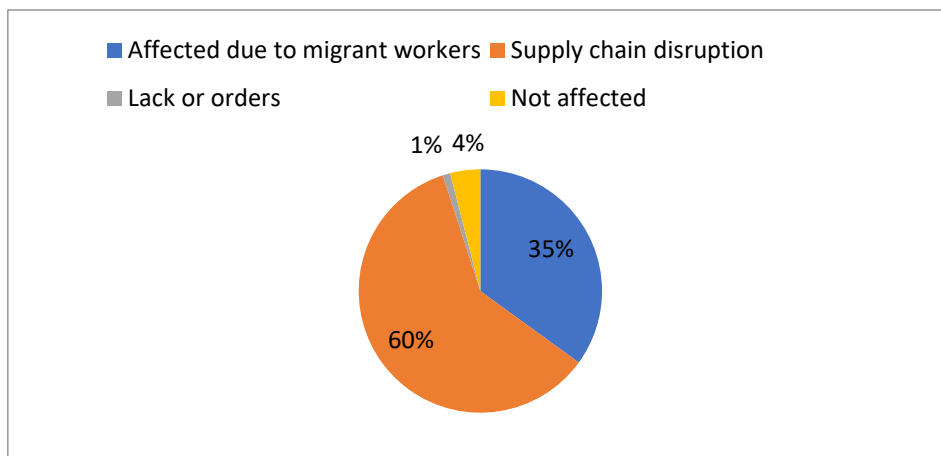


Source: Researcher's Survey



- In Figure 4 (Pharmaceutical Equipment), 1 percent of manufacturers said that COVID-19 has not affected their production. Preferably, it has increased the usage of steel due to an increase in the consumption of syringes and other equipment. Whereas, 99 percent of manufacturers reported that COVID-19 have affected their production as:
- 40 percent of manufacturers said that supply chain disruption during Covid-19 is the reason for the effect in their manufacturing.
- 35 percent of manufacturers faced problems due to migrant workers. As the lockdown was imposed by the Government, many workers migrated to their native places, which have to lead to a shortage of workers in manufacturing plants and have increased the time of production.
- 24 percent of manufacturers were facing the lack of orders due to the lockdown imposed in regards to COVID-19

Figure 5: COVID-19 affected production: Hospital Equipment

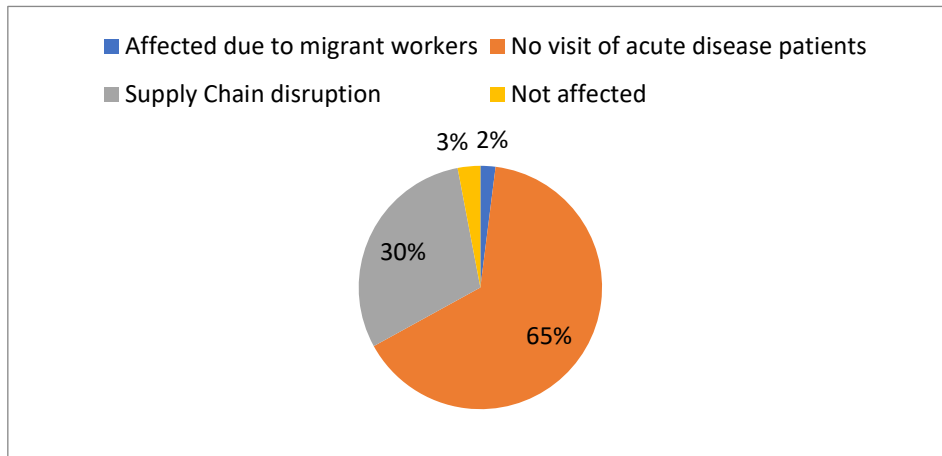


Source: Researcher's Survey

- In Figure 5 (Hospital Equipment) 4 percent of manufacturers said that COVID-19 have increased the demand of hospital equipment such as hospital beds, hospital tables, medical trolley whereas, 96 percent manufacturers said that COVID-19 has affected the demand as the production for the equipment, was based on the tender issued by the Government. The problems faced by the manufacturers are:
- 60 percent of manufacturers reported that supply chain disruption is the reason for the production to be affected.
- Whereas 35 percent faced problems due to the migration of workers. Whereas 1 percent of manufacturers faced a lack of orders.



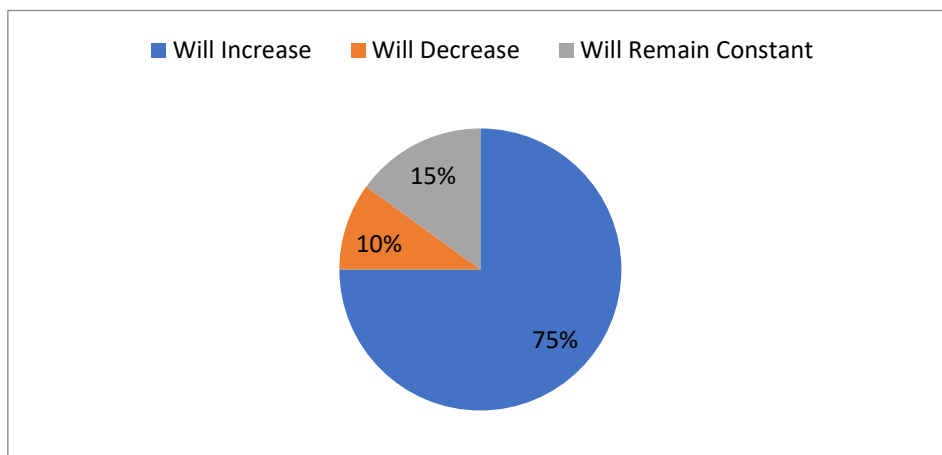
Figure 6: COVID-19 affected production: Medical Equipment



Source: Researcher's Survey

- In Figure 6 (Medical Equipment), 3 percent of manufacturers said that COVID-19 has enlarged the production as the demand for medical equipment such as oxygen cylinders, ventilators, oximeter has increased on a large scale. Whereas, 97 percent of manufacturers said that COVID-19 had affected the production as they are local manufacturers and have faced problems such as:
- 30 percent of manufacturers have faced problems due to supply chain disruption due to COVID-19. As the flow of raw material was delayed, the production time has also extended, which further affected the production.
- As mentioned in the published report by the Health Ministry of India, COVID-19 has increased the awareness of health among people, due to which the acute illness cases in this year have fallen. The same was reported by 65 percent of manufacturers that no visit by acute illness patients- has decreased their production.
- 2 percent of manufacturers faced problems due to the migration of workers.

Figure 7: Demand Scenario post-COVID-19



Source: Researcher's Survey



- The world believes as instantly, the vaccine for COVID-19 will be discovered, and the things come to be usual. The growth and production of each sector in the world will enlarge. The same was analyzed in the survey; the manufacturers of all equipment have a belief that as soon as things come back to normal, the scenario of demand will be as follow:
- 75 percent of manufacturers reported that scenario of demand post-COVID-19 will increase as the migrated workers will return from their native places which were one of the reasons for affecting the production, recovery of the supply chain would be the next reason for the increase in demand and the manufacturers affected due to lack of orders will begin to get the new orders.
- 15 percent of manufacturers reported that the scenario of demand will remain constant post-COVID-19. This 15 percent of manufacturers belong to a section that manufactures masks, PPE kits, and other equipment used in the COVID-19 outbreak.
- The remaining 10 percent of manufacturers said that post-COVID-19 the demand would decrease as COVID-19 has created a financial burden over the firms. Till the time firms cope up with the financial crisis, the scenario of demand will decrease.

CONCLUSION

Thus, we summarize and conclude, corresponding to each of the objectives:

1. The study has explained the different grades of steel utilized by pharmaceutical equipment, hospital equipment, and medical equipment. In contrast to secondary data, the survey has helped us to gain extra insights and additional information about the different categories of steel utilized. As in the case of hospital equipment, it was observed that MS sheets, along with SS-304, 304L, are used in manufacturing. The study thus provides the reader with sound knowledge about the structure of the steel industry.
2. COVID-19 has not only pompous the Healthcare system of the world but has affected other sectors as well. Based upon the result of the survey, the majority of the manufacturers agreed to the fact that COVID-19 has affected the consumption of steel, accompanying many other problems such as no new orders or inquiries, difficulties due to migrant workers, and an increase in production time.
3. The world believes as instantly, the vaccine for COVID-19 will be discovered, and the things come to be normal. The growth and production of each sector in the world will enlarge. During the survey, 10 percent of manufacturers reported problems faced due to COVID-19, 15 percent reported the scenario to be constant whereas, 75 percent of manufacturers reported that the scenario of the demand will increase post-COVID-19. Thus, the survey analyzed a belief among manufacturers that as soon as things come back to normal, the scenarios of demand will resurgence to precursory.
4. It can be concluded that consumer buying behavior plays a vital role in B to B settings. The study has explained the role of business buying behavior and the factors influencing it. Thus, the study provides a sound knowledge which helps to get a deeper insight into the consumers' mind.



LIMITATIONS

1. Not all respondents have responded. So, the study cannot give 100 percent accurate results.
2. Some of the manufacturers were reluctant to have communication. So the response could be a bit biased.
3. The sample size could have been larger.

REFERENCES

1. Chem. James, 5 March 2020, Business-to-Business(B2B), accessed at the website <https://www.investopedia.com/terms/b/btob.asp>, on 1 August 2020.
2. Lee Anthony, 1 July 2020, Guide to effective B2B marketing for 2020, accessed at the website <https://www.jotform.com/b2b-marketing/>, on 6 August 2020.
3. UKEssays, 1 November 2018, Definition, and meaning of organizational behavior business essay, accessed at the website <https://www.ukessays.com/essays/business/definition-and-meaning-of-organisational-behaviour-business-essay.php> on 24 August 2020
4. BlogSpot Analysis project, 1 January 2014, Organizational buying behavior: Meaning and Features, accessed at the website-<https://analysisproject.blogspot.com/2014/01/organizational-buying-behavior-meaning.html?m=1>, on 24 August 2020
5. Cottman Tamera, 3 November 2008, Engel, J, F, Blackwell, R, D& Miniard, P, W, (1990), 'Consumer Behaviour' London: Dryden Press, accessed at the website <https://tameracottman.blogspot.com/2008/11/engel-j-f-blackwell-r-d-miniard-p-w.html> on 22 August 2020
6. Chand Smriti, consumer behavior: Meaning/ definition and nature of consumer behavior, accessed at the website <https://www.yourarticlelibrary.com/marketing/market-segmentation/consumer-behaviour-meaningdefinition-and-nature-of-consumer-behaviour/32301>, on 3 August 2020.
7. In. Brainly, 13 December 2019, Difference between consumer buying behavior and organizational buying behavior, accessed at the website <https://brainly.in/question/14097441> on 24 August 2020
8. Salezshark, 2020, Top factors that influence a B2B purchase decision, accessed at the website- <http://blog.salezshark.com/sales/top-factors-that-influence-a-b2b-purchase-decision/>, on 15 August 2020.
9. Com? This Know, 26 August 2018, Roles in the buying center, accessed at the website <https://www.knowthis.com/business-buying-behavior/roles-in-the-buying-center/>, accessed on- 24 August 2020.
10. 10 .Com Wisdom jobs, 27 March 2009, Factors influencing organizational buying – consumer behavior, accessed at the website <https://www.wisdomjobs.com/e-university/consumer-behaviour-tutorial-94/factors-influencing-organisational-buying-10606.html>, accessed on- 21 August 2020.
11. Supermarkets Metal, 11 September 2014, Difference between hot rolled steel and cold rolled steel accessed at the website <https://www.metalsupermarkets.com/difference-between-hot-rolled-steel-and-cold-rolled-steel/>, on 22 August 2020.
12. Choudhary Ankur, 31 May 2015, Different types of stainless steel for pharmaceuticals, accessed at the website <https://www.pharmaguideline.com/2015/02/different-types-of-stainless-steels-in-pharma.html#gsc.tab=0>, on 19 August 2020.
13. AZoM, 30 August 2012, Medical Applications of stainless steel 304 (UNS S30400), accessed at the website <https://www.azom.com/article.aspx?ArticleID=6641#:~:text=Stainless%20steel%20is%20one%20of%20the%20most%20commonly,of>



percent20medical percent20devices percent20for percent20all percent20sorts percent20of percent20applications., on 6 August 2020.

14. Abouleish Reba, 28 February 2012, The Medical Industry uses steel! accessed at the website [Web: \[www.pbme.in\]\(http://www.pbme.in\)](http://www.nsalloys.com/stainless-steel/the-medical-industry-uses-steel.html#:~:text=percentC2percentA0Hospital percent20beds percent2C percent20disposable percent20buckets percent20for percent20needles percent2Fhazardous percent20waste percent20and, corrosion percent20or percent20metal percent20that percent20deteriorates percent20under percent20extreme percent20heat., on 9 August 2020.</div><div data-bbox=)



SUSTAINABILITY OF PEER TO PEER LENDING

MONISHA DEVARAJAN

D B Pampa College, Parumala, Kerala, India

ORCID: 0000-0001-9753-863X

SARANYA SASIDHARAN

D B Pampa College, Parumala, Kerala, India

ORCID: 0000-0002-6987-7009

ABSTRACT

Peer-to-Peer Lending (or P2P Lending or Crowdlending) has turned out to be a recent financial innovation. With close to 30 percent CAGR growth in market size, the global P2P market stands at \$67.93 billion as of 2019. Peer to peer lending process connects lenders and borrowers through online lending platforms. The platform itself earns a small fee out of the transaction. Individuals who need money urgently can borrow from a pool of individuals ready to lend at a fixed rate of interest through an online platform.

This chapter explains the definition and evolution of P2P loans, particularly in the Indian context and the regulations stipulated by the Reserve Bank of India (RBI), the pros and cons of different P2P lenders. We then examine the impact of COVID-19 lockdown and restrictions on the lending practices and sustainability of the lending platforms. Secondary data from sources reported online as well as offline were used in this analysis.

KEYWORDS: credit market, debt financing, escrow account, unsecured loans, EMI payment

JEL CLASSIFICATION: G23, G24, F34, F33

CITE THIS ARTICLE: *Devarajan, Monisha., Sasidharan, Saranya. (2020, September). Sustainability of Peer to Peer Lending. In Perspectives on Business Management & Economics (Vol. II, pp. 37-45). Retrieved from <http://www.pbme.in/papers/40.pdf>*

ARTICLE HISTORY: Received: July 18, 2020; Accepted: September 8, 2020;
Published: September 30, 2020

1. INTRODUCTION

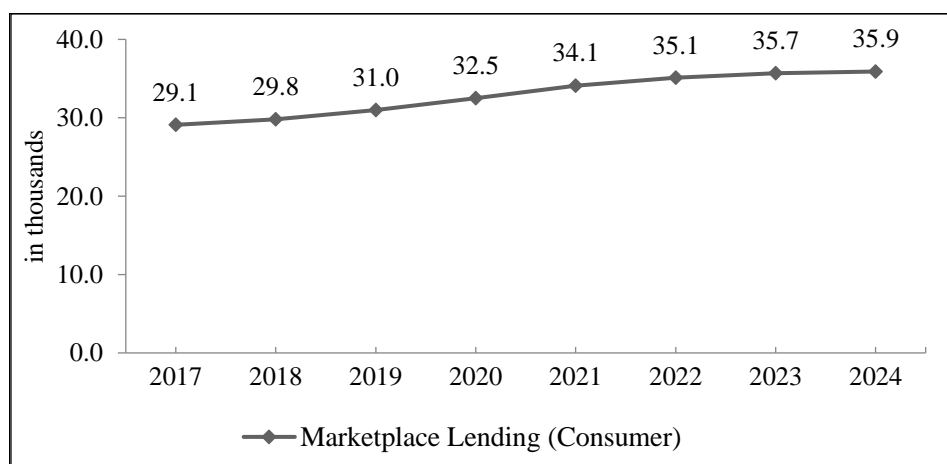
Technology advancement and extensive use of electronic gadgets by consumers and financial institutions have reshaped the financial services sector at a hastened pace. It has been converging to drive the FinTech market, integrating *finance & technology* to meet the banked and unbanked population's varying needs. The FinTech market is enriched with various



products to automate almost all financial sectors, including banking, investment, insurance, trading, and Robo-prompting. Peer-to-Peer lending (or P2P lending or social lending) is one of the benefactions of FinTech in the banking sector. It makes the use of an online platform which connects or matches borrowers pursuing unsecured loans and lenders anticipating higher return for their investment, in return for a fee. (Alistair & Parboteeah, 2016) The lending websites operated by various companies are known as the P2P platform. Any individuals or a legal person who is listed in the P2P platform can borrow money from individual investors or financial institutions for a pre-determined rate of interest. It is similar to the traditional banking system's lending function and refurbishes it to mold customer-friendly lending and borrowing atmosphere by eliminating financial institutions or intermediaries. It is working, and upkeep costs are low because the whole administrations of P2P organizations were rendered on the web. (Eugenia, 2018) Further, early adoption of new disruptive technologies such as blockchain will give a sustainable edge to them going forward. (Vijaya Kittu & Satyaprakash, 2019)

In India, P2P advancing set up its stem with I-LEND's introduction as a technology-driven credit market in 2012, after which more than 30 companies entered in this industry. (Shivangi, 2019) From 2016 onwards, the Reserve Bank of India (RBI), takes the initiative to shelter the interest of parties involved in the P2P business. As part of it, issued guidelines in October 2017 have directing P2P platforms to be Non-Banking Financial Companies (P2P-NBFCs) by obtaining a Certificate of Registration (CoR). So, these NBFCs are under the gamut of RBI and mandatory to submit reports. It paves the way to attract new participants and makes existing members more secure. (Vinod Kothari Consultants, 2017). The following figure shows the number of successfully funded and expected alternative loans in India.

FIGURE 1: NUMBER OF SUCCESSFULLY FUNDED AND EXPECTED ALTERNATIVE LOANS IN INDIA



Source: Statista (Forecast adjusted for the expected impact of COVID-19), May 2020

OBJECTIVES OF THE STUDY

1. To evince the evolution and definition of P2P advances in the Indian context.
2. To perceive the regulations stipulated by the Reserve Bank of India.
3. To apprehend the pros and cons of P2P lenders.



4. To recognize the overall impact of COVID-19 and the sustainability of P2P platforms.

SOURCE OF DATA

Secondary data from sources reported online as well as offline was used in this analysis.

DISCUSSION

P2P LENDING – AN OVERVIEW

EVOLUTION: A genuinely late wonder, elective financing got consideration with the startup and fintech blast of the mid-2010s. Banks reacted to the interruption challenge by grasping new advancements yet could not pick up as a result of one central explanation - new companies have adaptable plans of action. In contrast, banking guidelines are inflexible and very much directed. Early P2P stages included loaning inside known companions' hover along these lines.

The trust factor is not a significant criterion because members (mostly) knew each other and belong to the same social group. As the lending circle becoming bigger, the trust might not be that strong. Added loan ticket size too began to increase, highlighting the importance of intermediaries and third parties coming into the equation—this increased cost and time in the overall lending process.

The first peer-to-peer loans were underwritten in the United Kingdom in 2005. The concept soon moved to the United States and Korea (2006) and later to other countries such as China and Sweden (2007), Israel (2011), Australia and India (2012), Ireland (2013), Indonesia, Bulgaria, and Canada (2016), Latvia and Brazil (2018), Zopa (UK), Prosper (US), Smava (Germany), I-LEND (India), We Lab (Hong Kong), Society One (Australia), Trust buddy AB (Sweden), Linked Finance (Ireland), and Money Auction (Korea) are the first p2p lenders in their respective regions.

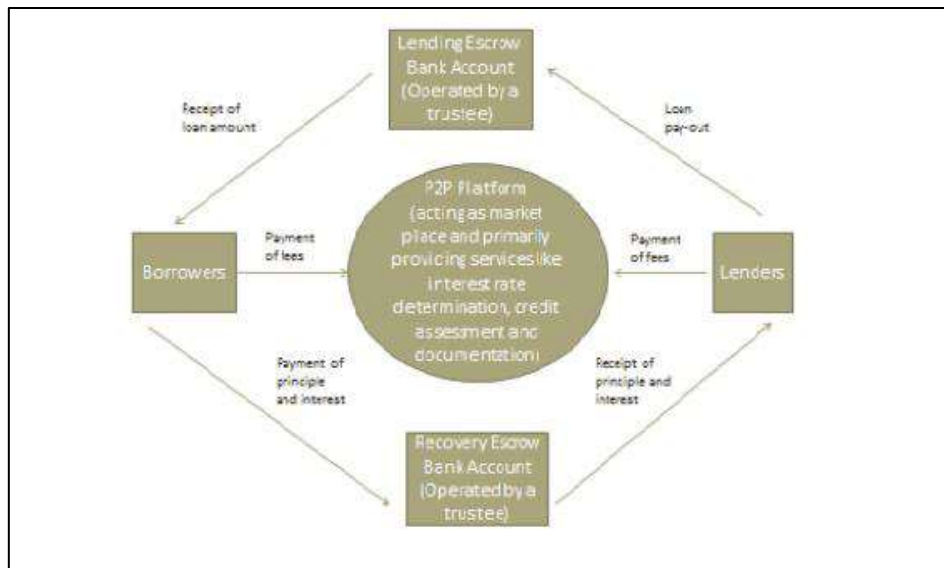
With a 51.5 percent CAGR growth globally, P2P lending is currently the fastest-growing segment in the finance industry. Market estimates that it will reach the US \$460,313 million by 2022, with the US \$15.98 billion lendings in loans (as of December 31, 2015). Lending Club is the world's largest p2p lending company and the first such company to get listed on stock exchanges. Upstart, Funding Circle, Prosper Marketplace, CircleBack Lending, and Peer form are some category leaders.

DEFINITION: “P2P lending is a type of debt financing with the use of an online platform that connects or matches borrowers pursuing unsecured loans and lenders anticipating higher return for their investment, in return for a fee.”

C. WORKING: The P2P credit market is entirely different in structure and working from the traditional bricks and mortar financing system.



FIGURE 2: FUND TRANSFERRING MECHANISM IN THE P2P MARKET



Source: CARE Rating

REGULATION OF THE RESERVE BANKING OF INDIA

The Reserve Bank of India issued a master direction known as Non-Banking Financial Company – Peer to Peer Lending Platform (Reserve Bank) Directions, 2017, on August 24, 2017. It provided a framework for the registration and operation of Non-Banking Financial Companies that carry Peer to Peer lending business in India.

Table 1: Key Areas of RBI Regulation

KEY AREAS OF THE DIRECTION	EXPLANATION
Registration	It is mandatory to obtain a Certificate of Registration (“CoR”) from RBI to commence or carry the P2P lending platform as NBFC-P2P (Non-Banking Financial Company – Peer to Peer Lending Platform). Having a net-owned fund of rupees twenty million or such higher amount as the RBI may specify can only apply for registration.
Permissible Activities	Act as a mediator to provide an online credit marketplace to the players of P2P lending. Ensure compliance of legal requirements by the participants, hoard, and information processing relating to the activities and participants. Undertake documentation of loan agreement, the credit assessment, and the borrowers' risk profiling disclose the same to the lenders. Also, render services for the disbursement and repayment of loans.



Non-Permissible Activities	Accepting deposits, lending its fund, providing any credit guarantee, allowing the international flow of funds, and trading of any products except loan specific insurance products.
Prudential Norms	<p>Shall keep a leverage ratio not higher than 2.</p> <p>A single investor can make the maximum limit of investment to all borrowers across all P2P platforms is ₹50,00,000. The lender investing more than ₹10,00,000 compulsorily submit a certificate from a practicing Chartered Accountant certifying that the lender's minimum net worth is ₹50,00,000.</p> <p>₹10,00,000 is the maximum amount of loan taken by a borrower across all P2P platforms at any point in time.</p> <p>₹50,000 is the maximum amount of loan disbursed by a single lender to the same borrower (across all P2Ps).</p> <p>The maximum duration of a loan is 3 years.</p>
Operational Guidelines	All NBFC-P2P have a board policy of its own relating to fixing the eligibility criteria of participants, determining the pricing of services rendered, and forming rules for matching lenders with borrowers in a non- discriminatory basis.
Fund Transfer Mechanism	<p>In peer-to-peer lending, funds transfer between participants is made only through escrow accounts operated by a bank promoted trustee.</p> <p>P2P platforms maintain at least two escrow accounts, one account for accrue funds from investors, and the other for collection from borrowers.</p>
Grievance Redressal Mechanism	<p>Every P2P platform strictly follows a board-approved policy to address the complaints of the participants.</p> <p>Complaints shall be disposed within the time as per the board's approved policy, but in any case, not exceed one month from the date of receipt.</p>
Transparency and Disclosure	<p>NBFC- P2P shall disclose the following:</p> <p>To the lender: details about the borrower including personal, the amount needed, the acceptable range of interest rate, credit score given by the platform, terms, and conditions of the loan.</p> <p>The borrower details the lender/s, including the proposed amount, the interest rate offered but excludes personal identity and contact information.</p> <p>Publicly on the website: an overview of credit rating method, grievance redressal system, disclosure about the security of data, and business model followed.</p>
Reporting Requirements	The RBI may, from time to time, prescribe NBFC-P2P submit return/s.



	Quarterly statements showing details of the loan, balance in the Escrow Account, details regarding grievances, and leverage ratio shall be submitted to the Regional Office of the Department of Non-Banking Supervision of the RBI within 15 days after each quarter.
Supervision	The RBI can inspect any NBFC-P2P at any time by its officer/s or by an approved agency.

Source: Author compilation

PROS AND CONS OF P2P LENDERS

PROS

1. **REGULAR AND PREDICTIVE RETURN:** Borrowers make repayment as EMI, and the lender knows the amount of EMI in advance.
2. **ATTRACTIVE RATE OF INTEREST:** Gets a higher rate of return in proportion to the risk they bear.
3. **EASY TO ENTER AND OPERATE:** Because everything is done online.
4. **TRANSPARENCY:** Details about borrowers with credit score, rate of interest, maturity period, and loan agreements are available in P2P platforms.
5. **CHOICE:** Lenders choose to fund the borrowers that match their preferences.
6. **DIVERSIFICATION:** Lenders can diversify investments across multiple borrowers and thereby, reduce the risk.
7. **NO ARBITRATORS-:** The whole process is done through a virtual platform.

CONS

1. **LACK OF SECURITY AND SAFETY:** The investments are unsecured.
2. **TAX BURDEN:** Interest earned from P2P platforms is taxable.
3. **HIGH RISKS OF DEFAULT:** The lenders are exposed to the risk of default by borrowers.
4. **TIME-CONSUMING:** Creating an optimum portfolio in P2P platforms consumes time.
5. **FEES:** Some P2P platforms charge registration and additional fees from lenders.

IMPACT OF COVID-19

The Covid-19 pandemic has brought the world as we know it to its knees. While most sectors got adversely impacted, the altered dynamics have thrown open new opportunities for certain other sectors. Online lending is one such sector that has been agile and responsive to changes. This crisis has uncovered the gaps in traditional banking and financial institutions, which either ceased or severely curtailed lending during the lockdown. Hamstrung by outdated processes, they still depend on physical processing, verification, and disbursement of loans, which was no longer possible in the era of Janata curfew and social distancing. As a result, P2P lending is likely to rise faster than most in the post-COVID-19 era.



LOANING POST-COVID-19

In the post-COVID-19 time, there will be a change in perspective regarding all parts of loaning, regardless of whether it is requested and gracefully of credit or the cycles that empower it.

The disappointment of obligation assets and value to endure this stun will drive Indians with surplus assets to go to elective speculation openings, for example, P2P loaning. Simultaneously, as limitations ease, interest for credit to empower financial recuperation will rise exponentially.

"The Greater part of individuals is at home under countrywide lockdown. This has stifled the interest for utilization, prompting less interest for advances. When monetary exercises continue, utilization will go up, thus will the interest for advances. A comparative circumstance has occurred with financial specialists too. When the financial course is back in the economy, more speculators will return with significantly more cash. Right now, we are encountering drowsy credit requests, not the absence of speculation intrigue," says Bhavin Patel, Founder, LenDenClub. Faircent sees the interest to support post the lockdown, yet borrowers having a place with dangerous portions may see the absence of financing interest. "As commonality is reestablished and financial movement recuperates, most organizations will require credit backing to recover financially. With this, the credit request will increment strongly. It should be organized in a way that guarantees effective financing by loan specialists. Credit assessment will be affected by how COVID-19 has affected the borrower. For instance, moneylenders may begin loaning dependent on COVID zones, as opposed to PIN codes, while workers of stress parts, for example, aircraft and lodgings, could be influenced when looking for advances," says Rajat Gandhi, Founder, and CEO, Faircent.

Most players, including Faircent and Lendenclub, have offered a ban on credits for borrowers to adapt to the interim's progressing challenge. To support the acquiring request, Faircent has propelled advance items, such as the 'counter lockdown advance' to assist borrowers in acknowledging along for simple reimbursement alternatives. It is additionally helping borrowers in green zones access fast and simple credits by labeling their postings as 'low effect COVID zone' on the stage.

The coronavirus pandemic has undoubtedly raised the danger of defaults by borrowers. Most specialists instruct the thumb rule regarding 80:20, which is loaning 80 percent to high-evaluated customers with sensible returns and 20 percent to low-appraised customers. It is prudent to expand the most extreme when loaning to bring down appraised customers.

"P2P loaning gives you a choice to look past values and obligation to acquire exceptional returns. Returns anyplace between 19-21 percent are normal thereby. Regardless of whether a few advances turn terrible, financial specialists can look at present win 12-14 percent on their capital," says Prakarsh Gagdani, CEO, 5paisa.com.

Saumya Shah, Founder of Tarrakki, a riches the board stage, says the interest from high total assets people to investigate P2P loaning as a venture has expanded post the lockdown since we are declining financing cost condition. "Even though profits may decrease throughout the following, not many months for moneylenders, P2P loaning will see more requests, and P2P players will pick up a piece of the overall industry."



Therefore, whenever oversaw well, P2P loaning could be a worthy alternative to move assets stuck in low-yield ventures to win more significant returns.

CONCLUSION

With the advancement in information and technology reshapes the way we interact and transact. The P2P loaning gained popularity from the possibility that by expelling financial institutions as brokers and substituting them with online platforms, both acquisition and loaning were more desirable. In India, operations of P2P platforms are now under RBI's gamut and mandatory to obtain registration. The directions implemented by RBI should play a prominent part in recognizing this industry. There are 21 registered P2P firms in India on July 16, 2020.

The COVID-19 crisis has forced traditional banking and financial institutions to cease or severely curtail the lending process. This horrible emergency has made an open door for complete digitization of one of the most established budgetary foundations – loaning. P2P loaning stages show premonition and a sharp comprehension of the circumstance and consolidate it with imaginative innovation use will rise as clear champs.

REFERENCES

1. Alistair, M., & Parboteeah, P. (2016, May). The business models and economics of peer-to-peer lending. *European Credit Research Institute*, 17.
2. Eugenia, A. (2018, September). Peer-to-peer lending: business model analysis and the platform dilemma. *International Journal of Finance, Economics, and Trade*, 31-41. Retrieved from https://www.researchgate.net/publication/333167188_Peer-to-Peer_Lending_Business_Model_Analysis_and_the_Platform_Dilemma
3. KPMG, & NASSCOM. (2016, June). Fintech in India-a global growth story. Retrieved from <https://nasscom.in/knowledge-center/publications/fintech-india-global-growth-story>
4. Reserve Bank of India. (2017). Master directions - non-banking financial company – peer to peer lending platform (Reserve Bank) directions. Retrieved from <https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11137>
5. Reserve Bank of India. (2016, July 16). List of nbfc- peer to peer (p2p) registered with rbi. Retrieved from https://www.rbi.org.in/scripts/BS_NBFCList.aspx
6. Shivangi, D. (2019, February 1). Online p2p lending platforms in India: performance and growth. *IJRAR*, 6(1), 685-693. Retrieved from ijrar.org
7. Vijaya Kittu, M., & Satyaprakash, Y. (2019, March). Peer-to-Peer Lending using Blockchain. *International Journal Of Advance Research And Innovative Ideas In Education*, 6(1), 61-66. Retrieved from https://www.researchgate.net/publication/332370095_Peer-to-Peer_Lending_using_Blockchain
8. Vinod Kothari Consultants. (2017). P2P in India-tightrope walking. Retrieved from <http://vinodkothari.com>.
9. Zhao, Hongke & Ge, Yong & Liu, Qi & Wang, Guifeng & Chen, Enhong & Zhang, Hefu. (2017, July). P2P lending survey: platforms, recent advances and prospects. *ACM Transactions On Intelligent Systems And Technology*, 8, 1-28. Retrieved from https://www.researchgate.net/publication/318665428_P2P_Lending_Survey_Platforms_Recent_Advances_and_Prospects/citation/download



WEBSITES

1. www.investopedia.com
2. www.moneycontrol.com
3. www.lendenclub.com
4. www.i2ifunding.com
5. www.economictimes.indiatimes.com
6. www.paisadukan.com
7. www.lendenclub.com
8. www.rbi.org.in
9. www.wirc-icai.org



USE OF SOCIAL MARKETING IN THE PUBLIC HEALTH SECTOR

MANJU M. KAIMAL

Research Scholar, Post Graduate Department of Commerce and Research Centre
Bharata Mata College, Thrikkakara, Kochi, Kerala, INDIA 682021

ORCID: 0000-0002-1063-3827

DR. SAJOY P.B.

Assistant Professor, Post Graduate Research Department of Commerce,
Sacred Heart College, Thevara, Cochin, Kerala, INDIA 682013

ORCID: 0000-0001-7354-5704

ABSTRACT

Social marketing is a process by which commercial marketing tools and techniques are used for achieving various social objectives. Social marketing aims at voluntarily changing human behavior for social benefit. In order to influence human behavior, the principles and techniques of traditional marketing are applied to create, communicate, and deliver value ridden messages/information to the target population. Like traditional marketing, social marketing also uses the marketing mix strategies of product, price, place, and promotion (4Ps) to achieve its targets.

Social marketing has always been used as an effective tool for influencing the health-related behavior of the public. It has, in the past, been used to promote awareness against smoking, promote vaccination programs, promote family planning, etc. Hence, social marketing techniques have a significant role to play in the public health system. During the current outbreak of the COVID-19 pandemic, social marketing techniques have been extensively used by government agencies to promote awareness among people regarding the measures to be adopted to prevent the spread of COVID-19.

KEYWORDS: Social Marketing, Marketing Mix, 4P, Public Health, COVID-19

JEL CLASSIFICATION: M31, I18

CITE THIS ARTICLE: *Kaimal, Manju M., Sajoy, P.B., (2020, September). Use of Social Marketing in the Public Health Sector. In Perspectives on Business Management & Economics (Vol. II, pp. 46-53). Retrieved from <http://www.pbme.in/papers/28.pdf>*

ARTICLE HISTORY: Received: September 6, 2020; Accepted: September 22, 2020;
Published: September 30, 2020



1. INTRODUCTION

Marketing is an important activity in any business organization. The marketing department ensures that the product/service of the organization is consumed (Fejza & Asllani, 2013; Urbonavičius & Dikčius, 2008). The marketing department serves as a bridge between the organization's desire to make profits and the consumers' need to please them. Many techniques and principles are developed to effectively market products/services to consumers so that the company's profits can be maximized without compromising on the needs/wants of customers (Joseph Kehinde et al., 2016). Social scientists have adopted these successful marketing techniques and principles, NGO's, government agencies to achieve social goals and bring about change in human and societal behavior (Sajoy, 2012). For example, in the early 1960s, marketing techniques were used to promote India's family planning (Andreasen, 2016). When marketing techniques are used for achieving social objectives, marketing assumes the name of Social Marketing.

Social marketing has been extensively used in public health to influence people's health-related behavior (Lefebvre, 2011). It has been used to discourage the use of tobacco (Dewhirst & Lee, 2011), reducing alcohol consumption (Perreault Jr. & McCarthy, 2002), promoting vaccination (Opel et al., 2009). During the current COVID-19 crisis, social marketing techniques are being extensively used by government agencies to bring about behavior changes in people's daily routines to ensure voluntary compliance with social distancing and other related measures (Srikanth, 2020). This article briefly discusses the theoretical aspects of social marketing and its application in the public health system during the COVID-19 crisis.

2. DISCUSSION

DEFINITION OF SOCIAL MARKETING

Social marketing has been very broadly defined as applying marketing techniques to social problems (Birkinshaw, 1989). The various commercial marketing techniques, namely the 4P's (product, price, place, promotion), are employed to achieve social objectives (Lefebvre, 2011). Social marketing attempts to primarily bring about a voluntary influence/change in human behavior and achieve social objectives or solve social problems (Andreasen, 2016). Thus, in sum and substance, social marketing is the adaptation of commercial marketing technologies to programs designed to influence the target audience's voluntary behavior to improve their welfare and that of the society of which they are a part (Andreasen, 1994).

MARKETING MIX IN THE CONTEXT OF SOCIAL MARKETING

The marketing mix is a set of marketing tools used by an organization to promote/sell its product/service in the market (Kotler, 2019). All the various marketing tools so used by an organization can be included in four primary groups, namely; (1) Product, (2) Price, (3) Place, (4) Promotion (Goi, 2009). These four primary groups of marketing strategies are together called 4P's. The 4P's are all about developing the right product that the customer wants, making the product available at the correct location/place from where the customer can easily



access it, using the most appropriate promotion strategy, and selling it to the customer at the right price (Perreault Jr. & McCarthy, 2002).

It must not be forgotten that a marketing mix is always developed in the context of a targeted population or market to which the organization wishes to sell its product/service. A targeted population or market is a group of customers having certain similar characteristic features (Rustandi Kartawinata et al., 2015). The kind of marketing tools adopted by the organization is decided based on the characteristic features of the customers of the target market (Perreault Jr. & McCarthy, 2002).

The marketing mix techniques (4Ps) have been extensively used in social marketing to achieve the targeted social objective. The use of 4Ps in the context of social marketing is briefly described below:

- 1. Product:** In the case of commercial marketing, 'product' is the physical product or service offered by the business organization to the customer, for which the customer is willing to pay (Išoraitė, 2016). In the case of social marketing, it is not any physical product/service, which is at the core of the marketing strategy. However, a particular proposition like 'smoking is injurious to health,' 'protect the environment.' (Peattie & Peattie, 2009). The objective of the proposition will be to achieve some form of behavior change. This does not mean that physical products/services are not involved or are not necessary, but it is not sufficient. It is necessary to ensure that the target population uses the products/services to change their behavior (Lefebvre, 2011).
- 2. Price:** 'Price' in commercial marketing is defined as the amount that a customer must pay to receive the product/service (Singh, 2012). An organization must adopt the right pricing strategy for its products/service to attract new customers, hold on to existing customers, and satisfy customer needs (Al Badi, 2018). In social marketing, the idea of 'price' goes beyond mere monetary value to include psychological value, social value, and geographic value. (Lefebvre, 2011). Hence the term 'cost of involvement' can be preferred instead of 'price' (Peattie & Peattie, 2009). For any social marketing project to be successful, the price (or cost) strategy must reward desired behaviors and discourage competing for undesirable behaviors (Cheng et al., 2011).
- 3. Place:** In commercial marketing, 'place' is defined as the mechanism through which goods and services move from the producer/service provider to the customer (Al Badi, 2018). 'Place' is also called 'distribution' in commercial marketing (Išoraitė, 2016). Since the core product in social marketing is not the physical product/service but propositions that seek to change human behavior, the term 'accessibility' is used instead of 'place' or 'distribution' (Peattie & Peattie, 2009). A social marketing project will be successful only if it makes accessible the suggested alternative behavior pattern (Sajoy, 2012).
- 4. Promotion:** 'Promotion,' in the context of the commercial marketing mix, involves the communication and persuasion of the target consumers to buy the product/service of the organization. This can be effectively done only by identifying the target consumers (Al Badi, 2018). Advertisement is one of the several promotional tools available (Singh, 2012). In the context of social marketing, the term 'social communication' is preferred to the term 'promotion' (Peattie & Peattie, 2009). For a social marketing strategy to be successful, the



product/service and the desired change in behavior must be appropriately communicated to the target audience (Lefebvre, 2011).

SOCIAL MARKETING AND PUBLIC HEALTH

Public health is the science/art of preventing diseases, prolonging life, promoting health and efficiencies through organized community effort. It is concerned with the health of the whole population and the prevention of diseases from which it suffers (Gidey et al., 2006). Since public health quite often involves the need to bring about behavioral changes in society members, social marketing has been widely used in solving public health problems. In the past, it has been used for (1) combating various chronic diseases, (2) reducing AIDS risk behavior, (3) Fighting child abuse, (4) Increasing utilization of public health services, (5) Preventing teen-smoking, (6) Promoting family planning and contraceptive use, (7) Child immunization programs. (Cheng et al., 2011). It must not be forgotten that two of the most successful public health-related social marketing campaigns were carried out in India. In the 1960s, India implemented a successful family planning program through the social marketing of low-cost Nirodh condoms with public-private sector participation (Sajoy, 2012). Similarly, in the late 1990s/early 2000s, the National Aids Control Programme (NACP) aggressively used social marketing strategies to promote the use of condoms (Sharma & Sharma, 2014).

COVID-19 PANDEMIC AND MEASURES TO COMBAT

The world is currently facing a severe public health crisis arising from the outbreak of the COVID-19 pandemic. The disease, which first appeared in the Chinese city of Wuhan in December 2019, quickly spread across the globe (Sahin et al., 2020). On March 11, 2020, the World Health Organization (WHO) declared COVID-19 to be a pandemic because the disease had met the epidemiological criteria of having infected a total of more than one lakh people in at least a hundred countries (Ohia et al., 2020).

To combat pandemics like COVID-19, the World Health Organization (WHO) has developed several plans and protocols (WHO, 2009). The basic plans/protocols to deal with pandemics consists of two broad strategies, namely; (1) medical measures and (2) non-medical measures (WHO, 2007). The medical measures involve developing and using vaccines to immunize the public against the disease and use drugs to treat the symptoms of the disease seen in any patient (Holtz-Eakin, 2006). The non-medical measures, which are public health measures, can be classified into two categories: (1) personal hygiene measures, and (2) community-wide measures. Personal hygiene measures are measures that every individual must follow to reduce the possibility of getting infected. These include measures like frequent hand washing, using alcohol-based sanitizers, wearing masks. (Cowling & Aiello, 2020). Community-wide measures are those measures that must be followed by all members of the community to reduce/prevent the spread of the disease. Community-wide measures include social distancing, closing down places like schools, offices, and hotels where people congregate. (Matzler et al., 2007).



SOCIAL MARKETING AND CONTROL OF COVID-19 PANDEMIC

COVID-19 disease is a relatively new one. Hence vaccines/medicines are not yet available to combat the same. Consequently, health systems worldwide extensively rely on non-pharmaceutical (non-medical) measures to contain the spread of the COVID-19 pandemic outbreak (Unicef et al., 2020). It must be noted that most of the non-medical measures like wearing masks, social distancing, using sanitizers, involve a change in the behavior of the members of the society. Consequently, public authorities have extensively used social marketing strategies to promote non-medical measures (Opel et al., 2009).

The Indian government has been very aggressively using several social marketing strategies to promote various non-medical measures to contain the spread of COVID-19 disease. Some of the strategies are outlined below:

1. The Department of Telecommunication (DoT) directed various telecom operators such as Reliance Jio, Airtel, BSNL, etc. to change the default cell phone caller tune to a 30-second COVID-19 based message in early March 2020. The message aims to raise awareness amongst citizens of the disease and to recommend steps to prevent the message from spreading. For example, the messages suggest the citizens wash their hands with soap regularly, to cover their face with tissue/handkerchief while coughing or sneezing. (Outlook, 2020).
2. In March 2020, the Ministry of Health and Family Welfare (MoHFW) roped in actor Amitabh Bachchan to promote various positive behaviors regarding COVID-19 disease. In the promotion video, Amitabh Bachchan tells people about the different measures to be followed to fight the COVID-19 disease (Jha, 2020).
3. In March 2020, a promotional video campaign was also launched by the central government that educates the public regarding the various home quarantine methods for COVID-19 patients (Kothari et al., 2018).
4. In April 2020, the Ministry of Electronics and Information Technology (MEiTY) launched a mobile application called Aarogya Sethu to proactively inform citizens about the best practices and relevant advisories about the containment of COVID-19 disease (Deshmukh, 2020).
5. In August 2020, the MoHFW launched an interactive video game called the 'Corona Fighters' to teach people about the right tools and behavior to be employed to fight the COVID-19 pandemic. Along with the video game, two related promotional videos were also released. (PTI, 2020).

CONCLUSION

Social marketing uses various commercial marketing techniques, particularly the 4Ps, to promote and achieve social objectives and solving social problems. For more than half a century, public agencies worldwide have frequently been using social marketing strategies to bring about change in the behavior pattern among society members. This is particularly true in the public health sector, where several social marketing programs have been successfully implemented. Social marketing strategies are now being extensively used by public authorities in several countries like India to contain the spread of COVID-19 disease.



REFERENCES

1. Al Badi, K. S. (2018). The Impact of Marketing Mix on the Competitive Advantage of the SME Sector in the Al Buraimi Governorate in Oman. *SAGE Open*, 8(3), 215824401880083. <https://doi.org/10.1177/2158244018800838>
2. Andreasen, A. R. (1994). Social Marketing: Its Definition and Domain. *Journal of Public Policy & Marketing*, 13(1), 108–114. <https://doi.org/10.1177/074391569401300109>
3. Andreasen, A. R. (2016). The Life trajectory of Social Marketing. *Marketing Theory*, 3(3), 293–303.
4. Birkinshaw, M. W. H. O. (1989). Social Marketing R Health. *Social Marketing for Health*, 43. http://apps.who.int/iris/bitstream/handle/10665/62146/HMD_89.2.pdf;jsessionid=E023B2DA73FBA5C504ADDD25BB87FE43?sequence=1
5. Cheng, H., Kotler, P., & Lee, N. R. (2011). Social Marketing for Public Health: An Introduction. In H. Cheng, P. Kotler, & N. R. Lee (Eds.), *Social Marketing for Public Health - Global Trends and Success Stories* (pp. 1–28). Jones and Bartlett Publishers.
6. Cowling, B. J., & Aiello, A. E. (2020). Public Health Measures to Slow Community Spread of Coronavirus Disease 2019. *The Journal of Infectious Diseases*, 221(11), 1749–1751. <https://doi.org/10.1093/infdis/jiaa123>
7. Deshmukh, S. (2020). *Government launches Mobile App Aarogya Sethu to Spread Awareness on COVID-19* (pp. 1–7). The Logical India. <http://repositorio.unan.edu.ni/2986/1/5624.pdf>
8. Dewhirst, T., & Lee, W. B. (2011). Social marketing and tobacco control. *The SAGE Handbook of Social Marketing, January 2011*, 391–404. <https://doi.org/10.4135/9781446201008.n27>
9. Fejza, E., & Asllani, A. (2013). The Importance of Marketing in Helping Companies with Their Growth Strategies: The Case of Food Industry in Kosovo. *European Scientific Journal*, 9(16), 326–335.
10. Gidey, G., Taju, S., & Hagos, A. S. (2006). *Introduction to Public Health* (3rd ed.). Mekelle University.
11. Goi, C. L. (2009). A Review of Marketing Mix: 4Ps or More? *International Journal of Marketing Studies*, 1(1), 2–15. <https://doi.org/10.5539/ijms.v1n1p2>
12. Holtz-Eakin, D. (2006). A Potential Influenza Pandemic: Possible Macroeconomic Effects and Policy Issues. In *The Congress of the United States, Congressional Budget Office*.
13. Işoraitë, M. (2016). Marketing Mix Theoretical Aspects. *International Journal of Research-Granthaalayah*, 4(6), 25–37. <https://doi.org/10.5281/zenodo.56533>
14. Jha, L. (2020). *Government ropes in Amitabh Bachchan to spread awareness about COVID-19 important news directly to you with our Trump announces historic accord between former foes Serbia , Kosovo* (pp. 1–4). Livemint.
15. Joseph Kehinde, O., Adegbuyi, O., Akinbode, M., & Taiye, B. (2016). Marketing Concept And The Satisfaction Of Consumer Needs : The Nigerian Consumers ' Experience. *Researchjournal's*



- Journal of Marketing*, 4(1), 1–15.
https://doi.org/https://www.researchgate.net/publication/310368622_Marketing_concept_and_Satisfaction_of_Consumer_Needs_The_Nigerian_Consumer_Experience/link/582c397a08ae102f0720c3c4/download
16. Kothari, S. S., Jain, S. V., & Venkateshwar, P. A. (2018). *The Impact of IOT in Supply Chain Management*. 257–259. [https://www.irjet.net/ percent0D](https://www.irjet.net/percent0D)
 17. Kotler, P. (2019). Marketing Management, Millenium Edition. In *A Framework for Marketing Management* (Custom Edi, Vol. 11, Issue 3 Special Issue, pp. 868–874). A Pearson Education Company.
 18. Lefebvre, R. C. (2011). An integrative model for social marketing. *Journal of Social Marketing*, 1(1), 54–72. <https://doi.org/10.1108/20426761111104437>
 19. Matzler, K., Pichler, E. A., & Hemetsberger, A. (2007). Who is Spreading the Word? The Positive Influence of Extraversion on Consumer Passion and Brand Evangelism. In *AMA Winter Educators' Conference Proceedings* (Vol. 18). <http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=32571719&site=ehost-live>
 20. Ohia, C., Bakarey, A. S., & Ahmad, T. (2020). COVID-19 and Nigeria: putting the realities in context. *International Journal of Infectious Diseases*, 95, 279–281. <https://doi.org/10.1016/j.ijid.2020.04.062>
 21. Opel, D. J., Diekema, D. S., Lee, N. R., & Marcuse, E. K. (2009). Social Marketing as a Strategy to Increase Immunization Rates. *Archives of Pediatrics & Adolescent Medicine*, 163(5), 432. <https://doi.org/10.1001/archpediatrics.2009.42>
 22. Outlook. (2020, March). COVID-19: Telcos using caller tune to spread awareness. *IANS*. <https://www.thehindu.com/news/national/covid-19-telcos-using-caller-tune-to-spread-awareness/article31021831.ece>
 23. Peattie, K., & Peattie, S. (2009). Social marketing: A pathway to consumption reduction? *Journal of Business Research*, 62(2), 260–268. <https://doi.org/10.1016/j.jbusres.2008.01.033>
 24. Perreault Jr., W. D., & McCarthy, E. J. (2002). Improving Decisions with Marketing Information. In W. D. Perreault & J. E. McCarthy (Eds.), *Basic Marketing: A Global- Managerial Approach 14/e* (pp. 215–245). The McGraw-Hill Company.
 25. PTI. (2020). Health minister launched a video game to spread Covid-19 awareness. *The Week*.
 26. Rustandi Kartawinata, B., Wardhana, A., & Kartawinata, B. R. (2015). Marketing Strategies and Their Impact on Marketing Performance of Indonesian Ship Classification Society. *Article in International Journal of Science and Research*, 4(2), 69–74. <https://www.researchgate.net/publication/327069490>
 27. Sahin, A. R., Erdogan, A., & Prog, P. M. (2020). 2019 Novel Coronavirus (COVID-19) Outbreak: A Review of the Current Literature. *Eurasian Journal of Medicine and Oncology*, 4(1), 1–7. <https://doi.org/10.14744/ejmo.2020.12220>



28. Sajoy, P. B. (2012). Social Marketing: A Theoretical Perspective. *International Journal of Marketing and Technology*, 2(8), 227–235.
29. Sharma, N., & Sharma, K. D. (2014). How Condom Social Marketing is an Effective Tool to Improve the Health of Vulnerable. *South American Journal of Public Health*, 2(2), 253–266.
30. Singh, M. (2012). Marketing Mix of 4P'S for Competitive Advantage. *IOSR Journal of Business and Management*, 3(6), 40–45. <https://doi.org/10.9790/487x-0364045>
31. Srikanth, S. N. (2020, May 16). The pandemic and the challenge of behaviour change A well-crafted social marketing campaign can help address the crisis and even prepare for future disease outbreaks. *The Hindu*.
32. Unicef, WHO, & IFRC. (2020). Key Messages and Actions for Prevention and Control in Schools. *Unicef, March, 2*.
33. Urbonavičius, S., & Dikčius, V. (2008). Importance of Marketing Activities in a Company: the Management Perspective. *Ekonomika*, 83(January). <https://doi.org/10.15388/ekon.2008.17672>
34. WHO. (2007). *WHO strategic action plan for pandemic influenza*. 19 p. http://whqlibdoc.who.int/hq/2006/WHO_CDS_EPR_GIP_2006.2a_eng.pdf
35. WHO. (2009). *Pandemic Influenza Preparedness and Response* (pp. 1–64). World Health Organisation.



DIGITAL TECHNOLOGY EVOLUTION IN HEALTHCARE: INDIA'S STRATEGY TO FIGHT AGAINST COVID-19

SHIVAM SHUKLA

Jamia Hamdard University, New Delhi

ORCID Id: 0000-0002-9325-141X

DR. RAYCHAUDHURI P.S.

Jamia Hamdard University, New Delhi

ORCID Id: 0000-0002-7726-0383

ABSTRACT

The global healthcare services have failed considerably against coronavirus disease. People infected with coronavirus are increasing day by day, and healthcare resources are limited. In this unprecedented situation of COVID-19, traditional channels of interaction between patients, doctors, pharmacies, supply chain networks, healthcare, and pharmaceutical companies have been disrupted. With the second-highest global population, a country like India is facing several challenges in the healthcare sector. This paper intends to present how India's strategy works to fight against COVID-19 by utilizing digital technology to improve the public and private healthcare system. The research focuses on a case study where several digital technologies are used in Indian healthcare in this pandemic situation. It also involves reviewing the Nation Digital Health Blueprint (NDHB), which provides a framework to strengthen the National Health Policy, 2017 (NHP, 2017). The paper also discusses how healthcare professionals have responded towards digital technologies, its implementation, and the benefits of digital platforms for the patient in terms of efficiency, effectiveness, and affordability.

KEYWORDS: indian healthcare system, national digital health blueprint, telemedicine, digital therapeutics

JEL CLASSIFICATION: I18, M15, O32

CITE THIS ARTICLE: Shukla, Shivam., P.S., Raychaudhuri. (2020, September). Digital Technology Evolution in Healthcare: India's Strategy to fight against COVID-19. *In Perspectives on Business Management & Economics (Vol. II, pp. 54-61)*. Retrieved from <http://www.pbme.in/papers/43.pdf>

ARTICLE HISTORY: Received: July 20, 2020; Accepted: September 21, 2020; Published: September 30, 2020



1. INTRODUCTION

The global healthcare system completely shattered now due to the outbreak of the COVID-19 pandemic, which is a global threat to the current healthcare system and has revealed the healthcare system's limitation. According to WHO, coronavirus vaccine or other specific drug treatment for this disease is not available yet, but various clinical trials of vaccines and drugs are under progress. (WHO) In the global scenario, the number of infected people is increasing day by day, and now it becomes a societal crisis for the global community. India is also facing many unprecedented challenges in the healthcare system due to the outbreak of COVID-19. To overcome this situation and provide proper healthcare services to the patients, digital technologies in the healthcare system are the current best option available in this pandemic situation. Digital technologies resolve the problems suffered by developed and developing countries in providing affordable, high-quality healthcare services and vast reachability. (WHO, Telemedicine, 2009) With the help of case studies, we understand how the Indian government is employing digital technology in the healthcare system in this COVID-19 situation and initiatives taken by public and private institutions to transform the Indian healthcare system with digital technologies.

2. LITERATURE REVIEW

Telemedicine technology is the best option available to improve the healthcare facilities in rural areas due to its cost-effectiveness. Matthew Berman and Andrea Fenaughty developed a model of service demand for telemedicine technology. After implementing this model, they conducted a survey where they found that patients in rural areas of Alaska save about USD 40. (Matthew Berman and Andrea Fenaughty, 2005). Recently published BCG report titled "future of work," which they have surveyed in the tier 1 metro cities where 200 registered medical practitioners participated and given feedback on the effectiveness of digital health. (Guha R., BCG, 2020) On that basis, The BCG has made a new commercial operating model which helps to understand the utilization of digital technology so innovatively that traditional channel of interaction between patients, doctors, pharmaceutical companies, and medical shops can be improved. (Guha R., BCG, 2020; Parker et al. (2013); conducted a study among the geriatric patients who willingly adapted m-health technology in the management of their chronic pain. In this study, six groups of geriatric patients are interviewed, and the results show that all the patients were satisfied and achieved the desired outcomes. They can manage their chronic pains and face some issues related to un-familiarity towards new technology, battery issue, network connectivity issues, and the most important high is the fixed price of mobile phones. (Parker et al., 2013)

National Digital Health Blueprint (NDHB) is the key to universality, citizen-centricity, quality of care, and performance accountability. (GOI, MoHFW, 2019) Its mission to create an interconnected database of electronic health records, which will be delivered as a reliance source for health data of every patient within India, apart from that other existing or creating new dataset of state-wise directories of health professionals, health facilities, disease registries, records of inventory and insurance claim history. (GOI, MoHFW, 2019) NHDB has a vision of building an integrated health information system for all stakeholders, to improve efficiency, transparency, and based on the citizen-centric health model. (GOI, MoHFW, 2019)



It aims to promote the digitalization to build a digital health system, mainly focusing on telemedicine, digital therapeutics, telehealth, hospital information system, etc. (GOI, MoHFW, 2019) NDHB has now become National Digital Health Mission under the National Health Policy 2017. It provides a strengthened to the healthcare system and a lot of future opportunities.

3. OBJECTIVES OF THE STUDY

1. Determine the effectiveness, efficiency, and affordability of digital technology in public and private healthcare sectors.
2. Evaluate the digital technology used in the COVID-19 pandemic situation with the help of a case study from the India perspective.
3. Review and understand the population using NDHB.
4. Determine the scope of digital therapeutics, e-prescription, e-pharmacy, telemedicine, and telehealth.

DATA COLLECTION AND METHODOLOGY

Data for this study is collected from published Articles, News, Reports from the Boston Consulting Group), Press Releases of MoHFW, Government of India (GOI), Indian Brand Equity Foundation (IBEF), Reports of WHO (World Health Organization), amongst others. A descriptive study is performed.

DISCUSSION

In this, we discuss the scope of the NDHB, which is now the National Digital Health Mission for the patients, health professionals, and other stakeholders. Digital healthcare case studies discuss resolving various issues like security, affordability, efficiency, and effectiveness of digital healthcare.

SCOPE FOR PATIENT

NDHB follows the universal standards for creating the Electronic Health Records (EHR) system. It has a unique secure digital Health ID for all citizens, which is integrated with other digital healthcare system components to avail healthcare services either online (Indian health portal) or through mobile phones (my health apps). Value-added services included are telemedicine, digital therapeutics, e-prescription service, and teleconsultation. It delivers better healthcare quality through real-time monitoring and interventions in remote areas. Data security is maintained using National “Opt-out” (for privacy), and digital health locker is available to maintain personal health records.

Limitations

Patients were unable to control or access their health records without the intervention of doctors or hospitals. Due to a lack of monitoring authority, it is difficult to track patient safety and quality of care through a digital healthcare system. Other factors such as low digital literacy program, awareness, availability of resources, and connectivity in rural areas are the key issues which not consider in the NDHB.



SCOPE FOR HEALTH PROFESSIONALS (SUCH AS DOCTORS, NURSES, PARAMEDICS)

The NDHB encourages creating national and regional registries to integrate healthcare professionals, health-workers, pharmacies and provide a scientific framework for data collection and its screening. NDHB promotes the unification of health communication center and voice-based services that will help in evidence-based planning, decision-making, and improving training efficiency. It also helps in the case transfer/ digital referrals, one platform to access the emergency cases, dissemination of appropriate content, information, alerts, updates, and online education through registered mediums or channels such as smartphones and various web portals. It also includes the Clinical Decision Support (CDS) system, and digital diagnostics has ameliorated healthcare quality. Digitalization of hospital and Digital pharmacy improve the delivery of healthcare services.

Limitations

The safety of healthcare professional, nurses and paramedics from electronic equipment which are used during treatment is not monitored due to the lack of a regulatory system that takes care of Standard Treatment Guidelines (STGs) issued from the MoHFW.

SCOPE FOR STAKEHOLDERS (EDUCATIONAL INSTITUTE, RESEARCH INSTITUTE, PUBLIC AND PRIVATE AGENCY, ETC)

The NDHB focuses on building up a network for the sharing of health information and health services. The database is intended for personal, clinical and other personnel to preserve their health records and connected to numerous databases that can be accessed by public and private entities, including in the absence of a personal health identifier system that would ultimately help to classify health care system facilities, diseases, and devices. It improves efficiency through health data analytics and various medical research.

Limitation

There is no provision for providing financial support to the stakeholder who contributes to digital technology improvement and innovation. Not mention the cost or a charge which is taken by the government for utilizing data for research.

CASE STUDIES

GOVERNMENT INITIATIVES TOWARDS DIGITAL TECHNOLOGY AT THE PANDEMIC SITUATION

Aarogya Setu App

Aarogya Setu app is a remarkable example of collaboration between government, industries, citizen and academics to form a digital platform which enables Bluetooth based contact tracing, mapping of likely hotspots and collecting details of relevant information. (GOI, Aarogya Setu, Press Release, 26th May 2020) The analytics of Bluetooth contacts and location data helps identify potential hotspots with a higher probability of COVID-19 cases allowing state government, district administration, and health authorities to take the necessary measures suggested by the ministry of health and family welfare containment zones. (GOI, Aarogya Setu,



Press Release, 26th May 2020) Bluetooth-based contact tracing and hotspots identification may hold the key to effectively breaking the chain of infection, flattening the curve, and saving lives in this pandemic situation. It is available in 12 languages on Android, iOS, and KaiOS platforms. (GOI, Aarogya Setu, Press Release, 26th May 2020) The key pillars of this app are transparency, privacy, and security. For the improvement and to make secure and robust, the government takes helps from various software developer communities, and they launched the Bug Bounty Programme. (GOI, Aarogya Setu, Press Release, 26th May 2020) In this program, various security researchers and the Indian developer community are welcomed to test the security, effectiveness, and enhance user's trust. (GOI, Aarogya Setu, Press Release, 26th May 2020) Currently, Aarogya Setu digital platform is used by 150 million users and thereby has received wide acceptance. (Upadhyay H., 2020)

'e-Sanjeevani' Telemedicine

e-Sanjeevani Telemedicine is a national telehealth consultation service. It is the first online OPD platform developed by the Centre for Development of Advanced Computing (C-DAC), which provides the connection between medical practitioner to a medical practitioner (e-Sanjeevani), and sick person to medical practitioner (e-Sanjeevani OPD) telehealth consultation. (GOI, MoHFW, NTS) It aims to provide healthcare services to patients at their doorstep and works on the "Hub and Spoke" model in which hospitals and medical colleges are transformed into health and wellness centers. (ET, Health, 2020) Its key features are Online OPD, real-time interaction, e-prescription, state services doctors providing virtual video visits, and enhanced communication services. (GOI, MoHFW, NTS) to reduce the financial burden in healthcare. According to the article published in the daily press The Hindu, this platform has provided nearly 2 lakh telehealth consultations and has provided telehealth services to 75 percent of the population. Currently, it is serving in 23 states of India where Tamil Nadu (56346), Uttar Pradesh (32325), Andhra Pradesh (29400), Himachal Pradesh (26535), and Kerala (21433) are the top states using the e-sanjeevani platform. It has better efficiency and accessibility in rural areas. (The Hindu, 2020) Through this e-sanjeevani platform, around 5000 telehealth consultations were provided daily to the patients, a boon for rural areas where 3000 health and wellness centers are present in 10 states of India. 40 e-sanjeevani OPDs are helping patients in this pandemic situation. (TOI, 2020)

PUBLIC SECTOR AND PRIVATE SECTOR INITIATIVES TOWARDS DIGITAL TECHNOLOGIES AT THE PANDEMIC SITUATION

COPAL-19

COPAL-19 app was developed by a resident medical practitioner of AIIMS and Indian Institute Technology Delhi students. The tracking and management system helps track the availability of beds in the hospital and provide plasma donors for the treatment of COVID-19. This application helps COVID-19 patients to detect the hospital for the treatment of coronavirus. It provides real-time information of COVID-19 patients in the hospital and discharged patients who have developed immunity against it. It is available as an open-source platform for users. It further provides detailed information for the treatment of COVID-19. (Hindustan times,



2020) This initiative was taken from the public domain to contribute to the digital healthcare system in India.

Apollo Telemedicine Network Foundation

Apollo Telemedicine Network Foundation (ATNF) was founded in the year 1999. It now has 21 years of experience in telemedicine and teleconsultation services. (Bollineni R., 2011). The ATNF teleconsultation services cover 25 disciplines ranging from ENT to heart surgery and is available in six different languages. Apollo Telemedicine Network Foundation (ATNF) is divided into two categories, one is the Telemedicine Specialty Center (TSC), and another is the Telemedicine Consultation Center (TCC). (Bollineni R., 2011) As far as TSC is concerned, technicians help the patients provide digital healthcare in a sophisticated manner. Apollo hospital uses the ISDN telephone line connected with the VSAT (Very Small Aperture Terminal) system to provide better connectivity for video conferencing and voice transmission (Bollineni R., 2011). Medical records in TSC are viewed by using the digital interface (Bollineni R., 2011). ATNF has a custom-made web-based software called “medinategra” is used by many peripheral centers to transmit ECG images, X-rays films, Computed Tomography (CT) scan, ultrasound images, MRI, and other reports (Bollineni R., 2011). Nearly 2500 doctors are available on board 1, 00,000 individuals use it for different healthcare purposes. Apollo Telemedicine Network Foundation (ATNF) has given 9,72,339 telehealth consultations during COVID-19. (Ganapathy k., 2020) Furthermore, it has used telemedicine to examine, investigate, monitor, and treat patients in remote areas. Services like e-prescription, e-pharmacy, and digital diagnostics are the services which are offered by Apollo Telemedicine Network Foundation (ATNF). The Apollo 24/7 illustrates progressive changes in virtual healthcare services with an artificial intelligence-powered chatbot technology used by 115 million people from 440 Indian cities. (Dev S., EC, 2020)

RECOMMENDATIONS

Few recommendations for the NDHB are:

1. To establish technological advancement, digital infrastructure and provide better safety standards for a digital healthcare monitoring system.
2. To separate the auditory body, which ensures the verification and authenticity of patients' clinical data collected from healthcare professionals, and to provide the digital healthcare training.
3. Foster the formation of digital healthcare governing organizations to maintain the patient's digital privacy and the secrecy of health records.
4. To increase awareness of digital healthcare technologies such as telemedicine and telehealth in society.

CONCLUSION

In this pandemic situation, a lot of digital technologies and innovations have been taking into account. The initiative was taken by the government, public and private sector in healthcare by using digital technologies to strengthen the Indian healthcare sector that covers 75 percent of the population and helps in the determination of COVID-19 affected areas. Digital



technologies provide security concerns and programs such as bug-bounty programs, which enhance trust and reliability towards the digital platform and focus on providing affordable health services. An initiative like telemedicine, teleconsultation, e-prescription, digital therapeutics, telehealth is boon for healthcare and creates many opportunities in digital healthcare systems in India. As we discussed, the scope of the NDHB that is now the NDHM helps transform the future of the Indian healthcare system.

REFERENCE

1. Bollineni R. (2011), "Apollo Telemedicine Network Foundation (ATNF)", Indian school of business Hyderabad, Accessed at <http://accessh.org/wp-content/uploads/2014/07/Apollo-Telemedicine-Networking-Foundation.pdf> on August, 2020.
2. Dev S. (2020), Express Computers, "AI powered tech of Apollo 24i7 serves millions since Feb this year", Accessed at <https://www.expresscomputer.in/interviews/ai-powered-tech-of-apollo-24i7-serves-millions-since-feb-this-year/62218/> on August, 2020.
3. Ganapathy k. (2020), "Telemedicine and COVID-19", Apollo Telemedicine network foundation, Accessed at <http://www.apollomedicine.org/preprintarticle.asp?id=291473> in August, 2020.
4. Government of India, Ministry of Health and Family Welfare, Department of Health and Family Welfare, National Digital Health Blueprint (NDHB), Final Report. Accessed at <https://main.mohfw.gov.in/newshighlights/final-report-national-digital-health-blueprint-ndhb> on August, 2020.
5. Government of India, MyGov, Aarogya Setu, Press release, 26th May, 2020, Accessed at <https://www.mygov.in/aarogya-setu-app/> in August, 2020.
6. Government of India, Ministry of Health and Family Welfare, National TeleConsultation Services, Accessed at <https://esanjeevaniopd.in/> on August, 2020.
7. Guha R., Verma A., and Prakash N.; Future of work: building the commercial operating model, Boston consulting group and Indian pharmaceutical alliance. Accessed at <http://www.bcg.com/en-in/future-of-work-building-the-new-commercial-operating-model> on August, 2020.
8. Hindustan Times, Delhi news (July, 2020), "Covid-19 vs COPAL-19: Meet Delhi's engineering students who powered plasma donor app with AIIMS doc", Accessed at <https://www.hindustantimes.com/delhi-news/covid-19-vs-copal-19-meet-delhi-s-engineering-students-who-powered-plasma-donor-app-with-aiims-doc/story-zs9Yo1VCRFnYOi6t4qZN1N.html> on August, 2020.
9. Indian Brand Equity Foundation- IBEF, Healthcare, June-2020, accessed at <https://www.ibef.org/archives/industry/healthcare-report> on June 2020 on August 2020.
10. Matthew Berman, Andrea Fenaughty, (2004), Technology and managed care: patient benefits of telemedicine in a rural health care network, Health Economics, 2005 Jun; 14(6): 559-73 doi:10.1002/hec.952, Accessed at <https://pubmed.ncbi.nlm.nih.gov/15497196/> in August 2020.
11. Parker, S J., Jessel, S., Recharadson, J.E, & Reid, M.C. (2013), Older adults are mobile too! Identifying the barriers and facilitators to older adult' use of mhealth for pain management, BMC Geriatrics, 13, 43-43. (Accessed on August, 2020)
12. The Economic Times, News, Health, IT, Health, "Ministry's 'eSanjeevani' telemedicine service records 2 lakh tele-consultations", Accessed at <https://health.economicstimes.indiatimes.com/news/health-it/health-ministrys-esanjeevani-telemedicine-service-records-2-lakh-tele-consultations/77635053> on August, 2020.
13. The Hindu, News, National, "eSanjeevani' records 2 lakh consultations", website Accessed at <https://www.thehindu.com/news/national/esanjeevani-records-2-lakh-consultations/article32398443.ece> on August, 2020.
14. Times of India, "National telemedicine service completes over 1.5 lakh consultation: Health Ministry", Accessed on <https://timesofindia.indiatimes.com/india/national-telemedicine-service-completes-over-1-5-lakh-consultations-health-ministry/articleshow/77448876.cms> in August, 2020.



15. Times of India, Delhi news (July, 2020), “Delhi: An app to help track potential plasma donors”, Accessed at <https://timesofindia.indiatimes.com/city/delhi/an-app-to-help-track-potential-plasma-donors/articleshow/76738399.cms> on August, 2020.
16. World Health Organization (WHO), Health-Topic - Coronavirus, accessed at <https://www.who.int/health-topics/coronavirus> in June 2020.
17. Upadhyay H. (2020), ENTRAKER, “Aarogya Setu app enters 150 Mn user club in 4 months”, Accessed at <https://entrackr.com/2020/08/aarogya-setu-app-enters-150-mn-user-club-in-4-months/> in August, 2020.



ROLE OF DIGITAL TECHNOLOGIES FOR WOMEN ENTREPRENEURSHIP IN INDIA

DR. JYOTI CHANDWANI

Vivekanand Education Society's Institute of Management Studies and Research
Mumbai, Maharashtra, India

ORCID: 0000-0001-5161-1942

DR. SUSHMA VERMA

Vivekanand Education Society's Institute of Management Studies and Research
Mumbai, Maharashtra, India

ORCID: 0000-0003-2027-380X

ABSTRACT

Purpose: *The increasing relevance of new business value creation coupled with growing numbers of women entrepreneurs significantly contributing to economic growth, has raised renewed research interest in women entrepreneurship. This chapter examines Women Entrepreneurship in India and highlights the role of digital technologies focusing on developing new forms of entrepreneurial actions, including networks, ecosystems, and communities, on accelerating the evolution of new ventures intertwined with women's entrepreneurial growth.*

Methodology: *A qualitative literature review about women entrepreneurship activities and the role of digital technologies in women entrepreneurship growth is studied.*

Findings: *Specifically, the contribution and impact of digital technologies would be analyzed for women entrepreneurship. A conceptual discussion on how digital technologies opportunities could play a vital role would help understand some of the barriers related to the Women Entrepreneurship process. This would further highlight the main research streams that emerge for future investigation on the theme.*

Originality/Value: *Even though the literature on Women Entrepreneurship is well documented, the impact of digital technologies and the intersection between the two fields remain unexplored relatively. The paper contributes in this particular direction, identifies emerging trends and future directions for the research.*

Practical implications: *Advancing knowledge and practice in women entrepreneurship and leveraging digital technologies would be a significant implication.*

KEYWORDS: Entrepreneurship, Women Entrepreneurs, Empowerment, Digital Technologies, India



JEL CLASSIFICATION: L26, M13

CITE THIS ARTICLE: *Chandwani, Jyoti., Verma, Sushma. (2020, September). Role of Digital Technologies for Women Entrepreneurship in India. In Perspectives on Business Management & Economics (Vol. II, pp. 62-71). Retrieved from <http://www.pbme.in/papers/19.pdf>*

ARTICLE HISTORY: Received: August 30, 2020; Accepted: September 21, 2020; Published: September 30, 2020

1. INTRODUCTION

Entrepreneurship, and especially women entrepreneurship, plays a vital role in the growth of nations. It has three main processes, including the beginning, promotion, and distribution of wealth and services. The main motive for women to enter the entrepreneurial activity is to participate in some economic benefit for the betterment of the family (Bharathi Kollan and Indira J Parekh, 2005) in the paper "Women Entrepreneurship: A Tool for Work-Life Balance" by Bhatnagar et al. (2017).

Colaco et al. (2018) found that one of the significant factors in the country's financial development is women entrepreneurs' growing role. Empowering women has taken on various forms - improving women's participation in the workforce, reducing intolerance and wage differentials, supporting the more significant effort, and improving progressive behavior that supports talented women in leadership and management. Demartini et al. suggested that in the initial 1980s, there has been amplified attention in women managers and entrepreneurs, repeatedly due to a multidisciplinary method merging. Today, women's roles in entrepreneurship, management, and company governance are seen as one of the most prominent features in the country's progress and welfare.

Furthermore, from the additional sideways, the advent of digital technology cannot be ignored as a source of revolution, even in all of the activities mentioned above that characterize entrepreneurship (Nambisan et al. 2017). The notion of digital technology was the consequence of threesome different but related factors: digital artifacts, digital structure, and digital stages. This digital technology wave opens up novel networks and networks with the marketplace, operators, and other investors (Abernathy and Clark 1985). P. Paoloni et al. suggested that empowering women could be achieved by making a maintainable situation for the entrepreneurship procedure and movement. There is a diversity of aids that digital technology can offer in this way.

Paoloni et al. (2019) found that research on the Scopus database related to the keywords "Digital Technology" and "Women of Entrepreneurship" shows that digital technology is now extensive and moves all actions in our lives. However, some studies are immobile that is attentive to the joint of these two fields and to know the chances, assistances, and effects of digital technology on women's entrepreneurship. To this end, we are first and primary discussing the openings created by new digital technologies that are novel ways of undertaking business.



LITERATURE REVIEW

Chandwani (2015), Entrepreneurship is directed to be the primary agent in progress, which is the main reason individuals, areas, and groups aggressively encourage entrepreneurship. It leads to high levels of education and appropriate university levels in development. This results not only in the prosperity of communities but also nations.

Lee-Gosselin and Grise's (1990) studies revealed that income and development are essential for the entrepreneurs' description. Instead, they originate that women entrepreneurs had very unlike fundamentals for achievement, including opening small, even governments. Studies have found that women entrepreneurs know accomplishment in all kinds of ways, including secluded and capable development. They were realizing stability between work and life, pursuing certain beliefs and standards, and a pledge to "give" something posterior to society.

For women, in particular, the added value of self-employment is that it offers the flexibility to combine work and family. Self-employment is said to have resulted from a recession in Atlantic Canada (ACOA 1996) 1996). Women, it has been stated somewhat than existence omitted from this trend, are at the lead of machine evolution in Canada (Cohen 1996).

Harper (1996) has linked entrepreneurs' perceptions of having a robust inner state of management. Promoting entrepreneurship and self-employment can stimulate people's will and ability to support and sustain themselves (Kupferberg, 1998).

Das (2000), female entrepreneurs' initial difficulties are somewhat similar to those confronted by women in Western nations. However, Indian women entrepreneurs who experienced lower work-family conflict levels were different from their Western counterparts.

Jalbert (2000), in his studies, discovered the character of women entrepreneurs in the universal economy. The study has revealed that women's possessors contribute a great deal to international economic health, the nation's competitiveness, and business in the community by bringing many assets to the world market.

Bulsara et al. (2009) Innovation is an overview of new thoughts, products, amenities, and practices. The main driving strength for innovation is often the bravery and vigor to improve the world. A necessary component of innovation is its profitable use. Innovation has shocked and changed the history of humanity.

Tambunan (2009) found that in emerging nations in Asia, SMEs are of supreme standing; more than 95 percent of all businesses in all industries on usual in each country. The study originates that most women entrepreneurs in small and medium-sized trades are from compulsory businesspersons looking for an improved domestic salary.

Buhalis and Main (1998, p. 201) argued that the Internet is ahead of all businesses. It is moneymaking and especially appropriate for small trades, as it allows them to have entrances open around the clock, with minimal cost to customers around the biosphere.

Commercial systems have been recognized as an immaterial resource for occupational success (Adele & Slavec 2012). Such a network helps companies lessen their working budgets (Gupta, Seetharaman & Raj 2013), cooperate with other communal net entrepreneurs and direct associates, and create a stage for knowledge (Gubbi et al., 2013).



Siganul et al. (2015) recommended that some stores in Labuan, Malaysia, used the Net to endorse their commercial name, creation, and service since of its efficacy. Idris (2008) reported the connection between women's business entrepreneurship and their phase, schooling, place, commercial, yearly income, and workers' number. Although innovations are a motivation to bring about physical change and development in the economy, innovation organization is quite stimulating. The requirement for the need for original and creative employees who would create new ideas that are energetic to the activity's labor force and sustained achievement in the forthcoming (Shavinina, 2003).

Addo (2017) studied whether non-economic wealth is vital for the existence of female micro-enterprises or not. He found that most of the regular guests and owners of micro-enterprises were extremely capable and cultivated. They were highly engaged in advanced commercial activities involving the former-translation process and the mutual translation process to manage social and cultural wealth.

From the literature review conducted, we could find that not much extensive research, particularly in Women Entrepreneurship and the role of digital technologies in India, has been studied. However, the literature review has shown that research has been conducted on Women Entrepreneurship in general, in other portions of the nation and the biosphere. The literature review gave insight into specific problems and factors related to Women Entrepreneurship. This could guide the research in this area. From the Literature Review following is evident: No such significant research has been found in the area of Women Entrepreneurship and the role of digital technologies in India.

DISCUSSION

WOMEN ENTREPRENEURSHIP IN INDIA

The Government of India (2014) has defined a woman entrepreneur as "an enterprise owned and controlled by a woman having a minimum financial interest of 51 percent of the capital and giving at least 51 percent of employment generated in the enterprise to women". What is evident from this definition is that a woman is expected to have substantial financial control.

In the present era of globalization, coupled with digitalization, the country is experiencing a revolution concerning women entrepreneurship. Presently Women entrepreneurs constitute 20 percent of total Entrepreneurship in India, with the total number of women-owned enterprises being 13.5-15.7 million. This is up from 14 percent until the last decade. Women entrepreneurs have shifted from their traditional fields like pickles and papads to engineering (Munshi, S et al., .2011). States of Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, and West Bengal boasts of having the maximum number of women entrepreneurs in India. The sector-wise analysis states that the education sector sees the maximum number of women entrepreneurs. Other preferred sectors are financial services, insurance, livestock, forestry, and lodging (A report on Women Entrepreneurship in India, 2017). Much credit goes to the Government for coming up with various schemes for promoting Women entrepreneurship in India. The government introduced a chapter on "Integration of women in development" in the seventh five-year plan. Trade-Related Entrepreneurship Assistance and Development.



(TREAD) was a significant step by the Ministry of Small industries to help rural, semi-urban, and urban women develop entrepreneurial skills by providing technical support. Schemes such as Annapurna, Udyogini, Cent Kalyani Scheme, Mudra Yojana Scheme, Dena Shakti Scheme, Bharatiya Mahila Bank Business Loan aimed at providing Financial Assistance to Women Entrepreneurs. For providing support to rural women, the Ministry of Women and Child Development launched STEP (Support to Training and Employment Programme for Women). However, a lot needs to be done with various cutting-edge policies to promote women entrepreneurs.

In India, though women constitute, fair 50 percent of the total population, but their share in entrepreneurship is significantly less. This gender disparity in entrepreneurial activity is observed globally (Global Entrepreneurship Monitor report, 2015-16). However, this situation is significantly worst in India. Today India is considered to be a country with the fastest-growing startup ecosystem. Despite these women, participation is significantly low. Considering the traditional customary role of women in India, they are still discriminated against. India Ranks 52 out of 57 countries in the Index of Women Entrepreneurship, 2019. This dismal ranking shows that India is much behind other countries in being a female entrepreneurship friendly country.

Entrepreneurship is a process of creating job givers rather than job seekers. The role of Entrepreneurs in the Socio-Economic development of the country is undisputed. A study by the IMF (2018) states that increasing women's participation in entrepreneurship can increase India's GDP by 6.8 percent. These statistics highlight the significance of Women Entrepreneurship in helping India in its endeavor to become a \$ 5 trillion economy. As per the World Bank report (2014), more investment needs to be done in women's business compared to men for greater development. However, in a developing country like India, the role of women entrepreneurs goes beyond economics in terms of social significance. It also relates to curbing inequality and breaking taboos and contributing towards a broader goal of women empowerment.

In a traditional developing conservative country like India, Women Entrepreneurs face several gender-specific challenges in addition to gender-neutral challenges. Indian Women Entrepreneurs have to face various challenges right from the idea stage until successfully running an enterprise. Reasons coming in the way of the growth of women entrepreneurship are financial and personal. In 2018, out of 1.3 billion \$ raised by Indian Entrepreneurs, only 0.63 percent was the share of all women-owned entrepreneurship firms. This skewed pattern of funding is a big challenge in the way of development of women entrepreneurs. Women Entrepreneurs face too many problems like inadequate training and a lack of technology (Chhichhia V,2004). What is clearly understood in the academic circle is that access to finance (Chandra,91; Singh S. & Saxena, S. C. 2000 Sinha, P,2003) and inadequate technical expertise (Dhameja, S.K,2002) are two significant challenges faced by women entrepreneurs in India. A report on the status of Women Entrepreneurship in India, 2017 says 80 percent of women entrepreneurs are using self-financing for funding their ventures.

This opens up new research venues being that up to now, the researches focusing on linking the Women Entrepreneurship and Digital Technologies is almost lacking. In the following



sections, we delineate some of the most crucial research streams that could guide future research.

ROLE OF TECHNOLOGIES AND WOMEN ENTREPRENEURSHIP

In the present day of coronavirus pandemic, the significance of digital technologies, as a critical component of the nation's collective effort to control the virus spread and support novel ways of living and work, has conspicuously increased. Digital technologies empower, enhance productivity, social life, and support, leading to inclusive global economic growth. Digital technologies include Information and communication technologies (ICTs) comprising of computers/laptops, mobile phones, and the internet, which are necessary tools for business operation and competitiveness (Hussain & Chen, 2018). The advance of digital technologies has contributed immensely to digital transformation (Data-Driven Innovation, 2015). Digital transformation denotes the societal and economic effects of digitalization and digitization ("Going Digital: Shaping Policies, Improving Lives," 2019). New digital technologies include Artificial Intelligence, the Internet of Things, Big Data, Cloud Computing, Blockchain, and Next-generation Wireless Networks. These technologies are accelerated by the exponential growth in computing power with a simultaneous decrease in its cost. Digital transformation is radically changing the landscape of methods by which businesses function and enhance production. Digital entrepreneurship, which denotes the starting up of digital businesses and the adoption of various digital technologies by the existing entrepreneurs, may contribute to more inclusive entrepreneurship.

The potential benefits of using digital technologies in entrepreneurial activities can be summarized in two categories: innovation growth, crafting novel opportunities for entrepreneurs, and boosting self-employed productivity. They include improved access to business intelligence, market research trends in the market, networking, broader reach, lower marketing, and operational costs, e-creation of value, stronger and broader customer base through social media, new sales channels through platform transformations, and economies of scale creation (OECD, 2015).

DIGITAL GENDER DIVIDE

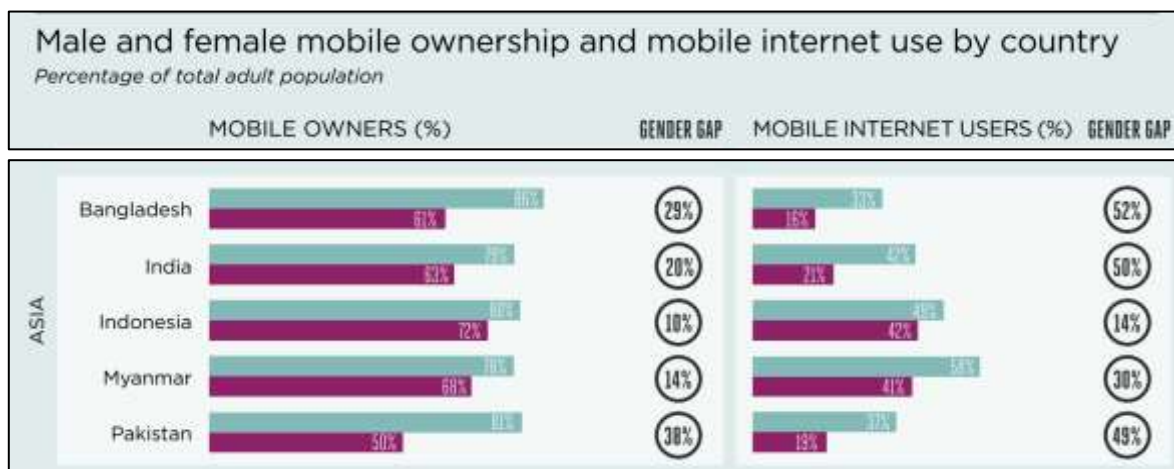
The enhanced availability and affordability of digital technologies focused on innovations. The exponential increase in mobile technology adoption presents all entrepreneurs with outstanding opportunities, notwithstanding gender, to commence and nurture businesses. The variation in accessibility and exploitation of critical digital technologies has resulted in the digital gender divide in favor of men, putting women at a disadvantage (UN Women, 2015). Digital connectivity is more critical than ever in 2020. Accessibility of the internet opens up enormous possibilities to important information, opportunities, and services. Despite its significance, mobile access and exploitation remain unequal. Across low- and middle-income countries (LMICs), 300 million fewer women than men use mobile internet. In terms of smartphone ownership, women lag behind men by 20 percent lower (GSMA, 2019). Fifty-four percent of women in LMICs utilize mobile internet by reducing the gender gap. With the reduction in the cost of online access and present-day "digital natives" become adults later,



narrowing of the gender gap may be estimated (OECD, 2017). Affordability, literacy and skills, safety, and security and a family does not approve significant barriers, in varying degrees, for women about mobile phone ownership and internet usage (GSMA, 2019).

In India, gender-based digital exclusion is three main factors: education and digital skilling, access, affordability, and socio-cultural norms. The gender gap in mobile owners and internet users in India is depicted in Figure 1. The high cost of access to new technologies combined with low female purchasing power has contributed to this digital gender divide (Sorgner et al., 2017).

Table 1: The gender gap in mobile ownership & mobile internet use in Asian countries



Source: GSMA, 2019

Gender biased social customs, beliefs, and cultural systems are potential factors. Twenty-three percent of girls drop out of school with an unequal load of housework, patriarchal boundaries to mobility, and inadequate toilet facilities in schools (Gurumurthy and Chami 2014: 35). Limitations to mobility also affect women losing access to various training centers and employment opportunities (Desai, 2014).

WOMEN DIGITAL ENTREPRENEURSHIP

A lack of necessary digital skills hinders women entrepreneurs in their skills at creation and running digital businesses. This includes the ability to identify technology-enabled business opportunities and exploit them (van Welsum, 2016).

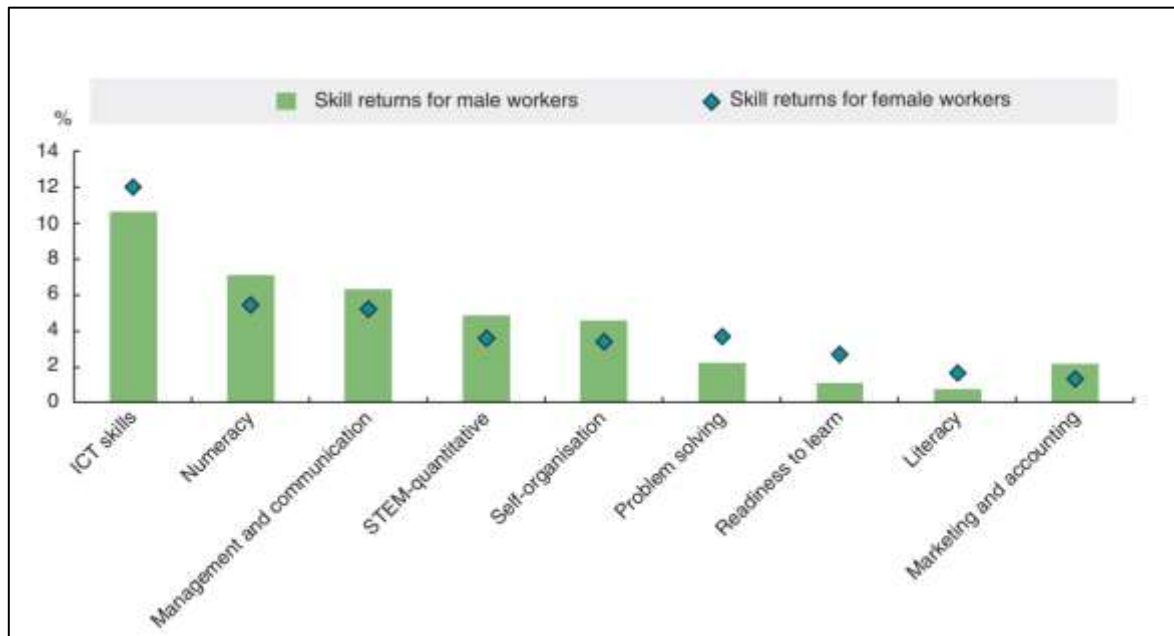
Digital technological advances are contributing immensely towards the engagement of women in digital entrepreneurship. However, women find themselves in the unbridled and baffling multitasking whirlpool (Kamberidou, 2020). Women digital entrepreneurs experience "contradictory pulls" due to societal messages or social expectations concerning multiple roles across public and private spaces (Malik, 2017).

A review of comparative skill levels of workers on gender basis spanning 31 developed. Developing countries displayed that women entrepreneurs generally have learned basic digital technologies, accounting, and marketing skills. In contrast, men have higher management and



communication skills, though, in readiness to learn, women were ranked higher in this category (Irene, 2019).

Figure 2: Skill returns for Male & Female workers



Source: (Irene,2018)

NITI Aayog has launched a Women Entrepreneurship Platform (WEP) for providing an ecosystem for budding & existing women entrepreneurs across the country. SIDBI has partnered with NITI Aayog to assist in this initiative. As an enabling platform, WEP is built on three pillars- Iccha Shakti, Gyaan Shakti & Karma Shakti. Iccha Shakti represents motivating aspiring entrepreneurs to start their business. Gyaan Shakti represents providing knowledge and ecosystem support to women entrepreneurs to help them foster entrepreneurship. Karma Shakti represents providing hands-on support to entrepreneurs in setting-up and scaling up businesses.

In addition to providing services such as free credit ratings, mentorship, funding support to women entrepreneurs, apprenticeship, and corporate partnerships. WEP will encourage entrepreneurs to share their entrepreneurial journeys, stories & experiences to nurture mutual learning. WEP platform, as a driver of change, will also promote offline initiatives and outreach programs to promote entrepreneurial spirit among potential women entrepreneurs, in collaboration with partner organizations.

WEP offers incubation and acceleration support to women-founded / co-founded startups through its various partners. They handhold women entrepreneurs registered with WEP and provide the necessary support to help them start and scale-up.



CONCLUSION

Women entrepreneurship and digital technologies go hand in hand for the growth and development of the enterprise. Government and businesses can help women entrepreneurs with the opportunity and relevant guidance on digital technologies. Digital presence permits women to overcome some of the explicit limitations that are enforced on them. It reduces the standing of both time and space restrictions where women lack time due to double accountability to acquire revenue and satisfy family responsibilities. This can form the basis of agreements that limit their mobility in the public domain. Digital technologies have also been a dominant force for the development of women-owned enterprises. It provides and nurtures communication than enhances the exchange of relevant information for marketing, purchasing, creativity, and communication, to name the few. The findings of this research could be used for future practitioners and researchers whose aim is to study women entrepreneurs in general and the role of digital technologies in their enterprise

REFERENCES

1. Abernathy, W. J., & Clark, K. B. (1985). Innovation: Mapping the winds of creative destruction. *Research Policy*, 14(1), 3–22.
2. ACOA (Atlantic Canada Opportunities Agency) (1996). *The State of Small Business and Entrepreneurship in Atlantic Canada*. Halifax: ACOA.
3. Addo, P.-A. (2017). Is it entrepreneurship, or is it survival? Gender, community, and innovation in Boston's black immigrant micro-enterprise spaces. *Societies*, 7(3), 20. <https://doi.org/10.3390/soc7030020>.
4. Adle, R. V., & Slavec, A. (2012). Social capital and business incubators performance: testing the structural model. *Economic and Business Review*, 14(3), 201-222.
5. Bhatnagar, A., Bhardwaj, B. & Mittal, V. (2017). *Women Entrepreneurship: A Tool for Work-Life Balance*. International Conference on Technology and Business Management. BVIMR.
6. Buhalis, D., & Main, H. (1998). Information technology in peripheral small and medium hospitality enterprises: strategic analysis and critical factors. *International Journal of contemporary hospitality management*, 10(5), 198-202.
7. Bulsara, H. P., et al. (2009). Techno-Innovation to Techno Entrepreneurship through Technology Business Incubation in India: An Exploratory Study. *Asia Pacific Journal of Innovation and Entrepreneurship*, 3(1).
8. Chandwani, J., Bulsara, H. P., and Gandhi, S. (2015). Women Entrepreneurship in India: A Case Study of Jaishree Kabra of Kothari Silk Mills. *International Journal of Business and Management Invention*, 4(1), 8-13.
9. Cohen, GL (1996). *Women Entrepreneurs, Perspectives on Labor and Income*. Ottawa, Statistics, Canada, Spring 75-001-XPE.
10. Colaco, V. & Hans, V. B. (2018). Women Entrepreneurship in India- Changes & Challenges. *Sahyadri SJOM Journal of Management*, 2(2). ISSN No. 2456 - 9151.
11. Das, S. K. (2012). Entrepreneurship through Micro Finance in North East India: A Comprehensive Review of Existing Literature. *Information Management and Business Review*, 4(3), 168-184.
12. Demartini, P. & Marchegiani, L. (2019). *Born to Be Alive? Female Entrepreneurship and Innovative Start-ups*. Advances in Gender and Cultural Research in Business and Economics. Springer Proceedings in Business and Economics. pg 219-235. https://doi.org/10.1007/978-3-030-00335-7_15.



13. Gubbi, J., Buyya, R., Marusic, S., & Palaniswami, M. (2013). Internet of Things (IoT): A vision, architectural elements, and future directions. *Future Generation Computer Systems*, 29(7), 1645-1660.
14. Gupta, P., Seetharaman, A., & Raj, J. R. (2013). The usage and adoption of cloud computing by small and medium businesses. *International Journal of Information Management*, 33(5), 861-874.
15. Harper, D (1996). *Entrepreneurship and the Market Process: An Inquiry into the Growth of Knowledge*.
16. Idris, A. (2008). A profile of innovative women entrepreneurs. *International Business Research*, 1(2), 3–10.
17. Irene, Bridget. (2019). *Technopreneurship: A Discursive Analysis of the Impact of Technology on the Success of Women Entrepreneurs in South Africa: Challenges, Opportunities, and Prospects*. 10.1007/978-3-030-04924-9_7.
18. Jalbert, S. E. (2008). *Women Entrepreneurs in the Global Economy*. *Education Research*. <http://research.brown.edu/pdf/1100924770.pdf>.
19. Kupferberg, F (1998). Humanistic Entrepreneurship and Entrepreneurial Career Commitment. *Entrepreneurship and Regional Development*, 10(3) 171-188.
20. Lee-Gosselin, H and Grise, J (1990). Are Women-Managers Challenging our Definition of Entrepreneurship? An in-depth Survey. *Journal of Business Ethics*, 9, 423-433.
21. Paoloni, P., Secundo, G., Ndou, V. & Modaffari, G. (2019). *Women Entrepreneurship and Digital Technologies: Towards a Research Agenda*. *Advances in Gender and Cultural Research in Business and Economics*, Springer Proceedings in Business and Economics. pg 181-194. https://doi.org/10.1007/978-3-030-00335-7_12.
22. Rippa, P., & Secundo, G. (2017). *Digital academic entrepreneurship: The revolution of digital technologies on academic entrepreneurship*. Paper presented at the AIG 2017 Meeting, on the Digital.
23. Rzak, A., & Song, M. (2017). Digital innovation management: Reinventing innovation management research in the digital world. *MIS Quarterly*, 41(1), 223–238.
24. Shavinina, L. (2003). *The international handbook on innovation* (1st ed.). Kidlington, UK: Elsevier Science Ltd.
25. Sigarul, R. S., Yoag, A., Tanakinjal, G. H., Jiony, M. M., & Gom, D. (2015). An Exploratory Study on the Usage of Technology among Retailers in Labuan, Malaysia. *American Journal of Economics*, 5(2), 217-221.
26. Tambunan, T. (2009). Women entrepreneurship in Asian Developing Countries: Their Development and Main Constraints. *Journal of Development and Agricultural Economics*, 1(2), 27-40.



ECONOMICS & FINANCE – AN ENGINEERING PERSPECTIVE

DANIEL DAS A.

Assistant Professor, Department of Mechanical Engineering
Karpagam Academy of Higher Education, Coimbatore – 641 021, Tamilnadu, India.

ORCID: 0000-0002-2293-2082

ABSTRACT

In Engineering Economics, formerly known as 'engineers' economy,' the use of application of economic concepts in the study of decision taking in engineering is a branch of economics. This chapter deals with the Managerial concepts and economics with the subtopics of relationship disciplines, firms, and objectives. Further, the value of particular economic goods or services to be sold at a given price is described in detail by analyzing market forces. The details research the law of supply and demand followed by the production function that determines the output of a company, an industry, or a whole economy for all input combinations. This role is indeed a supposed professional relationship that is based on the current state of the art. The price is the number of monetary units that consumers pay to purchase a single unit of good or service. It is essential to know the income account's definition as a starting point to understand the profit and loss account. The detailed research and analysis of economics and finance have been studied using this chapter.

KEYWORDS: Engineering Economics, Financial Concepts, Profit and Loss, Capital Budgeting

JEL CLASSIFICATION CODES: B21, B22, D24, J22

CITE THIS ARTICLE: *Daniel Das, A. (2020, September). Economics and Finance - An Engineering Perspective. In Perspectives on Business Management & Economics (Vol. II, pp. 72-84). Retrieved from <http://www.pbme.in/papers/50.pdf>*

ARTICLE HISTORY: Received: July 22, 2020; Accepted: September 21, 2020;
Published: September 30, 2020



1. INTRODUCTION TO ECONOMICS AND FINANCE

MANAGERIAL ECONOMICS - AN INTRODUCTION

In decision-making, economics applies to strategy. It is the economics branch that is the connection between abstract theory and management. It is based on the economic analysis of problems, information management, and alternative evaluations (Armstrong, J. Scott, and Fred Collopy, 1996).

Managerial Economics: Economic management is the business modalities for assessing the condition of firms. Market economics is the combination of economic philosophy with corporate experience to make decision making and strategic preparation simpler (Mitchell, Mark L, 2000).

Nature and Scope

1. It is microeconomic since the study of the company and not the consumer reflects only.
2. It is necessary to consider the society in which the company functions. It should be known.
3. The reaction to a question that should not be what was is pessimistic, not optimistic.
4. It's metrical as well as logical.
5. It primarily concentrates on the company's philosophy rather than production.
6. Management experience allows us to make smart, i.e., capital depletion decisions.
7. It is targeted, i.e., at achieving the goals.

Macro and Micro Economics

Both industrial and administrative systems face the same challenges, i.e., shortage issues and the redistribution of capital. Because labor and money are still small, they have to find a way to manage these tools effectively (Rosen, Benson, and Thomas H. Jerdee, 1976). Operational science and managerial economics are associated with successful decision-making. Management economics is a fundamental academic topic that seeks to understand and analyze the problems of business decision-making. At the same time, Operations Research is a task carried out by a functional expert within the company to help the manager resolve decision-making problems. Operations Research models are widely found in enterprise management models, such as queuing and linear planning. Economic models are more general and are limited to essential economic decision-making. Managers' metrical property is used to approximate and forecast important economic variables for decision-making and planning since managerial economics is mathematical, but still metric.

FIRMS: RELATIONSHIP, OBJECTIVES, AND GOALS

A small business enterprise that produces a profit is an organization that is legally approved and intends to deliver goods or services to individuals, companies, and public bodies. Corporations are standard in patriarchal economies. The majority of the companies are private. An entity is typically set up to raise wealth, which raises its owners' profits and extends the corporation itself. In return for operation and liability identification, shareholders and management of businesses have the primary goal of gaining or obtaining the financial benefit. Co-operative companies and state-owned organizations are significant exceptions (Brown,



Clifton E., and Ira Solomon, 1987). Organizations can either be non-profit companies or state-owned organizations. There are different types of firms basically,

Sole Proprietor firms: The sole owner is a company operated by a single entity. The owner may work on his own or may hire others. The owner of the company is directly responsible for the losses sustained by the company.

Partnership Firms: A collaboration is a type of company in which two or more parties collaborate towards a shared purpose, sometimes for a profit. In other types of relationship, each spouse has legal responsibility for the debts accrued by the firm. There are three common types of alliances: general partnerships, exclusive partnerships, and Limited Liability Partnerships (LLP).

Corporate firms: A company is either a restricted or unrestricted organization with a different legal identity from its owners. A business can be structured for-profit or not-for-profit purposes. A company is owned by multiple shareholders and is governed by a board of directors that hires the organization's management staff. Besides private sector models, state-owned company models are still available.

Co-operative firms: In comparison to owners who share decision-making power, a collaborating business varies from a group. Co-operatives are commonly known as business or trade co-operatives. The philosophy of economic democracy is focused on co-operatives.

Goals of Firms

The traditional management philosophy suggests that the primary goal of commercial operations is to benefit maximization. However, a new analysis has shown that the targets sought by businesses are more than one. Besides optimizing benefit, other significant goals are:

1. Sales maximization
2. Maximizing the growth rate of the industry
3. Maxing the efficiency function of managers
4. Made an excellent benefit margin
5. Long-lasting business success
6. Admission-prevention and risk-avoidability

Optimization of the development rate of firms:

Managers optimize the company's balance of growth rate, subject to management and financial restrictions, of the balance of growth rate (G_R) specified as:

$$G_R = G_D - G_C$$

Where,

- G_D = Growing rate of demand for the commodity of the business,
- G_C = Growing rate of Capital supply for the commodity of the business

a firm growth rate is matched as the market for the goods, and the availability of resources rises at the same time.



DECISIONS:

A choice is an activity involving discretion. Decision making is often more thorough than solving issues. The words are interlinked, but cannot be interchanged.

Importance of Decision Making:

- Decisions are the only distinctive attribute of managers.
- Top administrators plan to dedicate the whole company to concrete intervention.
- Decisions reached by lower management groups reflect top managers' policy options in the organization's operational areas.
- Decisions often require systemic transition and finite capital dedication.

Management Judgment Features:

- Long-term goals for the company
- Correct alternative from a variety of choices
- Organizational transition is a judgment
- A decision needs capital dedication

System for Decision Making:

- Decision-making mechanisms are mechanism drivers.
- Decisive tasks are intertwined and interdependent.
- With many sub-processes, the mechanism is too complicated.
- Several opposing Category II assessments may be taken into consideration throughout the process.

Decision-Making Process:

- Set management goals
- Check for answers
- Comparison and comparison of alternatives
- The process of election
- Decisions to enforce
- Tracking and monitoring

MARKET FORCES – SUPPLY AND DEMAND ANALYSIS

Supply and Demand specify the quantity of a particular economic product or commodity to be purchased at a specified price by a customer or a community of consumers. If buyers continue to purchase more as rates fall, the demand curve is typically downwards. The market for products or services is influenced by several variables, such as the availability of alternative commodities and complementary goods, rather than availability. In certain situations, demand may be almost totally irrelevant or almost limitless at a certain point.

The Law of Demand:

The Rule of demand stipulates that the greater the price of a good, the fewer customers would desire the good if all other variables stay equivalent. In other terms, the higher the volume, the smaller the sum required. A product priced at a high price is less, as the price of good rises, the expense of obtaining the good becomes smaller. Therefore, consumers would stop purchasing a commodity that encourages them not to eat something else they trust. The accompanying diagram indicates that the slope is downwards (Katz, Lawrence F., and Kevin M. Murphy, 1992).



TYPES OF DEMAND:

Direct and Indirect demand:

Producer's products and customer's items: demand for goods explicitly sold by the user is considered a direct market (e.g., T-shirts market). Request, on the other side, for supplies for products and services used among manufacturers. (Example: textile mill demand for cotton)

Derived and autonomous demand:

As a commodity is utilized for any primary object, the resulting requirement is known (example: the market for tires from the demand for cars). Autonomous demand is the market for a manufactured commodity, which may be used separately (Example: Requirement for the washing machine).

Sustainable and non-sustainable goods demand:

Sustainable goods are ones that may be purchased for some time (e.g., microwave oven) Non-sustainable products should only be used once (e.g., band-aid).

Firms and Industry Demand:

Strong demand is the desire of a single business for the commodity. (Example: dove soap) The market for the output of a specific sector is consumer production (example: India's steel market).

ANTECEDENTS OF DEMAND:

- Commodity price
- Market sales
- Availability of the products involved
- Goodness and desires
- Further considerations such as profits and consumer forecasts

DEMAND FUNCTION:

It is a behavioral association between the consumption amount and an individual's overall ability to compensate for gradual changes (Giacalone, Robert A., and Paul Ed Rosenfeld, 1991). It is typically an opposite trend, where less (more) quantity is absorbed in higher (lower) rates. Other variables that affect willingness to pay include wages, tastes, and desires, and the price of replacements. The individual demand function and market demand function are the two categories.

Individual Demand Function:

$$Qd_x = \text{Fun} (P_x, Y, P_1, P_2, P_3, \dots, P_{n-1}, T, A, E_y, E_p, u)$$

- Qd_x = quantity of substance X ordered
- P_x = commodity price
- Y = household revenue standard
- $P_1, P_2, P_3, \dots, P_{n-1}$ = all other goods relevant prices
- T = the consumer's preferences
- A = marketing Ads
- E_y = potential profits for the user
- E_p = the potential estimated price of the market
- U = all the variables which are not included in the list



Market Demand Function:

$$Q_{d_x} = \text{Fun} (P_x, Y, P_1, P_2, P_3, \dots, P_{n-1}, T, A, E_y, E_p, P, D, u)$$

- Q_{d_x} = quantity of substance X ordered
- P_x = commodity price
- Y = household revenue standard
- $P_1, P_2, P_3, \dots, P_{n-1}$ = all other goods relevant prices
- T = the consumer's preferences
- A = marketing Ads
- E_y = potential profits for the user
- E_p = the potential estimated price of the market
- U = all the variables which are not included in the list
- P = population
- D = Market representation in various categories, including wealth, age, sex

ELASTICITY OF DEMAND:

What occurs as rates increase by 10 percent?

We realize demand is going to decline

- For more than 10 percent?
- For less than 10 percent?

The degree to which demand varies, elasticity tests

Elasticity is the average of the increases in percent in one component to the shift in percent in another. It is a method to calculate the reaction ability of a system in a unitless way to adjust parameters. Frequently utilized elasticities include market price elasticity, supply price elasticity, inventory revenue elasticity, swap elasticity between output factors, and inter temporary substitute elasticity.

FORMULA FOR PRICE ELASTICITY:

Price demand elasticity measures improve in consumer transition variables. As such, the demand curve acceleration is calculated. Nearly all this elasticity is harmful and is represented in general by absolute meaning. If the demand is more significant than one, it's considered elastic; there's no demand from 0 to 1, and the demand for the unit is equivalent.

$$E = \frac{\text{The proportionate quantitative shift needed from goods X}}{\text{The proportionate market shift for good X}}$$

Calculation of the improvement in the sum demanded:

The method for measuring the required percentage shift is:

$$\text{Percent Change in Quantity} = \frac{\text{Quantity (New Demand)} - \text{Quantity(Old Demand)}}{\text{Quantity(Old Demand)}}$$

Calculate shift in market percentage:

The method used to measure the rate shift percentage is identical to the previous:

$$\text{Percent Change in Price} = \frac{\text{MRP (New Price)} - \text{MRP (Old Price)}}{\text{MRP (Old Price)}}$$

$$\text{Price Elasticity of Demand} = \frac{\text{Percent Change in Quantity}}{\text{Percent Change in Price}}$$

DEMAND ELASTIC: A market shift that results in an $ED > 1$ adjustment in quantity, which is greater than the proportion.



DEMAND INELASTIC: A market shift would contribute to an $ED < 1$ adjustment of below proportionality. If the price elasticity of demand is greater than 1, then it is scheduled under Elastic demand. If the price elasticity of demand is lesser than 1, then it is scheduled under inelastic demand.

MEANING OF SUPPLY

The availability of a product applies to the various amounts of a product that a vendor is eager and capable of selling in one specific market at individual rates at a particular moment, whereas all items are the same. Supply is what the seller is capable of offering for sale. The quantity paid consists of the volume of a specific product in which a business is prepared to sell for sale at a specific price for a specified period.

ANTECEDENTS OF SUPPLY:

1. Cost of production factors: Cost differs due to factor volume. The cost of output rises, and availability declines with a rise in factor prices.
2. State of the art: The usage of state-of-the-art innovations improves the company's efficiency and production.
3. Variables related to the framework are environmental factors such as temperature. When flooding occurs, the availability of different agricultural goods may be limited.
4. Increased budget funding results in 43 new products and services.
5. Transportation: Stronger transport services would improve availability.
6. Price: Vendors tend to deliver more products to lift their profit if costs are high.

SUPPLY ELASTICITY:

Supply Elasticity speaks about producers' reactions to market increases in their products or services. Generally speaking, production rises as costs grow. Supply elasticity is determined by the combination of relative increases in the volume given to the associated price shift. Strong elasticity implies that the product is pricing-sensitive; low elasticity suggests poor market change-sensitivity and no trade-relationship, often regarded as market price elasticity.

Kinds of Supply Elasticity

1. Price supply elasticity: Market supply elasticity tests the response to shifts in the amount provided to a shift in rates.
2. Relatively inelastic: if the supply does not react to a price adjustment ($E_s=0$).
3. Inelastic production: the proportionate production shift is smaller than the market adjustment ($E_s=0-1$).
4. Unitary elastic: The percentage shift in the volume given correlates to the price adjustment ($E_s=1$).
5. Elastic: The quantity shift given is more than the price change ($E_x=1 - \text{infinity}$).

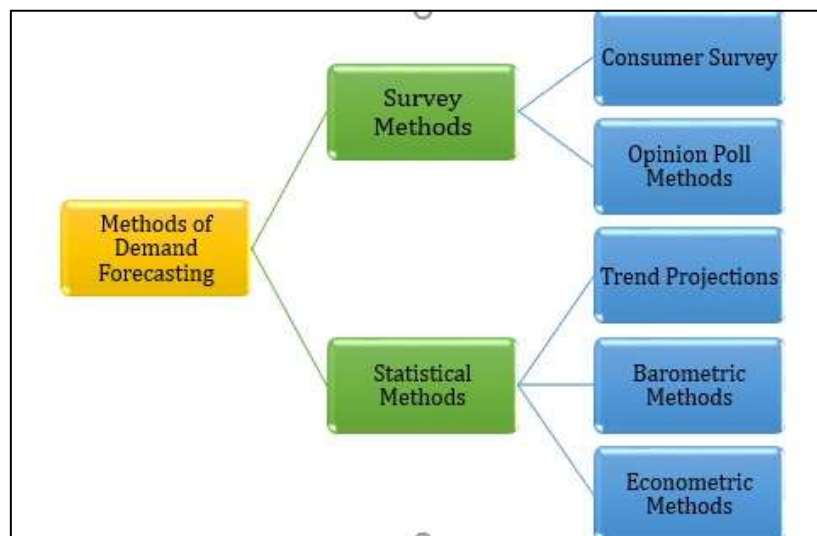
Completely elastic: Manufacturers can offer whatever sum for a specific price ($E_s= \text{infinity}$). The fundamental causes of the supply elasticity are the abundance of alternatives on the market, and the more, the more, the longer, the more elastic, the better.



DEMAND FORECASTING

Demand forecasting is also known as Market projections are methods to build an estimation of the current consumer demand outlook using historical sales evidence. The Market Forecast offers firms an estimation of the number of products and services their consumers buy in advance. A realistic and empirical calculation of the potential market of a commodity is the market prediction. It is called market forecasting to predict the sales income or market for a commodity in the future.

Figure 1: Methods of Demand Forecasting Chart



Source: Author compilation

ANALYSIS OF COSTS AND PRICING

An isoquant is a contour line drawn along the spectrum of points on which the same output amount is produced as two or more inputs are increased. This is extracted from numbers and equivalents in Greek iso. It is a question in economics. While indifference curve mapping appears to resolve consumers' practical problems, isoquant mapping solves producers' cost-minimization problem. Isoquants are typically taken from the capital expenditure charts, which display the technical exchange of capital-labor production and the decreased marginal returns of both inputs. Adding an element with the other constant effectively decreases the residual performance and represents the isoquant form. An isoquant map, a diagram that combines several isoquants describing a given amount of output, may be depicted in a family of isoquants.

PRODUCTION OPTIMIZATION

A realistic estimation of potential cash flows and relevant uncertainties

1. Cost reduction by reducing undue attention on non-critical areas and growing emphasis on value-added areas
2. Discovery of ways to strengthen the conceptual and planning stages instead of the life cycle of the project where the costs of transition are much higher



3. Setting goals for potential technical growth, training, and testing (to minimize and mitigate the risks) Rigorous recognition of main technological threats for a given concept;
4. Improved visibility into technological and administrative challenges that may contribute to crucial errors and loss of output

COST CONCEPTS

Money and Actual Costs

If costs are represented as income, they are called money costs. It involves the costs of business to manufacture a product in different factor inputs. In a capitalist system, just capital makes all manner of expense forecasts and projections. Awareness of the cost of capital is, thus, of considerable economic value. It is essential to calculate cash expenses reliably. When an individual produces a commodity, where the costs are reflected in physical or emotional activity, they are considered actual costs.

Implicit and Explicit Costs

Explicit costs are such expenses that are, in essence, in negotiated contracts incurred by a company in the context of rent, salaries, debt that taxes, energy costs, raw materials charges. to the factors of output [excluding themselves]. They may be accurately measured, determined, and reported in the accounts' records. Costs are identified or imputed. They are not cash invested and are not listed on the statements of accounting as such. The profits of the owner of the capital

Direct and Indirect Costs

Direct costs, which are also known as Direct costs, are individual costs that can be traced directly to a single commodity, organization, or manufacturing process. Example: Expenses for natural products, electricity, employees' salaries, a section manager's pay. On the other hand, indirect expenses are certain expenses that cannot be attributed to a particular operating entity. It is not due to a manufacturer, organization, or process—for example, power costs and water charges, telecommunications charges, overhead costs.

Fixed costs and variable costs:

Fixed costs are those where neither raise nor decrease production differ. They are consistent independent of the production stage. Also, without development, they are optimistic. These are often referred to as extra or operating charges. On the other hand, variable costs are costs that directly increase or decrease concerning the output amount produced—often defined as direct costs or equivalent expenses.

Accounting Costs:

Accounting costs are those expenses already accrued before a given product is made. Just the production charges are considered. It is the real cost of the manufacture of a good. The economic effects of multiple development schemes, on the other side, represent the expenses borne by an individual. In decision making, it requires the consideration of the cost of opportunity (Srivastava, Uma K., G. V. Shenoy, and Subhash C. Sharma, 1989).

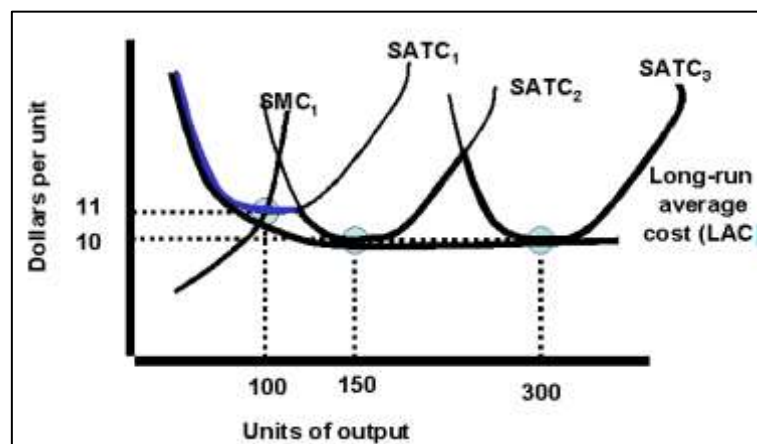


SHORT AND LONG RUN COST CURVES

Short cost curves are typically centered on a product feature with a variable output factor, which indicates that marginal efficiency rises and then decreases. The negative sloping part of the marginal cost curve is related to improved marginal productivity, whereas the lively sloping section is correlated with a reduction in marginal productivity. The typical fixed cost (AFC) curve is the fixed production factor rate separated by the number of output units (Baird, Bruce F, 1989).

The long-term cost curves, typically illustrated in a separate diagram, are often most frequently represented on average, or per unit size, as seen in Figure 2. The long-distance average cost curve (LDC) is a short-distance average cost matrix situated under and tangent to the short-distance courts. It is limited in the short term to choose the best combination of output variables, such that a better combination can never be sought because there are no restrictions on a long-term basis.

Figure 2: Relationship between Short and Long-run curves



Source: Author compilation

Analytical Research I: Suppose next week you create 50 bottles of wine. You are sure of this, You have paid up to \$300 to your fixed expense, plus \$900 for your variable cost. You realize, too, that you would increase the overall cost by \$60 if you had to produce five additional bottles. How high is the gross cost, overall average costs; mean variable costs, estimated fixed costs; and marginal costs?

- Gross Cost: $\$300 + \$900 = \$1200$
- Total Estimated Cost: $\$1200/50 = \24
- Variable means Cost: $\$900/50 = \18
- Estimated Fixed Cost: $\$300/50 = \6
- Marginal Cost: $\$60/5 = \12

CASH FLOW STATEMENT

The cash flow statement, a necessary component of an enterprise's 1987 financial reporting, documents the quantities of cash and cash equivalents that reach and leave the companies, to supplement the balance sheet and income statement. The CFS helps customers consider how the activities of a business work, where the capital comes from, and how invested. You



can read here how the CFS is organized and how it can be used for business research. Each of the primary accounting results for a corporation or company is a cash balance document. The statement may be so clear as a page review or may include a variety of schedules that feed information into a critical statement.

The layout of the Cash Flow Statement

1. Activities
2. Purchase
3. Financial assistance
4. Capital Budgeting

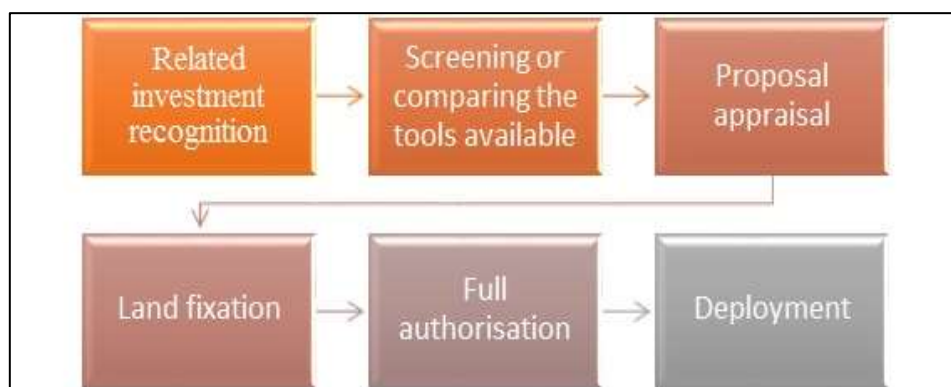
It is the investment decision-making phase of capital spending. The capital investment is described as an expense that is intended to gain more than one year's benefits. It happens at one stage, and the rewards can be earned in the future at various periods.

1. Cost of permanent property purchase, including land and development, factory, and equipment.
2. Added, increased, enhanced, or modified fixed assets costs
3. Price of permanent asset substitution
4. Plan expenses for research and production

Cash Flows & Capital budgeting method Recognition

It is a challenging method for capital budgeting to spend the usable funds. The gain can only be reached in the immediate term, but the outlook remains unclear. The following measures for the budgeting of resources observed, though, could be simpler to obey.

Figure 3: Capital Budgeting Process



Source: Author compilation

INVESTMENT PLAN ASSESSMENT

There are various types of Investment plan assessment. Few of them are,

1. Pay-Back Period (P-BP)
2. Annual Rate of Return (IRR)
3. Accounting Method



Pay-Back Period (P-BP)

This ensures the total savings in fixed properties are reimbursed. It estimates the period for a project's initial expenses to be repaid from a project's added revenue. Investment is rated based on the payback time; investment is chosen based on the shorter payback duration.

$$P-BP = \frac{\text{Plan capital outlay or actual asset expense}}{\text{Cash balances monthly}}$$

Analytical Research 2: Genuine Groups intends to buy a computer known as Computer X. Computer X would have cost Rs. 30,000 and would have a lifetime of 10 years with zero recycle value. The estimated annual cash inflow for the computer is Rs. 10,000.

Appropriate: Calculate the payback period of computer X and decide if the computer will be bought if the Genuine Group of the company's estimated desirable payback period is three years.

Even though this project, the annual cash inflow is, we can easily divide the original expenditure by the annual cash inflow to determine the payback duration, which is displayed below:

$$P-BP = \frac{\text{Rs.30,000}}{\text{Rs.10,000}}$$

$$P-BP = 3 \text{ Years}$$

According to the payback period review, it is beneficial to buy computer X because the payback period is **three years**, which is less than its overall payback period.

Annual Rate of Return (IRR)

This approach brings the projected return from the project into consideration for its whole existence. That is also a cost of return accounting. The higher return cost project is chosen in conjunction with one with a lower return cost.

$$IRR = \frac{\text{Yearly Analysis}}{\text{Investment first (Original Investment)}} \times 100$$

Net Present Value (NPV)

It is a new means of reviewing plans for projects. The time value of the capital is perceived, and the return on the expenditure is determined by joining the time variable dimension. If there is a positive or empty current value, the proposal will hit the agreed amount, and the proposal will be rejected if the negative value does not meet the approved standard.

$$NPV = \frac{\text{Present currency inflow worth} - \text{Cash outflow existing value}}{\text{Original Investment}}$$

CONCLUSION

The following findings are distilled from this chapter's overall analysis: Corporate administration plays a vital part in businesses. It is beneficial in decision making and strategic planning concerning a company's internal activities since it offers a good analysis of business dynamics and practical resources to analyze competitiveness in the marketplace when forecasting consumer behavior. It helps the study of market details under which an



organization is operated. The demand legislation explains the purchasers' actions. Generally, more products or services are offered that's bought-for a low price than for a higher price. The result is a demand curve when this relationship is diagrammed. Sellers' actions can be defined in the supply rule. Recall sellers, and both start supplying s. Sellers can usually produce more items at prices higher than at lower prices. The product of this relationship is a downward supply curve.

Together with supply and demand influence the value of the economy. In the charts, market balance is the crossroads of supply and demand. At this crossroads, the price is the value, and the quantity is the sum of support. There are no surpluses and no deficits, while the demand is healthy for product or service. Finance practitioners' decision-making method develops, evaluates, examines, picks, and executes long-term investment initiatives that fulfill firm-specific requirements and are compatible with the organizational strategic priorities before making decisions on capital budgeting.

REFERENCES

1. Mitchell, Mark L., and Erik Stafford. (2000) "Managerial decisions and long-term stock price performance." *The Journal of Business* 73, no. 3: 287-329. Retrieved from <https://www.jstor.org/stable/10.1086/209645>.
2. Armstrong, J. Scott, and Fred Collopy. (1996) "Competitor orientation: Effects of objectives and information on managerial decisions and profitability." *Journal of marketing research* 33, no. 2: 188-199. Retrieved from <https://journals.sagepub.com/doi/10.1177/002224379603300206>.
3. Rosen, Benson, and Thomas H. Jerdee. (1976) "The influence of age stereotypes on managerial decisions." *Journal of applied psychology* 61, no. 4: 428. Retrieved from <https://www.jstor.org/stable/255490>.
4. Brown, Clifton E., and Ira Solomon. (1987) "Effects of outcome information on evaluations of managerial decisions." *Accounting Review* 564-577. Retrieved from <https://www.jstor.org/stable/247577>.
5. Giacalone, Robert A., and Paul Ed Rosenfeld. (1991) *Applied impression management: How image-making affects managerial decisions*. Sage Publications, Inc., Retrieved from <https://psycnet.apa.org/record/1991-98424-000>.
6. Baird, Bruce F. (1989) *Managerial decisions under uncertainty: An introduction to the analysis of decision making*. Vol. 4. John Wiley & Sons. Retrieved from <https://www.wiley.com/en-us/Managerial+Decisions+Under+Uncertainty%3A+An+Introduction+to+the+Analysis+of+Decision+Making-p-9780471858911>.
7. Srivastava, Uma K., G. V. Shenoy, and Subhash C. Sharma. (1989) *Quantitative techniques for managerial decisions*. New Age International. Retrieved from <http://opac.library.kca.ac.ke/cgi-bin/koha/opac-detail.pl?biblionumber=2434>.
8. Katz, Lawrence F., and Kevin M. Murphy. (1992) "Changes in relative wages, 1963–1987: supply and demand factors." *The quarterly journal of economics* 107, no. 1, 35-78. Retrieved from <https://academic.oup.com/qje/article-abstract/107/1/35/1925833>.



A STUDY ON THE IMPACT OF SOCIAL MEDIA MARKETING ON BUYING BEHAVIOR OF APPARELS IN YOUNG ADULTS IN BANGALORE NORTH REGION

SHWETHA C

Assistant Professor, Department of Commerce
St. Claret College, Bengaluru, Karnataka, INDIA
ORCID: 0000-0003-4923-4177

MALLIKARJUN CHANMAL

Head, Department of Commerce and Vice Principal
HKES's Sree Veerendra Patil Degree College, Bengaluru, Karnataka, INDIA
ORCID: 0000-0002-1753-8064

DR. RASHMI BH

Assistant Professor, Department of Commerce
St. Claret College, Bengaluru, Karnataka, INDIA
ORCID: 0000-0002-9444-6024

ABSTRACT

Social media marketing is a powerful way of business marketing in the present tech-driven world. We will be able to reach the target audience with the help of a few clicks. The study aims to get an insight into the buying behavior of apparel in young adults in the Bangalore North region with Social Media Marketing. The study was conducted on 125 respondents from the Bangalore North region in 18 to 30-year-olds. The study aimed to understand if social media marketing had any impact on young adults' buying behaviour. As per the sample population's responses and the analysis of data, young adults' impulsive buying behavior is indeed influenced because of social media marketing. Further few recommendations to the social media marketers are also provided in the research paper.

KEYWORDS: social media marketing, buying behaviour, apparels, impulsive buying

JEL CLASSIFICATION: M31

CITE THIS ARTICLE: Shwetha, C., Mallikarjun, Chanmal., Rashmi, Bh. (2020, September). A Study on the impact of Social Media Marketing on Buying Behaviour of Apparels in Young Adults in Bangalore North Region. *In Perspectives on Business Management & Economics (Vol. II, pp. 85-94). Retrieved from <http://www.pbme.in/papers/45.pdf>*

ARTICLE HISTORY: Received: July 21, 2020; Accepted: September 22, 2020;
Published: September 30, 2020



1. INTRODUCTION

With the popularity of the internet in the early 1990s, the world economy took a different leap in doing business. The ease of doing business increased, and the advent of social networking sites in the late 1990s and early 2000s made the businesses to think of innovative ideas to reach out to the consumers. The early 2000s also saw tremendous growth potential in e-commerce websites. The ease of buying and selling over the internet became one of the most sought after service ever demanded. Any business strategies revolve around how to satisfy and retain the consumers and how to attract new consumers. What more could be asked when social networking sites and e-commerce started to collaborate. With all the innovations and technological boom, customers became the ultimate decision-makers as they have plenty of choices. The businesses' major focus area turned out to be consumer-centric, and thus consumer satisfaction became the key to the success of any business.

E-commerce websites are the new shopping centers for all people nowadays. Shopping has shifted online with more and more people preferring to buy online. This statistic gives information on the digital buyer penetration worldwide from 2016 to 2021. In 2016, 58.3 percent of global internet users had purchased products online. In 2019, this figure was expected to grow to 63 percent. With digital buyer penetration expected to surpass 65 percent of internet users worldwide in 2021, the e-commerce industry is set to evolve and expand. In 2016, the number of digital buyers worldwide reached 1.5 billion. A year later, the number rose to 1.66 million, and forecasters expect over 2 billion online shoppers in 2020. (<https://www.statista.com/statistics/261676/digital-buyer-penetration-worldwide/>)

Consumer behavior entails "all activities associated with the purchase, use and disposal of goods and services, including the consumer's emotional, mental and behavioral responses that precede or follow these activities" the buying behavior of the consumers depends on a host of things such as the price of the product, quality of the product, reviews of other customers, interactions with other customers, latest fashion, etc.

Impulsive buying is the tendency of a customer to buy goods and services without planning. When a customer takes such buying decisions at the spur of the moment, it is usually triggered by emotions and feelings. (<https://economictimes.indiatimes.com/definition/impulsive-buying>)

Social Networking sites are digital platforms through which a person can connect to another person with similar interests, activities, or with similar background or relations. Some examples of social networking sites are Facebook, Twitter, WhatsApp, LinkedIn, and YouTube.

Social Media Marketing (SMM) is a platform through which a business can reach its consumers. SMM can be used for promotional activities of the product or direct selling of the product. With the usage of social media, a business can build its brand and increase its sales.

E-commerce Websites are the most popular websites which have gained tremendous popularity in recent times. They help the consumers and the sellers to meet on an online platform without having a face to face interaction with each other. It provides a virtual platform to do the business. Some of the popular e-commerce websites are Amazon, Flipkart, Myntra, Snapdeal, and AJIO.



2. REVIEW OF LITERATURE

Santhi (2017) conducted “A study on consumer satisfaction toward online shopping in Tirupati town” to understand the factors influencing customers' online shopping decisions and how these factors affect customer satisfaction. A descriptive research design using a well-structured questionnaire was used to collect data from 120 respondents across Tirupati town. The results indicated that the respondents are becoming more intelligent towards the internet every day. As they become more confident, they are ready to buy high-value products online as well.

Klieb (2018) investigated the “Impact of Social Media on Consumer Behavior.” The researcher concentrated on social media's role in the decision-making process for compelling purchase where-in significant brand difference, high consumer involvement, and risk and which are expensive and not so frequently used. The model used the information search, alternative evaluation, and purchase decision stages from the classical EBM model. A quantitative survey investigated up to what the use of social media alters degree experiences. Results revealed that social media usage influences consumer satisfaction in the stages of information search and alternative evaluation, with satisfaction getting amplified as the consumer moves along the process towards the final purchase decision and post-purchase evaluation. The study was conducted for internet-savvy consumers in South-East Asia.

Nazeer (2017) investigated the study of “Impact of Social Media Advertisements on University Students of Lahore.” It covers demographic characteristics like gender and age group of the respondents. The age group of the study was 18 to 35-year-old students, and the sample size consisted of university students. The research emphasized these areas and framed the questionnaire to understand users' attitudes on the advertisements. It tried to understand the extent of changes observed in the respondents' behavior on viewing the advertisement on their home page. The data were analyzed through univariate and bivariate statistical procedures. The results were presented in frequencies, cross tabs, and hypothesis testing findings through correlation. The findings revealed that users' exposure to social media advertisements leads them to attitude as well as behavior change in age group (26-35 years). The study also revealed that male students are more affected by exposure to social media ads than female students.

Morris (2013) conducted a study on ‘More Consumers Prefer Online Shopping.’ Shoppers increasingly want what is called a “seamless Omnichannel experience,” meaning one in which retailers allow them to combine online and brick and mortar browsing, shopping, ordering, and returning in whatever combo they would like.

3. STATEMENT OF THE PROBLEM

The study aims at finding out the relationship between social media marketing and the consumers' impulsive buying behavior towards apparel in online shopping sites by youth in the Bangalore North Region of Karnataka, India.

4. OBJECTIVES

1. To study the perception of youth towards social media marketing in Bangalore North.



2. To understand the impact of social media marketing on consumer buying behavior.

5. NEED FOR THE STUDY

A considerable amount of research has been undertaken in the field of Social Media Marketing. After reviewing the literature in this field, the researcher felt that research was to be undertaken in the Bangalore North region with special reference to apparels. Since the social media influence on buying behavior was not, however, conducted thus far in the Bangalore North Region, a study was thus conducted.

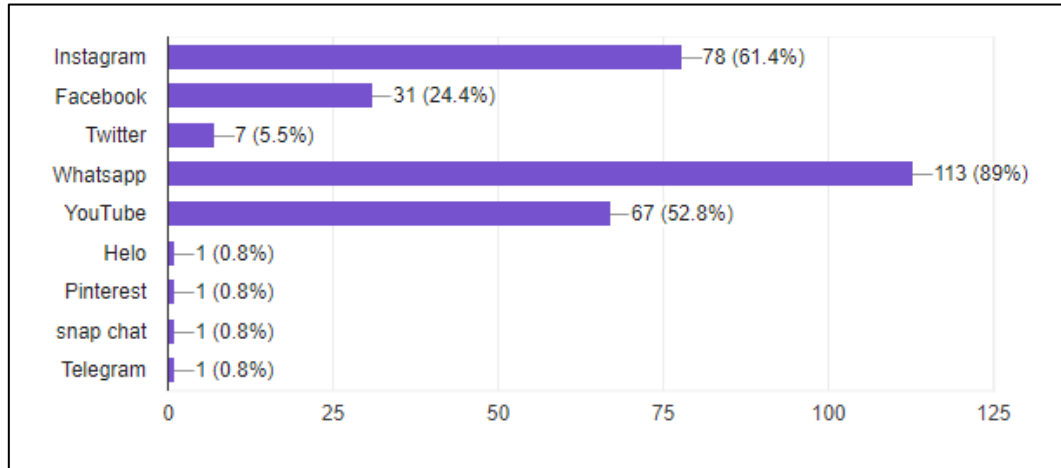
6. RESEARCH METHODOLOGY

Focussing the objective of the present study, a survey was conducted with the help of a structured questionnaire to collect data on the impact of social media marketing on the buying behavior of young adults in the North Bangalore region. The structured questionnaire was designed to collect information about the demographic profile of the respondents, such as age, gender, occupation. In addition to this, various questions related to which social media was the most popular amongst them, how many hours on an average did the person spend on the social media, the purpose of using the social media channel, and the kinds of advertisements that are visible to them on the social media networks were asked. The questions related to their buying behavior with the impact of social media marketing was stressed upon during the selection of the questions. The data was limited to the respondents in the North Bangalore region only, and the questionnaire was distributed with the help of Google forms. Convenience sampling methods were used for the study. The questionnaire was filled by 125 respondents, with the help of Google forms. Simple charting and tabulation tools are used to understand the behavior of the respondents towards Social Media Marketing. The statistical tool used by the researcher is MS Excel. A simple analysis was undertaken to establish the relationship between the respondents' social media marketing and impulsive buying behaviour with the help of mean and standard deviation as the statistical technique. Standard Deviation here was used to know the shape of the distribution, how close the individual data values are from the mean value. With the help of Standard Deviation, the researcher was able to establish a relationship between the impulsive buying behavior of the target audience with the influence of Social Media Marketing.



7. DATA ANALYSIS AND INTERPRETATION

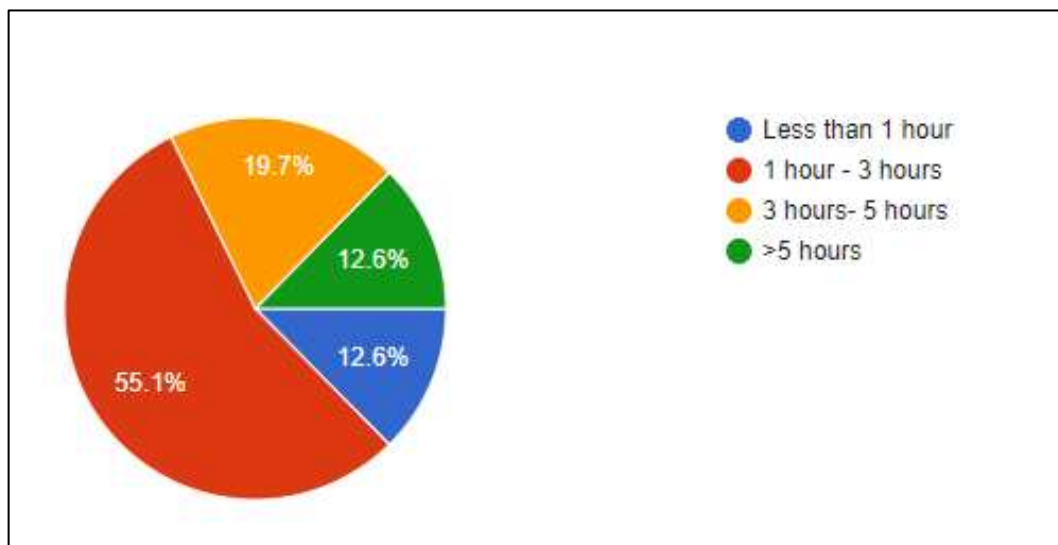
Figure 1: Popular Social Media Platforms



Source: Author compilation based on Primary Data

The most popular social media channels amongst urban youth amongst the selected sample in terms of the highest number of users are Whatsapp, Instagram, YouTube, Facebook, and Twitter. There are very few participants who have also used Helo, Pinterest, Snapchat, and telegram. The interest shown by the sample population on various social media platforms is shown in Figure 2. As the choice was given to select more than one channel, the participants have chosen the required numbers. More than 89 percent of the population has selected Whatsapp as a popular social media channel. In comparison, 61 percent of the respondents have chosen Instagram as a popular channel of social media. YouTube is the third most popular social media channel at 53 percent, followed by Facebook and Twitter at 24 percent and 5.5 percent, respectively.

Figure 2: Time spent on Social Media

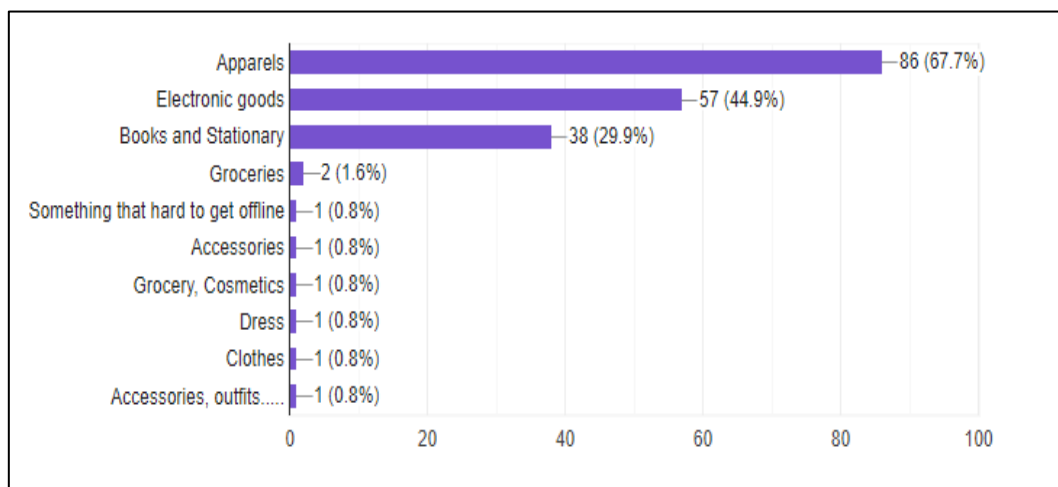


Source: Author compilation based on Primary Data



The time spent on social media channels by the respondents was an essential factor in analyzing the study. More than 55 percent of the respondents spent 1-3 hours on social media platforms, while 19.7 percent spent 3-5 hours. 12.6 percent of the respondents spent more than 5 hours on social media, and the other 12.6 percent of the population spent less than an hour on social media. The data concludes that, for the sample population, an average of 70 percent of the population spend around three minimum hours on social media. The social media marketer can easily use this opportunity to promote their product on the social media platform in an attractive way to attract more consumers towards their product.

Table 3: Types of Goods Purchased on E-Commerce websites

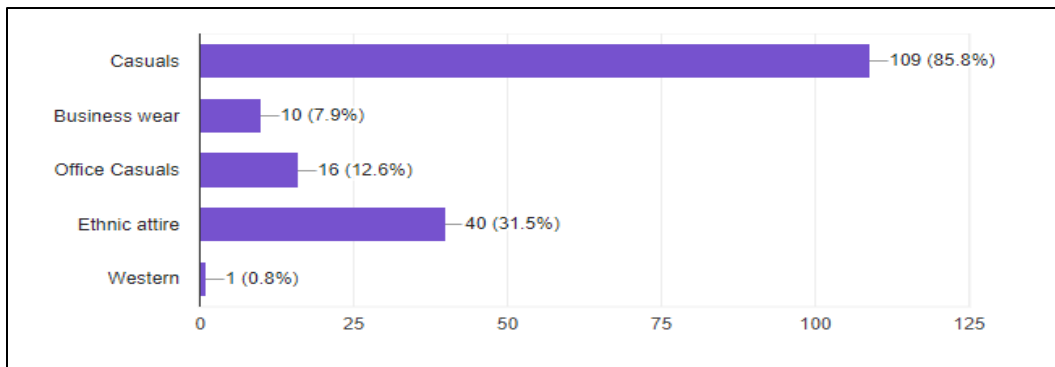


Source: Author compilation based on Primary Data

The respondents were asked to choose the products that they purchased from e-commerce websites. From the response, it can be inferred that most of the respondents in the sample population have given a positive response to apparels purchased by them through online shopping websites. Since the question had a choice of multiple responses from the respondents, more than 67 percent of the respondents have given an opinion that they have purchased apparels from the E-commerce websites. In comparison, 45 percent of the respondents have purchased electronic goods, and 30 percent of the respondents have purchased Books and stationary.



Figure 4: Type of Apparels Purchased



Source: Author compilation based on Primary Data

Since this study focuses on the impulsive buying behavior of urban youth towards apparel, a question was posed on what kind of apparel the respondents were willing to purchase. Around 86 percent of the respondents mentioned that they had purchased a casual attire, and 31 percent of the respondents also mentioned that they had purchased ethnic attire. Twelve percent of the respondents have mentioned having purchased office casuals, and 8 percent of the respondents have mentioned that they have purchased Business wear.

FACTORS AFFECTING BUYING BEHAVIOR BASED ON SOCIAL MEDIA MARKETING

Likert Scale used for the collection of responses from the sample population and the scale was as follows:

- 1: Strongly Disagree
- 2: Disagree
- 3: Neutral
- 4: Agree
- 5: Strongly Agree

Table 5: Factors Affecting Buying Behavior of young adults in Bangalore North Region based on Social Media Marketing

Consumer Perception Factors	Mean	Standard Deviation
Pictures used in Social Media (SM) are a good source of product information	3.16	0.98
Latest fashion is projected in SM	3.35	1.17
Quality of the product can be trusted	2.74	0.99
Helpful customer reviews are available on products	3.42	1.13



Information provided on SM is more objective and hence making it more credible	3.06	0.98
SM allows interaction with consumers who have purchased the same type of product	2.80	1.06
I can read about others experience and get more information about the product through SM	3.41	1.13
SM provides information	3.35	1.10
SM is reliable	2.99	1.04
SM keeps track of updated fashion	3.46	1.28
Payments are safe	3.17	1.01
Searching for information is easy	3.46	1.15
SM increases the intention of buying more apparels than I require	3.19	1.21
SM makes my purchase decision more impulsive	3.13	1.03
SM makes me buy apparels that I do not require	2.76	1.20
I tend to make a purchase again due to the influence of SM	2.97	1.09
There is a compulsion to buy apparels when I like them very much due to SM Marketing	2.92	1.17

Source: Author compilation based on Primary Data; N=125

8. RESEARCH FINDINGS

1. The majority of the respondents spend an average of 2-3 hours on social media.
2. Impulsiveness here is not unnecessary buying things that are not required, but some consumers were buying things required by them.
3. The impulsive buying behavior of the consumers are
4. Most of the respondents felt that social media provides information about a product.
5. The respondents had a neutral opinion about the reliability of the information available online.
6. The respondents also think that Social Media keeps track of the latest fashion.
7. The majority of the respondents feel that the information search on Social Media is easy.
8. The respondents believe that the quality of the product cannot be trusted in social media marketing. This may be because of their experiences.
9. The respondents also feel that another useful feature of social media is the availability of review on any product.
10. Social media does not make the respondents buy apparel, which they do not require.



9. SUGGESTIONS

Suggestions of the Social Media Marketers

1. Looking at the respondents' time on Social Media platforms, the Social Media Marketer can benefit out of it by making more attractive advertisements and creating trust in the customers.
2. Interaction between the consumers can be improved with the help of chat window options being made available.
3. Social media marketers can emphasize the reliability of the product by providing prompt services to customers.

Suggestions for Further Research

1. Researchers can conduct further research on the topic of clickbait advertisement techniques used by social media marketers.
2. A study can also be made on ethical issues in social media marketing.
3. Researchers can undertake a study on pyramid marketing with the help of social network advertisements and its reliability.

10. CONCLUSION

Things are moving digital in the current era. More people are tech-savvy now and use the internet actively, for reasons such as surfing social media. This research finds that the users spend at least one hour a day on average on those social networks; we have to conclude that social networks have become a reality in which people communicate, interact, and trust. We also have to be aware that over 60% of those users access social networks through mobile devices, and we can be sure that these percentages are only going to see an upward trend in the times to come.

In the present world, we have to admit that social networks are a new dimension of reality that has become a part of the business world. Moreover, those businesses can have many benefits from using social network sites. Social networking sites are to be used for business benefits. The social media market should be seen not merely as being eye candy. However, it should serve the purpose of benefitting the customers by regularly reviewing their feedback and taking the consumers' criticism positively. Thus, social media marketing is no longer considered alternative marketing, but instead, it is now becoming mainstream marketing.



REFERENCES

1. Kardes, F., Cronley, M. and Cline, T., *Consumer Behavior*, Mason, OH, South-Western Cengage, 2011 p.7
2. Khatib, F. (2016). "The Impact of Social Media Characteristics on Purchase Decision Empirical Study of Saudi Customers in Aseer Region". *International Journal of Business and Social Science*.
3. Klieb, L. (2018). "Impact of social media on consumer behavior". *Int. J. Information and Decision Sciences*.
4. Santhi, A. B. (2017). "A study on consumer satisfaction toward online shopping in Tirupati town". *journal of business and management*.
5. Sharma, R. (2014). "Understanding Online Shopping Behaviour of Indian Shoppers". *International Journal of Management & Business Studies*.
6. Akar, E. & Topcu, B. (2011). An examination of the factors influencing consumer's attitudes towards social media marketing. *Journal of internet commerce*, 10, 0-35.
7. Dominick, R.J (2009). *The Dynamics of Mass Communication: Media in the Digital Age*. New York: McGraw-Hill.
8. Farzana, P., Noor, I. & Sulaiman, A. (2014). Social Media Usage and Organizational Performance: Reflections of Malaysian Social media managers. *Telematics and Informatics*, 32, 67-68.
9. Hafele, N. (2011). "Social Media Marketing: Interaction, Trends & Analytics", *ICTS 11 fall*, 51 (3): 1-6.
10. Mangold, W. G & Faulds, D.J. (2009). Social Media: The new hybrid element of the promotion mix. *Business Horizons*, 52(4), 357-366.
11. Michael, A. Stelzner. (2010). *Social Media Marketing Industry Report: "How marketers are using social media to grow their businesses"*. Social media examiner.
12. Palmer, A. & Koenig-Lewis, N. (2009). An experimental, social network-based approach to direct marketing. *Direct Marketing: An International Journal*, 3(3), 162-176.
13. Seung-A, A.J. (2012). The potential of social media for luxury brand management. *Marketing Intelligence & Planning*, 30(7), 687-699.
14. Weinberg, T. (2009). "The new community rules: marketing on the social web", Sebastopol, CA: O'Reilly Media Inc.
15. Zarella, D. (2010). *The social media marketing book*: O'Reilly Media Inc. Canada



GREEN HUMAN RESOURCES MANAGEMENT TRENDS IN PRESENT SCENARIO

PIDAPARTHI SIREESHA

Pratibha Degree College
Kukatpally, Hyderabad, Telangana, INDIA
ORCID Code: 0000-0002-6025-5385

ABSTRACT

Human resources are valuable resources of all the factors of production. Thanks to technical advancement, businesses tend to use less workforce to reduce the cost of production. Despite this, Human Resource Management plays a vital role in developing business to manage all the organization's activities and get work done. Green Resource Management has become a novel concept for the majority of HRM professionals and academicians. Aiming to make the organization employees go green, it uses human resource policies to promote the sustainable use of resources within business organizations. The study examines how companies implement Green HRM in their organizations and analyze the benefits and challenges. The main focus is on how far it helps contribute to human and technical sustainability in the Organization to the maximum extent by taking a case study of some companies using GHRM. This study contributes to the knowledge base of two essential elements – Environmental-friendly HR practices and preservation of knowledge capital. The future of GHRM appears promising for all the stakeholders of HRM, such as employees and employers, practitioners, and academicians, to stimulate the field of HRM to expand its role in the pursuit of environmentally sustainable business.

Keywords: technical advancement, human resources, sustainability, organizations, green human resources, GHRM

JEL CLASSIFICATION: O15, Q01, Q56

CITE THIS ARTICLE: Sireeha, Pidaparthi. (2020, September). Green Human Resources Management Trends In Present Scenario. *In Perspectives on Business Management & Economics (Vol. II, pp. 95-105). Retrieved from <http://www.pbme.in/papers/27.pdf>*

ARTICLE HISTORY: Received: July 21, 2020; Accepted: September 22, 2020; Published: September 30, 2020



1. INTRODUCTION

Recently, there has been a growing awareness with various organizations and business communities on the importance of going green and implementing various sustainable management techniques. Various organizations and businesses are experiencing a drastic shift from traditional financial structure to the modern based economy, set to traverse sustainable economic facets of a business. Sustainability is the magic word that is often used in every dimension of our personal life and workplace. Our lifestyle, both professional and personal, influences the environment so harmfully that we cannot let it go unchecked. Undoubtedly, the corporate world is taking the initiative about environmental issues and playing an essential role by providing a solution to environmental hazards. One such solution for environmental hazards is Green Human resource management because it helps to initiate a green workplace. As we know, HRM is an essential function of management because it deals with the most valuable asset, which is Human. In an organization, HR (Human resource) and their system is the base for any business and organization. HR is the ones who are responsible for implementing the eco-friendly process and policies which help in creating a green atmosphere.

Green Human resource management is a set of practices, systems, and policies that help create green behavior in its employees' minds. It also helps to create an environmentally resource-efficient, socially responsible, and sensitive workplace in an organization. GHRM (Green Human resource management) begins even before appointing new employees in the organization. Green HRM includes two essential elements: a. Environmental friendly Human resource practices and preserving knowledge capital. Green initiatives should be part of CSR (corporate social responsibility) and involve all the organization employees for green initiatives. In this paper, we focused on understating the concept of Green Human resource management, its benefits, implementation process, and a few examples of companies following green human resource management.

LITERATURE REVIEW

Literature has given importance to implementing environmental practices as a fundamental objective for organizational functioning by identifying HRM practices.

1. Cherian & Jacob, 2012 and Haden, Oyler, and Humphrey (2009), in their paper, mentioned that implementation of strategies and environmental objectives along with the development goals of an organization results in an effective and efficient environmental management system.
2. Daily and Juang (2001) said that businesses essentially need to balance, preserving the environment and industrial growth because implementing green practices in an organization may earn more profit than before.
3. Murari & Bhandari (2011) says that the business's Human Resource Department plays a vital role in promoting sustainability culture.
4. Harmon, Fairfield, and Wittenberg (2010) proposed that the greater the usage of Green human resource principles and policies, the greater is the implementation of EMS (environment management system) in different companies.



5. Jackson et al. (2011) proposed that Green human resource management depends on identifiable and unique HR managers' green behavior and decisions.
6. Dutta (2012) GHRM includes two primary elements; preservation of knowledge capital and environmentally friendly human resource practices. GHRM helps in creating awareness and commitments on the issue of sustainability.

GREEN HUMAN RESOURCE MANAGEMENT

MEANING OF GHRM

GHRM is a managerial concept and also a trending topic all over the world. It has got different meanings to different people. There is no clear definition of GHRM. The main reason for going green is to reduce the negative impact that energy consumption and pollution can have on the environment.

DEFINITIONS

Ramachandran defines Green Human Resource Management as the “combination of environmental management into human resource management.”

Green Human Resources Management (GHRM) can be defined as “the set of practices, systems, and policies that promote the green behavior of a company’s employees in order to create an environmentally delicate efficient resource and socially responsible workplace and overall organization.”

The term Green HRM refers to the contribution of HRM policies and practices towards comprehensive corporate environmental planning. Green HRM mobilizes every employee to increase their potential. It refers to using every human resource to support sustainable practices and increase employee awareness and commitments on sustainability.

EXAMPLES OF GHRM

Video recruiting, the use of online and video interviews, electronic filing, car-sharing, job-sharing, teleconferencing, and virtual interviews, recycling, telecommuting, online training, energy-efficient office spaces.

Developing a green culture has a positive and green effect on employee behavior and values that build an internal culture. Green behavior is considered to be a tool in the implementation of green HRM culture and adopting formal environmental plans. According to Mandip, the practice of green Human Resources should be translated into the Human Resource processes, such as training, compensation, recruitment. From the definitions stated above, it can be concluded that Green HRM needs all the organization’s members to create and keep the organization green.



BENEFITS/ADVANTAGES OF GREEN HRM

The Green Human Resource Management plays a vital role in the industry to promote the environment-related issues. Organizations must frame HR policies and practices, and train people to increase awareness about the environment. Moreover, they must provide information regarding Environmental protection. The Green HRM may also help the employers and employees build brand image and reputation & their skills.

Organizations need to pay attention to recycling the resources, thus changing the organizational culture, waste management, pollution, and helping the society and its people. It will also make employees and society think innovatively using un-utilized natural resources and bring the "best out of waste. "

Few experts identified the following Benefits of Green Human Resource Management:

1. It helps companies to bring down expenses.
2. Organizations which have a scope of huge growth by being green and creating a new friendly environment which helps in high operational savings by decreasing their cost of production.
3. It helps in achieving job satisfaction and commitment, which leads to higher productivity and sustainability.
4. GHRM produces a culture of having affected the health and wellbeing of fellow workers.
5. Development in the sustainability rate of the employees.
6. It helps in recruiting better employees—reduction in the environmental impact of the company.
7. GHRM helps in the overall performance of the organization.
8. Reduction of environmental damage.

The above benefit may help in attaining greener savings and green products from waste elimination. By promoting such values, it indirectly increases consumer satisfaction.

IMPLEMENTATION OF GHRM

The following are some of the points that need to follow by the companies to implement green HRM.

1. Select and appoint people who know regarding Green HRM.
2. Evaluate employees' performance based on environmental criteria;
3. Introduce ways of motivating employees by providing financial incentives for their environmental performance.
4. Provide training and education programs on environmental management;
5. Foster relations between teams to deal with sustainable problems and attempt for continuous development of environmental management activities.

NEW TRENDS IN HRM

Although the challenges are considerable, facing them is essential for steady business growth. Here is a list of new HR trends that are expected to be in practice among HR teams in 2020.



Figure 1: HR Trends 2020



Source: Indiaapprenticeshipforum.org

ARTIFICIAL INTELLIGENCE IN RECRUITMENT

Artificial Intelligence is a technology that gains more and more attention every year. Intelligent and self-learning programs are used in software development and many other areas of IT. Of course, AI is still far from human cognitive abilities, but many modern machines can learn, make difficult decisions, and think. AI-based software is the most flexible solution for various areas of business. It gives more opportunities for automation of processes that do not require a high level of creativity and can be performed by a machine.

The automation of processes becomes possible due to AI's ability to analyze big data and quickly estimate available options. AI technologies have become widely used not only in IT but also in marketing and development. There is no surprise some companies start using AI solutions in recruitment, trying to automate the recruiting process and to discover new ways of hiring talent. AI is probably the most critical tool for recruitment.

DATA ANALYTICS IN TRANSFORMING HUMAN RESOURCES

Human resource is a people-oriented function detected by most people. However, for those who think that the HR teams bestows are limited to extending offer letters and onboarding new hires, human resource analytics (HR analytics) can prove them wrong. When used strategically, analytics can change how HR operates, giving the team perceptiveness and actively and meaningfully contributing to its bottom line.



- 1. Revenue per employee:** Obtained by dividing a company's profits by the total number of employees in the company. This indicates the average revenue each employee generates. It is a measure of how efficient an organization is at enabling revenue generation through employees.
- 2. Offer acceptance rate:** The number of accepted formal job offers (not verbal) divided by the total number of job offers given in a certain period. A higher rate (above 85 percent) shows a good ratio. If it is lower, the data can be used to specify the company's talent acquisition strategy.
- 3. Training expenses per employee:** Obtained by dividing the total training expense by the total number of employees who received training. The value of this expense can be determined by measuring the training efficiency. Low efficiency may lead to re-evaluating the training expense per employee.
- 4. Training efficiency:** Obtained from the analysis of multiple data points, such as performance improvement, test scores, and upward transition in employees' roles in the organization after training. Measuring training efficiency can be crucial to evaluate the effectiveness of a training program.
- 5. Voluntary turnover rate:** Voluntary turnover occurs when employees voluntarily choose to leave their jobs. It is calculated by dividing the number of employees who left voluntarily by the organization's total number of employees. This metric can lead to the identification of gaps in the employee experience leading to voluntary attrition.
- 6. Involuntary turnover rate:** When an employee is fired from their position, it is termed "involuntary." The rate is calculated by dividing the number of employees who left involuntarily by the organization's total number of employees. This metric can be tied back to the recruitment strategy and used to develop a plan to improve the quality of hires to avoid involuntary turnover.
- 7. Time to fill:** The number of days between advertising a job opening and hiring someone to fill that position. By measuring the time to fill, recruiters can alter their recruitment strategy to identify areas where the most time is being spent.
- 8. Time to hire:** The number of days between upcoming a candidate and the candidate's acceptance of the job offer. Like time to fill, data-driven analysis of time to hire can benefit recruiters and improve the candidate experience to reduce this time.
- 9. Absenteeism:** Absenteeism is a productivity measure measured by dividing the number of days missed by the total number of scheduled workdays. Absenteeism can offer perception into overall employee health and can also serve as an indicator of employee happiness.
- 10. Human capital risk:** This may include employee-related peril, such as the absence of a specific skill to fill a new type of job, the lack of qualified employees to fill leadership positions, the potential of an employee to leave the job based on several factors, such as the relationship with managers, compensation, and absence of a clear succession plan. HR analytics can be used to measure all of these metrics.



FEEDBACK TOOLS IN IMPROVE ENGAGEMENT

Management needs to understand the health of their company culture and how employees understand the organization.

This widespread challenge of employee satisfaction is why many agencies are renewing their focus on company culture and conducting employee engagement surveys. Once they find a highly-skilled, valuable employee, they want to keep them-especially today, when top talent has endless options for where to pitch their tent and make a professional home.

According to the Marketing Agency Growth Report 2018, 67% of agencies hire new staff every fiscal year, but 35% have difficulty finding employees with the right fit. This leads to open seats staying unfilled for too long or employees leaving due to misaligned expectations for the position.

ON THE JOB TRAINING

The workers can learn the skills required to be performed in the actual work conditions and get accustomed to the working environment. Also, the organizations need not bear any additional cost of setting up a classroom or a simulated setup for contributing training to the workers, away from the actual work floor, as in Off-the-Job training.

The organization's staff must be updated with the day-to-day progression in the job. Hence management instructs the employees to adopt it. Here are the essential methods to be applied in the job.

Figure 2: On the Job Training Methods



Source: hrhelpboard.com



ON-THE-JOB TRAINING METHODS

1. Coaching: This is the most important technique or method provided by the organization's senior experienced staff. They will give instructions to the staff on how to perform a job. They learn and find answers to their queries.

2. Mentoring: This training is given to the managerial level people, wherein the senior or the manager gives instructions to the immediate subordinate to carry out the day to day functioning. Again, it is a one-to-one training method, where the manager is considered a mentor to the subordinate and guides him in situations of difficulty. Coaching and mentoring is a little bit similar, but it will have their meaning.

3. Job Rotation: This is the most commonly used method of training. It can be seen in only large concerns where the number of employees is there and work on a shift basis. Under the job rotation, an employee is often shifted to the other related jobs, to make him well versed with other job backgrounds. This helps him escape the dissatisfaction caused by performing the same kind of work again and again and helps develop a kinship with other people in the organization.

4. Job Instructional Training: Under this training, a trainer designs a step-by-step training program, wherein the worker is given the instructions to perform the job as required. Firstly, the job summary and the desired results are explained to the trainee, and then the job's accomplishment is incontestable by the trainer.

A worker is then allowed to perform the job as per his acquired skills, and then finally, the workers are asked to give their feedback and ask for any query arising out of the training program.

5. Understudy: Here, the superior gives training to the subordinate as an alternate or a supporter who is likely to perform a superior's job in case of the vacuum arising out of superior's retirement, transfer, promotion, or death.

6. Apprenticeship: This type of training is generally given to the people in crafts, trade, technical fields that need long-term learning before they gain good knowledge in their respective disciplines.

This training is a mix of classroom and on-the-job training and is conducted under close supervision. This can be prolonged up to 3 to 4 years as beginners need to go through the learning process until they become proficient in their fields.

Example: The craftsmen job, mechanic, electrician, plumber, tool-maker have to undergo this type of training.

CONTINUOUS PERFORMANCE MANAGEMENT

HR technology major, Betterworks popularized the concept of Continuous Performance Management. Their platform leverages data dashboards and creative performance KPI's to provide businesses with a better understanding of how their employees are doing, new ways to boost performance, and which areas need special attention from managers.



“Better works facilitates the complex, continuous process of Performance Management, with an intuitive, seamless and social end-user experience that drives end-user adoption, and the customization necessary for each program to work within each unique organization.”

HOW DOES CONTINUOUS PERFORMANCE MANAGEMENT WORK?

Managers and organizations start by setting specific goals that employees are expected to follow. “Recent research out of MIT recommends goals be FAST instead of SMART, meaning they are embedded in Frequent discussions, Ambitious in scope, measured by Specific metrics and Transparent for everyone to see,” Doug recommends. Next, 360-degree conversations across the workplace are considered to determine if the said goals have been met. This is further complemented by peer feedback – in fact, Networked Feedback is one of Betterwork’s USPs, incorporating information from peers, direct reports, and other parties interacting with an employee, not just a top-down evaluation.

Depending on the Continuous Performance Management process results, employees are duly recognized, and the platform is updated (dynamically) for the next cycle.

Continuous Performance Management offers a smarter alternative to existing and arguably outmoded review models. Companies like Betterworks are already exploring AI, ML, and Advanced Analytics to amplify the capabilities of Continuous Performance Management further. “We will be releasing expanded analytics for our customers that include highly visual workforce insights derived from their continuous performance management programs. We are also working to develop the rest of the tools needed to identify and manage top talent, like next-generation nine-block and calibration tools,” Doug concluded, looking forward to newer terrains.

EMPLOYEE EXPERIENCE PLATFORMS

The words “employee experience” have become the hottest buzzword in HR these days, and for a good reason, says Josh Bersin.

“We are not building software for HR anymore—we are building it for employees,” the global industry analyst said during his opening keynote at this year’s HR Technology Conference in Las Vegas. “If employees do not find it useful if it does not fit into ‘the flow of work,’ then it is not going to be used.”

A recent survey from Gartner of 5,000 employees finds that 56% agree with this statement: “I expect to have the same quality experience at work as I do as a customer.”

Companies are shifting their focus to addressing the full employee experience, cognizant that they have the same wants, needs, and desires as customers, says Lauren Mason, Principal in Mercer’s career business.

“Companies that figure out how to make their employees’ experience as delightful as their customers’ experience will have a competitive advantage,” she says.

Employee experience is not just about providing a consumer-grade experience with HR technology, says Bersin. It is also about ensuring that employees feel connected to their work



and colleagues in today's often-fragmented organizations, understand the organization's mission and place in it, and easily find the information they need tasks ranging from making benefits choices to furthering their development. This has given rise to what he labels "employee experience platforms."

CONCLUSION

Employers and practitioners can establish the usefulness of linking employee involvement and participation in environmental management programs to improved organizational environmental performance, like focusing on waste management recycling and creating green products. Unions and employees can help employers to adopt Green HRM policies and practices. IT Professionals are the representatives of the global economy. The nature of their work involves high-level autonomy, and they will show a strong commitment to their jobs. In the current business scenario, more IT organizations now realize the value sustainability has on their competitiveness, reputation, and ability to attract and retain top talent. Hence, HR people in IT organizations should contribute the green movement in terms of training practices, as well as introduce special programs to drive green initiatives.

REFERENCES

1. Wehrmeyer, W., (ed)1 Greening People: Human Resources and Environmental Management, Sheffield : Greenleaf Publishing
2. Govindarajulu, N. and Daily, B.F.,12 Motivating employees for environmental improvement, *Industrial*
3. Edwina Pio, , Senior Faculty, AUT University, New Zealand, HRM and Indian epistemologies: A review and avenues for future research
4. Jacob Cherian¹ & Jolly Jacob² ¹ Department of Management, College of Business Administration, Abu Dhabi University, Abu Dhabi, UAE ² Department of Applied Sciences, College of Arts and Sciences, Abu Dhabi University Abu Dhabi, UAE A Study of Green HR Practices and Its Effective Implementation in the Organization: A Review
5. Sroufe, R. (2003). Effects of environmental management systems on environmental management. practices and operations *Production and Operations Management*, 12(3), 416-430. <http://dx.doi.org/10.1111/j.1937-5956.2003.tb00212.x>
6. Nalini Govindarajulu, Bonnie F. Daily. (2004). Motivating employees for environmental improvement. *Industrial Management & Data Systems*, 104(4), 364-372. <http://dx.doi.org/10.1108/02635570410530775>
7. Jamioetting, (2018). 15 employee feedback tools to track team engagement. <https://blog.hubspot.com/agency/employee-feedback-engagement-tools>
8. Shailesh Kumar, Shivakumar. Dec 1, 2019. Introduction to employee platform. https://link.springer.com/chapter/10.1007/978-1-4842-5512-4_1
9. Cherian, J., & Jacob, J. (2012). Green marketing: A study of consumers' attitude towards environment-friendly products. *Asian social science*, 8(12), 117.
10. Haden, S. S. P., Oyler, J. D., & Humphreys, J. H. (2009). Historical, practical, and theoretical perspectives on green management: An exploratory analysis. *Management Decision*, 47(7), 1041-1055.



11. Daily, B.F. and Huang, S. (2001) Achieving Sustainability through Attention to Human Resource Factors in Environmental Management. *International Journal of Operations & Production Management*, 21, 1539-1552.
12. Murari, K., & Bhandari, M. (2011). Green HR: Going green with pride. *Journal of Social Welfare & Management*, 3(3-4), 35-38.
13. Schroeder, H. (2012). The importance of human resource management in strategic sustainability: An art and science perspective. *Journal of Environmental Sustainability*, 2(2), 4.
14. Jackson, S. E., Renwick, D. W., Jabbour, C. J., & Muller-Camen, M. (2011). State-of-the-art and future directions for green human resource management: Introduction to the special issue. *German Journal of Human Resource Management*, 25(2), 99-116.
15. You Matter Website. 18 October 2018. GHRM Meaning, definition. <https://youmatter.world/en/definition/green-human-resources-management-meaning-definition>
16. TCS. 2007. CSR Report. [https://www.tcs.com/content/dam/tcs/pdf/discover-tcs/investor-relations/corporate-sustainability/TCS Corporate- Sustainability Report 2006-2007 Final.pdf](https://www.tcs.com/content/dam/tcs/pdf/discover-tcs/investor-relations/corporate-sustainability/TCS_Corporate-Sustainability_Report_2006-2007_Final.pdf)
17. Shoeb Ahmed. 16 November 2014. GHRM policies and practices. <https://iedunote.com/green-hrm>
18. Human Resources Management Institute Website. 2018. GHRM. <https://hrmi.org/green-hrm/>
19. Shoeb Ahmed. 2014. Green Human Resource Management: Policies and practices. <https://www.tandfonline.com/doi/full/10.1080/23311975.2015.1030817>



GREEN HUMAN RESOURCE MANAGEMENT: A PATHWAY TO SUSTAINABLE BUSINESS

ASHITHA AB

Research Scholar, Post Graduate and Research Department of Commerce
The Cochin College, Kochi, Kerala, India
ORCID: 0000-0002-2717-6765

DR. ANU L

Assistant Professor, Post Graduate and Research Department of Commerce
The Cochin College, Kochi, Kerala, India
ORCID: 0000-0002-4359-6348

ABSTRACT

Green is the catchword today because it is the universal color that symbolizes the environment. Nowadays, the “Going Green” initiative is gaining importance because individuals and corporates understand that the consumption of resources is more than what is available. We are sharing the universe, so at any cost, the environment should not suffer. So it is our prime responsibility to save and preserve our mother nature from the natural and human-made disasters for the future generation. From this context, the sustainability and greening concepts come forth.

The corporate environment transmutes itself from the traditional profit motive business to a competitive business model that aims profit through Sustainability. Nowadays, the business community is giving more concern for integrating the ‘environment management’ with ‘people management’ which is possible by Green HRM. The concept of Green HRM mainly deals with promoting sustainable use of resources and engaging every employee to support sustainable and environmentally friendly practices. Green HRM helps the organization earn profit through sustainable environmental practices and enhance its goodwill within society. GHRM tries to create a green workforce that can understand and support the green culture in the organization.

It is in this backdrop the present chapter aims to discuss the concept of Green HRM, its provenance, growth, Benefits, and various GHRM practices followed by the corporate and challenges for its implementation.

KEYWORDS: Green HRM, sustainable business, environment-friendly practices, green initiatives

JEL CLASSIFICATION: A12, O13, O15, O44, Q01, Q56



CITE THIS ARTICLE: Ashitha, AB., Anu, L. (2020, September). Green HRM: A Pathway to Sustainable Business. *In Perspectives on Business Management & Economics (Vol. II, pp. 106-117)*. Retrieved from <http://www.pbme.in/papers/47.pdf>

ARTICLE HISTORY: Received: July 21, 2020; Accepted: September 22, 2020; Published: September 30, 2020

1. INTRODUCTION TO GREEN HRM

In the current scenario, 'Green' is the buzzword that exemplifies the environment. The world over the 'green movement' is gaining more significance because the individuals and business organizations recognize that the consumption level of resources is more than what is available. If this situation continues, the resources will be exhausted, and nothing will be available for future generations (Dingra & Padmavathy, 2019). From this realization, the concept 'green' and 'sustainability' come forth.

To incorporate green practices and ensure sustainability, business organizations need to change their existing operations into environment-friendly operations (Sharma & Gupta, 2010) (Pallavi & Bhanu, 2016). In the development of human beings, the environment plays a vital role. The sustainability of the environment leads to the growth of the employees and the organization (Saifulina, Carballo & Ruzo, 2020). So across the world, business organizations are integrating the environment management with human resource management, called green human resource management (GHRM).

"GHRM is the use of human resource management policies to promote the sustainable use of resources within business organizations and promote the cause of environmental sustainability." (Mandip, 2012)

Green Human Resource Management has two elements: The Environmental Preservation through eco-friendly human resource practices and Preservation of knowledge capital (Vimala & Amble, 2010). Effective implementation of GHRM practices is vital for the business organization along with financial and economic aspects. Environmental Preservation is also a determining factor of competitive advantage. Most of the business organizations are now realizing the importance of Green management practices in the company. All the organization's functional departments are conscious of the green practices, wherein the human resource department plays an active role in being the connecting link between all the departments (Patel, 2018). The Human Resource Policies within the organization ensure the sustainable use of resources without harming the business organization's external environment. 'Profit through sustainability' is the new motto of every business (Yong, Sehnem & Mani, 2020).

"Sustainable business or a green business is an enterprise that has a minimal negative impact, or potentially positive effect, on the global or local environment, community, society, or economy." In other words, it is the process of managing the financial, social, and environmental risks, obligations, and opportunities. Sometimes these three impacts can be referred to as people, planet, and profits (Mehta, Chugan, 2015).



Green HRM helps the organization earn profit through sustainable environmental practices and enhance its goodwill within the society. GHRM tries to create a green workforce that can understand and support the green culture in the organization. In the current scenario, to ensure the business organization's long-term sustainability, the integration of GHRM practices is essential.

In this backdrop, the present chapter aims to discuss the concept of Green HRM, its provenance, growth, Benefits, and various GHRM practices followed by the corporate and challenges for its implementation.

OBJECTIVES OF THE STUDY

The purpose of this paper is to study:

1. The concept of Green Human Resource Management and its origin and functions.
2. Green human resource management practices followed by the corporates for sustainable business
3. Benefits and challenges for Green HRM

RESEARCH METHODOLOGY

The study relies on secondary data sources, collected from various journals, websites, and News reports.

DISCUSSION

ORIGIN AND GROWTH OF GHRM

Green HRM gains popularity through the Green Movement across the world. The Green Movement started in the year 1972 in New Zealand and addressed the concept of Environmentalism (Kamili, 2018). It focuses on creating awareness among the people to stop further degradation and deterioration of natural resources. Green HRM turn up after Green accounting, Green marketing, and Green management. Green HRM is becoming popular because the consumption of resources is more than what is available. The world faces many issues like carbon credits, global warming, and pollution resulting from high-profile industrial accidents and climate changes. That may result in environmental problems, global warming, earthquakes, and floods. M.W.Shaikh(2010) argues for green human resource practices in the industry. The increasing need to integrate environmental management with Human resource management practices lead to green human resource management (Jayashree & Selvarani, 2019).



FUNCTIONS OF GHRM

Figure 1: Showing the functions of Green human resource management



Source: Author compilation

1. **Green human resource planning:** Human resource planning is assessing the current and future requirements of the employees within the organization. Companies wish to follow green human resource planning, searching for employees having experience in environment-related tasks and responsibilities. They need to implement various programs like Low carbon technology, cleaner production and ISO 4001 (Shaban, 2019).
2. **Green recruitment:** For recruiting new employees, the company can invite applications through online mode, which will reduce the wastage of paper and other stationery items in the organization.
3. **Green selection:** The Company should try to select the candidates who have a favorable attitude towards the green movement. The candidates who are willing to take responsibility for green initiatives chosen.
4. **Green induction:** The Induction program is conducted within the organization to welcome new employees and prepare them for future jobs. In Green HRM, the induction programs, conducted in such a way as to create awareness among the recruits about the green practices followed by the organization. The induction programs should focus on the organization's green skills, working conditions, and green policies.
5. **Green training and development:** The training and development process should include a session to make employees aware of the green practices followed within the organization and how the employees can help to achieve the green standards fixed by the organization.



Training should be given to all levels of employees to reduce the wastage of resources and their effective utilization.

6. **Green involvement:** Green involvement means encouraging and giving employees opportunities to participate in the environmental management process and reduce waste and pollution within the environment.
7. **Green performance management:** As a part of the 'go green' process, the company can set 'green performance standards' for measuring the performance of employees (Sharma, Agarwal & Utkarsh, n.d). While assessing employees' performance, the company should look into the fact that whether they fulfill the 'green goals' of the organization or not.
8. **Green payroll:** The business organizations are trying to reduce their wastage and carbon footprints into the environment. Online payroll preparation or paperless payroll preparation is a green initiative to become environmentally responsible.
9. **Green rewards:** Employees who acquire green skills and contribute to the organization's green movement got both monetary and non-monetary rewards. The Monetary rewards include an increase in salary, bonus, incentives, and the Non-monetary rewards are appreciation from top-level, gifts, and holiday trips to employees and their families.
10. **Green employee relation:** The Top Management can appraise the employees who are 'green aware' and meet the organization's 'green standards'. The appreciation and reward from top Management will help to create better relations with employees and Management.

GHRM PRACTICES OF SELECTED COMPANIES

Some of the general practices followed by the corporate globally to support the 'Go Green initiatives' are as follows:

1. **Green building:** Tries to reduce or eliminate the negative impacts on the environment with its environmentally friendly design, construction, and operation. Green buildings improve our quality of life by way of preserving natural resources. In other words, we can say that green buildings are environmentally responsible and resource-efficient during its entire life cycle (Obeidat & Said, 2020).
2. **Green printing:** Green printing is the application of eco-efficient printing technologies, ink, and printing materials. It helps to reduce the harmful impacts on our environment. Printing methods that consume less energy and resources and produce fewer wastages. Example: use of recycled papers and Waterless printing
3. **Green manufacturing:** It is the environmentally responsible production process, the natural resources used efficiently, that will reduce pollution and waste disposal (Dingra & Padmavathy, 2019). Manufacturing technologies reduce environmentally hazardous emissions and lessen their impact on the environment. Recycling and reuse of materials are also encouraged.
4. **Teleconferencing and virtual interview:** The business meetings and interviews will conduct with the help of the internet. Rather than a face to face meeting, the participants can connect through video conferencing software, which reduces business travel.
5. **Recycling:** Recycling is the process of reducing waste materials by converting them into usable new materials and objects.



6. **Telecommuting:** Telecommuting is also known as Mobile work, working from home, remote work, and telework. Under this method, the employees do not travel to the office; instead, they use computers, laptops, and mobile phones connected with the internet and work from home or chooses a location near to their home to complete their job.
7. **Shared transport facilities:** To minimize carbon emissions, the companies on a global level promote the employees to use the public transport system or company cab facility without using their vehicles. The carpooling facility is another option in which several people travel together to reduce the cost and pollution.
8. **Flexi-work:** The employees can provide a flexible working time or work from home facilities using company portals or emails with the internet or intranet (Ahuja, 2015).
9. **Online training:** Online training or computer-based training conduct to save energy and cost.
10. **Green rewards:** Free bicycles and pollution-free vehicles can gift to the employees. Trees are given to customers and employees as a part of the going green initiative and Bonus to customers who make a green purchase.

GREEN HR PRACTICES FOLLOWED BY THE SELECTED CORPORATES

Some of the green practices followed by the Indian corporates for sustainable business are as follows:

Tata Consultancy Services (TCS)

The environment policy of TCS tries to integrate environmental consideration into the business process. Environmental stewardship efforts mainly focused on four material aspects.

1. **Carbon footprint reduction:** By ensuring energy efficiency and use of renewable energy
2. **Water management:** Efficiently using and recycling the water and harvesting the rainwater
3. **Waste management:** 3R's concept. Reduction, reuse, and recycling.
4. **Supply chain sustainability**

TCS has 3 LEED-certified green building

Per capita, Carbon footprint reduced by 52.5%

Renewable source electricity usage 8.45%

3.55 MW on-site rooftops solar capacity

100%, hazardous & E-waste is disposing of through government authorized recyclers.

34.7% of biodegradable waste recycled on-site.

The company follows paperless HR functions as a part of the go green initiative and promoting sustainability, which includes:

Recruitment of employees,

1. Administrative functions of the workforce
2. Compensation to Employees



3. Employee Performance Assessment
4. Payroll Preparation
5. Work-life balance. (TCS, 2018)

Reliance Industries Limited

The vision of Reliance Industries Limited is to create value for the nation, enhance the quality of life across the entire socio-economic spectrum through sustainable measures. The business model of Reliance aligns with sustainable development goals and helps the company to overcome sustainability challenges. On the operational side, they are working to maximize clean energy use and minimize the carbon footprints in collaboration with the best available technology licensors. Their energy and petrochemical business follow the philosophy of not only the Green economy but also the circular economy because they care for the environment, which is the most precious asset of humanity.

The societal value followed by Reliance are:

1. Energy efficiency operations,
2. Carbon abatement and offsetting,
3. Water management,
4. Waste management,
5. Renewable and alternative energy,
6. Ecosystems and biodiversity,
7. Managing environmental impact,
8. Digital inclusion,
9. Community development.

As a part of Green human resource function, the company introduced E-HR, online assessment, management of performance, 360-degree feedback system, Employee self-service, and training through e-learning facilities. (Reliance Industries Ltd.,2018)

Infosys

The key corporate values of Infosys is sustainability that inspires the employees every single day as they go about their work. Through digital transformation, they try to build sustainable value across industries and geographies.

1. The Company is in Prestigious 'Dow Jones' sustainability indices.
2. LEED certification for Infosys Mysore, Chennai, and Chandigarh campuses green building
3. They try to manage the footprints on carbon emissions, including greenhouse gases.
4. To manage the waste generated due to its operations through a focused approach.
5. Aim to make the campuses water sustainable
6. A vision to implement a resource-efficient Greening Strategy
7. 50% of the electricity needs met from renewable sources like solar energy.
8. Freshwater per capita consumption has reduced by 60%. Investment in technology, along with rainwater harvesting and employee cooperation, has been key to this success.
9. Sustainable waste management technologies used across campus.



10. They are on their way to becoming carbon neutral.

Environmental impact assessment is done for their operations and new projects to reduce the environment's negative impacts. (Infosys, 2019)

ONGC

The corporate sustainability report of the ONGC entitled Time to act now for a green future.

1. ONGC is conscious of its responsibility towards the environment and takes regular measures for minimizing the footprints.
2. Wherever possible, the company uses renewable energy
3. Efforts to reduce Greenhouse gas emission from their operation
4. Using the latest technologies that foster energy conservation
5. Dual fuel technology, Gas flaring reduction, Energy-efficient lighting, Energy management system, Energy audit, Renewable energy are the energy conservation methods adopted by the company
6. ONGC and Indian oil joins hands to reduce carbon emissions
7. ONGC promotes the use of clean fuel in its operation as well as transportation. They promote the usage of electric vehicles

ONGC has an active participant in the Clean Development mechanism to address the climate change challenge. (ONGC, 2019)

State Bank of India

State Bank of India added Sustainability as a value in the financial year 2017-2018 on Digital India banking solutions used for a sustainable tomorrow. The impact of digital innovation on the environment is a consideration in SBI.

1. The company made significant investments in artificial intelligence, Robotics, Branch server consolidation, and the internet of things, reducing the carbon footprints and enhancing energy efficiency.
2. One of the CSR activities of the bank is environmental protection.
3. The Solid Waste Management system developed in 14 villages
4. Establishing a board approved sustainability policy that will govern the bank's sustainability practices.
5. Investment in renewable energy .
6. Issuing green bonds.
7. Carbon neutrality strategy to fulfill by 2030.
8. They are joining the initiative to promote the electric vehicle. One electric vehicle is procured by the corporate office to be used by its employees.
9. The Replaced Generators on a pilot basis at the Rural and semi-urban branches with solar backup batteries.
10. Captive windmills of 15 MW capacity and Solar Rooftop capacity of 17 MW
11. SBI is the only Indian bank to join the EV-100(SBI, 2019)



BENEFITS OF GHRM

By following the green human resource practices and policies, the business organizations having the following advantages (Sharma, 2018) (Lakhera & Sharma, 2020):

1. **Retention of customers:** Nowadays, the green concept is gaining importance. It helps the organization to retain their customers and make their investors happy. It will make the organization more efficient and environment-friendly.
2. **Retention of employees:** Employee's turnover can reduce by providing a better working culture that supports the green movement.
3. **Company reputation increases in the Public:** The corporates that follow green standards will gain more publicity.
4. **Sustainable use of resources:** Sustainable use of resources means the proper management, control, and effective utilization of resources for the present generation without compromising the needs of future generations.
5. **Rebates and tax benefits:** The government supports the go green initiative by giving tax incentives and rebates to those companies which follow green environmental practices.
6. **Increased desirability as an employer:** Prospective job seekers will prefer those companies which follow green standards in their activities than their counterparts do not follow the same.
7. **Business opportunities:** Some government companies and non-profit organizations will purchase products and services from those companies that meet the green standards.
8. **Increase in productivity:** Productivity refers to how efficiently the production process. Efficiency in Production helps less waste and efficient utilization of available resources.
9. **Attractive to better employees:** The educated and affluent employees will seek a job in those companies which meet the environmental standards. It helps the companies to pool better talents.
10. **Environment Degradation Practices reduced:** The green standards prescribed by the companies try to reduce the wastage of resources, pollution, and destruction of the ecosystem.
11. **Promoting eco-friendly products:** Companies try to bring eco-friendly products and services into the market, attracting new customers.
12. **Higher employee job satisfaction:** Increased job satisfaction of employees will increase productivity in the organization.
13. **Better working culture:** Working culture represents how the organization's values and traditions contribute to the working environment of the organization. GHRM helps to develop a working environment that tries to reduce the harmful effects on nature.
14. **Help reduce utility cost:** The use of energy-efficient and less wasteful technology will reduce the company's utility cost. Utility cost is the cost of using utilities such as electricity, water, waste disposal, sewage, and heating (Lee, 2020).
15. **Competitive advantage:** The Companies that implement green practices will get more competitive advantage than those that do not follow the same. The customers and employees will choose the former than the latter. Companies that effectively implemented green practices can reduce the wastage and use the resources efficiently. It will reduce their cost and helps to gain a competitive advantage. (Singh & Paneser, 2019)



CHALLENGES TO GHRM

The business organizations are facing the following challenges for the effective implementation of green human resource practices (Bangwal & Tiwari, 2015) (Ahmad, 2015):

1. **Employees' reluctance:** Some of the employees think that it is not their responsibility to protect the environment. So it is difficult to change the behavior of employees within a short period.
2. **Lack of unanimity among employees:** Different employees may respond differently to Green HRM Practices. To create unanimities among employees towards the process of going green is very difficult.
3. **Recruitment of employees:** Employees who are having a favorable concern towards the 'going green' concept is challenging.
4. **HR professionals under stress:** HR employees will be in undue stress because they are responsible for implementing green human resource management practices.
5. **To develop a culture supporting green HRM** and forcing to implement the same in the organization is burdensome.
6. **Chances of creating uneven competition between the companies:** For example, a company following strict environmental protection standards may need to install new technology and employ new workers. However, another company following environmental protection standards can reduce the production cost. It will put the first company at a competitive disadvantage.
7. **Initial cost:** The challenge of Green Human Resource Management is that it involves initial capital outlay for installing new technology that is energy efficient and less wasteful.
8. **Inadequate saving:** Savings from going Green Concept is lesser than the Expected. It takes time to cover up the initial cost or make them economically viable.
9. **Lack of knowledge** to effectively implement green human resource management practices is a challenge to the company.

CONCLUSION

The concept of Green human resource management is gaining importance increasingly. Nowadays, business organizations focus on profit maximization and fulfilling environmental obligations (Kapil, 2015) (Ahuja, 2015). The rising environmental awareness of people in society pushes the organization to adopt green practices to get a competitive advantage and sustainability in the long run. The human resource department is the organization's nervous system that needs to effectively implement greener practices by coordinating all other functional departments within the organization. Sustainable human resource practices promote sustainable use of resources and protect the environment (Kamili, 2018). Each employee's involvement in the organization is essential for its effective implementation and reducing the carbon footprints. So it is time to act for a greener future (TCS, 2018) by ensuring every employee's participation in the greener practices followed by the organization for their sustainable business life in the long run.



REFERENCES

1. Jayashree, M. Selvarani, A (2019). "GREEN HRM" – A Roadmap to Sustainability. *International Journal of Research and Analytical Reviews (IJRAR)* 6(1), 195–202.
2. Singh, G., & Paneser, K. S. (2019). Competitive Advantage of Going Green and Green HR Practices. *International Journal of Innovative Science and Research Technology* 4 (3), 266–269.
3. Lakhera, A., & Sharma, P. (2020). Green HRM: Best HR Practices within an Organization for Reducing Employees' Carbon Footprint. *International Journal of Knowledge-Based Organizations* 10(3), 1–8. <https://doi.org/10.4018/IJKBO.2020070101>
4. Dingra, R., & Padmavathy, G. (2019). Green Human Resource Management – A leap towards sustainability. *International Journal of Advanced Research and Development* 4(1), 50–57.
5. Shaban, S. (2019). Reviewing the Concept of Green HRM (GHRM) and Its Application Practices (Green Staffing) with the Suggested Research Agenda: A Review from a Literature Background and Testing Construction Perspective. *International Business Research* 12(5), 86–94. <https://doi.org/10.5539/ibr.v12n5p86>
6. Saifulina, N., Carballo-Penela, A., & Ruzo-sanmartín, E. (2020). Sustainable HRM and Green HRM: The Role of Green HRM in Influencing Employee Pro-environmental Behavior at Work. *Journal of Sustainability Research* 2(3). <https://doi.org/10.20900/jsr20200026>
7. Lee, H. (2020). The Role of Environmental Uncertainty, Green HRM, and Green SCM in Influencing Organization's Energy Efficacy and Environmental Performance, *International Journal of Energy Economics and Policy*, 10(3), 332–339.
8. Sharma, K. (2016). Conceptualization of Green HRM and Green HRM Practices: Commitment to Environmental Sustainability, *International Journal of Advanced Scientific Research and Management* 1(8).
9. Mandip, G (2012). Green hrm: People management commitment to environmental sustainability. *Research Journal of Recent Sciences*, 1, 244–252
10. Bangwal, D., & Tiwari, P. (2015). Green HRM – A way to greening the environment. *IOSR Journal of Business and Management* 17(12), 45–53. <https://doi.org/10.9790/487X-171214553>
11. Sharma, K., Agarwal, F. & Utkarsh Vashistha (n.d.). Green HRM: An Employee Interface for Sustainable Development, Seventeenth AIMS International Conference on Management. 1737–1744
12. Sharma, R., & Gupta, N. (2010). Green HRM: An Innovative Approach to Environmental Sustainability, Twelfth AIMS International Conference on Management, 825–830
13. Kapil, P. (2015). Green HRM- Engaging Human Resource in reducing carbon footprint and enhancing environment sustainability: A case study based approach, *International Journal of Engineering Technology Science and Research (IJETSR)* 2, 5–14.
14. Mehta, K., & Chugan, P. K. (2015). Green HRM in Pursuit of Environmentally Sustainable Business. *Universal Journal of Industrial and Business Management* 3(3), 74–81. <https://doi.org/10.13189/ujibm.2015.030302>
15. Ahuja, D. (2015). Green HRM: Management of people through a commitment to Environmental Sustainability. *International Journal of Research in Finance and Marketing* 5(7), 50–54.
16. Kamili, S. (N.d.). Green HRM: Origin, Practices, and Implications. First international conference on recent developments in science, humanities, and management (2018)
17. Ahmad, S. (2015). Green Human Resource Management: Policies and practices Green Human Resource Management: Policies and practices. *Cogent Business & Management*, 25(1). <https://doi.org/10.1080/23311975.2015.1030817>
18. Patel, S. (2018). Green HRM – A Key to Sustainable Development. *International Journal of Research in Management, Economics, and Commerce*, 08(1), 29–30.



19. Pallavi, E. V. P. A. S., & Bhanu, M. V. V. (2016). Green hrm: a way for Corporate Sustainability. *International Journal of Human Resource Management and Research (IJHRMR)* 6(2), 13–20.
20. Aquil Hussain. (2018). Green human resource management (GHRM) practices in organizations: a comprehensive literature survey, *Journal of Management Research and Analysis (JMRA)* Dr. 05(02), 112–117.
21. Douglas Renwick (2008). Green HRM: A review, process model, and research agenda. *University of Sheffield Management School* 44 (0).
22. Vimala & Amble S (2010). Green HRM: An Innovative Approach to Environmental Sustainability. *IJEMR – January 2018 - Vol 8 Issue 01 - Online - ISSN 2249–2585 Print - ISSN 2249-8672*
23. Obeidat, S. M., Al, A. A., & Said, B. (2020). Leveraging “Green” Human Resource Practices to Enable Environmental and Organizational Performance: Evidence from the Qatari Oil and Gas Industry. *Journal of Business Ethics*, 164 (2), 371–388. <https://doi.org/10.1007/s10551-018-4075-z>
24. Yong, J. Y., Sehnem, S., & Mani, V. (2020). Pathways towards Sustainability in Manufacturing Organizations: Empirical evidence on the role of green human resource management. (February 2019), 212–228. <https://doi.org/10.1002/bse.2359>
25. Corporate sustainability report of TCS FY 2017-2018
26. Corporate sustainability report of Reliance industries FY 2017-2018
27. Corporate sustainability report of ONGC FY 2018-2019
28. Corporate sustainability report of Reliance industries FY 2018-2019
29. Corporate sustainability report of Reliance industries FY 2018-2019



THE ROLE OF FINANCIAL INTERMEDIARIES IN ECONOMIC DEVELOPMENT

DR. VENKATA RAMAKRISHNA RAO GANDRETI

Associate Professor, Department of Management Studies
Vignan's Institute of Engineering for Women, Visakhapatnam, Andhra Pradesh, INDIA
ORCID: 0000-0003-4294-8716

ABSTRACT

In a financial system, financial intermediaries alongside financial instruments and financial markets have a main role to play. The financial intermediaries has improved drastically, which implies the development and growth of financial systems, which in turn leads to economic development. They mobilize savings, directs savings to investments and improve the allocation of capital, as suggested by Pagano. Moreover, credit screening, delegated monitoring with optimal debt contracts with bankruptcy costs, help in reducing informational asymmetries problems. Policy implications suggest that financial liberalization helps in removing restrictions and financial repression on financial intermediaries and stimulate economic development.

In capitalist economies, savings/investment process is organized around financial intermediation, making them a central institution of economic growth. Financial intermediaries are firms that borrow from consumer/savers and lend to companies that need resources for investment. The major questions answered in this paper are:

Why do financial intermediaries exist?

What are the types of financial intermediaries?

What are their roles?

What are their functions?

And so on.

KEYWORDS: Credit, Financial Intermediaries, Financial System, Screening, Monitoring, Economic Development

JEL CLASSIFICATION: O16, G21, E51, E58, O40



CITE THIS ARTICLE: Gandreti, VRR. (2020, September). *The Role of Financial Intermediaries in Economic Development. In Perspectives on Business Management & Economics (Vol. II, pp. 118-128). Retrieved from <http://www.pbme.in/papers/29.pdf>*

ARTICLE HISTORY: Received: July 7, 2020; Accepted: September 22, 2020; Published: September 30, 2020

1. INTRODUCTION

Financial intermediation is a pervasive feature of all of the world's economies. However, as Franklin Allen (2001) observed in his AFA Presidential Address, there is a common belief that financial intermediaries have no real impact and but they can be ignored. They are a veil. Asset prices or the allocation of resources are not affected by them. For example, Allen pointed out that the Journal of Finance's millennium issue contained surveys of asset pricing, regular finance, and corporate finance but did not survey financial intermediation. Here we take the view that one should apprehend about financial intermediaries to have a clear view of savings to the investment process, the workings of capital markets, corporate finance decisions, and consumer portfolio choices.

Why are financial intermediaries important? One reason is that, as per national flow-of-funds data, banks contribute a larger proportion of every dollar financed externally. Bank loans are a major source of external funding. In no other country, capital markets have a substantial role in financing. Equity markets are unrelated. In other words, if staffing in the finance department shows how companies fund themselves, approximately 25 % of the faculty will be researchers in financial intermediation, and the rest would study internal capital markets.

During periods of institutional distress and bankruptcy, banks play a major role in corporate governance by acting as a core source of external funding. The idea that banks "monitor" firms are one of the major roles of bank loans in corporate finance. Bank loan contracts can act as tripwires indicating to the bank that it can and should interfere with the firm's activities. Unlike bonds, bank loans tend not to be distributed across many investors. This enables interference and renegotiation of capital structures. Bankers are often on company boards of directors. Banks are also crucial in producing liquidity by, for example, backing commercial paper with loan commitments or standby letters of credit.

Schumpeter (1912) debates by pointing out that "financial intermediary help redefining capital allocation to support technological innovation by identifying and assisting those entrepreneurs with profitable projects, thus influencing economic development." "Financial repression restricts the role of financial intermediaries and financial liberalization intensifies the impact of financial intermediaries on economic development" (Goldsmith, 1969; Gurley and Shaw 1955, 1973; and McKinnon, 1973). Stiglitz and Weiss (1981) explain the part played by financial intermediaries in taking credit screening to develop the credit allocation to low-risk investment projects. Diamond (1984, 1996) and Williamson (1986a, 1986b, 1987) endorses the theory of financial intermediation, "expanding the allocation of credit monitoring to financial intermediaries would lessen the cost of monitoring information and resolve incentive problems



between borrowers and lenders. Credit screening and monitoring by financial intermediaries develop capital allocation to improve the effective use of capital”.

Endogenous growth models established by Greenwood and Jovanovic (1990), King and Levine (1993), Levine (1997), Levine (1998) explains the relationship between the role of financial intermediaries and economic development.

Pagano (1993) brings an endogenous growth model, explicating financial intermediaries in economic development through controlling transaction costs, increasing productivity, saving rates, and investment rates. Cost related to credit screening is reduced by diversification within an intermediary (Stiglitz and Weiss, 1981) and substituted monitoring (Diamond, 1984, 1996; and Williamson, 1986a, 1986b, 1987) offers incentives for a financial intermediary to handle the problem of asymmetric information.

Financial intermediary influences economic development in various channels. Empirical investigations explain the role of financial intermediaries on economic development with some policy implications.

2. THE EXISTENCE OF FINANCIAL INTERMEDIARIES

The fundamental question to be asked related to the firm's theory, why do financial intermediaries exist? This is because they are themselves firms! When firms dominate trade in a market, the organization of economic activity within a firm occurs. The case in households with enough resources to invest could go to capital markets and buy securities issued directly by firms. In such cases, there is no scope for intermediation. A different point to discuss is that non-financial firms can consider investors who directly invest in capital markets. Though, as stated in the introduction, most of the external fund to companies does not occur this way. Instead, it happens through bank-like intermediation, in which households buy securities dispensed by mediators who, in turn, invest the money by lending it to borrowers. Again, firms' responsibilities and the rights of the investors are not the same securities; intermediaries change claims. The presence of such mediators indicates direct contact in capital markets between households and firms is dominant. “Why is this?” is the central question for the theory of intermediation.

“Bank-like mediators are persistent, but this may not require much clarification. On the liability side, demand deposits seem to be a special kind of security, but originally this may have been due to regulation. Today, money market mutual funds may be good substitutes for demand deposits. On the asset side, intermediaries may simply be passive portfolio managers, i.e., there may be nothing special about bank loans relative to corporate bonds,” as stated by Fama (1980). Similarly, Black (1975) sees nothing unusual about bank loans. Therefore, we begin with an impression of the empirical evidence, which recommends that there is indeed a need for explanation.

3. TYPES OF FINANCIAL INTERMEDIARIES

There is a long list of firms that come under the list of financial intermediaries. Many times, people may not even comprehend that they are dealing with an agent who is just overseeing the transaction in question. Nevertheless, without these entities, the investment markets would be crippled.



Major financial intermediaries operating in an economy are as follows:

Banks:

Unquestionably, banks are the most prevalent financial intermediaries in the world. They come in multiple forms: saving, investing, lending, and many other sub-categories to fit precise criteria. The most ancient way in which these institutes act as brokers is by linking lenders and borrowers. For example, when somebody raises a bank loan, they will be given the money that another person deposited into that bank for saving. Likewise, large companies also use banks to help find investors. Not to mention their role as the bodies that people use to receive paychecks via direct deposits.

Credit Unions:

Like mentioned before, credit unions also attract people who need the money and those who have it. For example, they provide credit terms to people by using the deposits collected from other customers. When somebody needs credit from a credit union, they will obtain it because there are funds at the credit union's disposal, which is contributed by depositors. The main difference between these entities and typical banks, though, is their role with consumer credit. Further lending, they also oversee many credit-related inquiries.

Pension Funds:

It is another financial intermediary that full-time employees often meet. This is used by millions of workers to save for their retirement. The way it works is based on a risk factor, matching contribution, and long-term investing. For illustration, when someone signs up for a pension fund, they choose how much of their salary will be kept aside. Often, their employer matches that contribution to a certain extent. A major portion of that money is used to purchase assets that will grow and have a good yield. Once the employee retires, they get all the aids alongside any interest and realized gains.

Insurance Companies:

Though there are numerous different types of insurance organizations, most of them operate in the same way. First, they find a large number of customers who need to obtain coverage. Whether it is a car, home, or health policy does not matter. Once those customers purchase their insurance coverage, all of the funds are pooled together. Later on, whenever someone needs to claim and use the insurance company to request a payout, the insurance provider will access that pool of money. This means that there is no net inflow of cash to the market.

Stock Exchanges:

Buying corporate stocks can be a long and tedious process. In order to simplify this, the stock exchanges were invented. They act as large platforms where people can make stock orders. After paying for them, the stock exchange is used to buy the actual stocks from corporations. Then, the customer gets their desired assets while the corporations get funding. In the meantime, the stock exchanges facilitate the entire process and every transaction. Hence they are considered as the financial intermediary. As with most other similar institutions, these exchanges earn revenues by adding transaction fees and interest rates.



Finally, because of the absence of them, the whole investment and financial sector would suffer. People find it difficult to make daily transactions, and large companies would find it hard to get funding. That is why it is necessary to understand the significance of the role of financial intermediaries.

4. IMPORTANCE OF FINANCIAL INTERMEDIARIES

They act as middlemen between two parties and manage the financial transaction. Commercial banks, investment banks, stock exchanges, and insurance companies' are the financial intermediaries that play a significant role in the economy.

With the help of financial intermediaries, individuals get fixed income at a low cost. When an individual uses financial intermediaries' service, he need not spend time and money to find good borrowers.

He need not bear the risk of loss because the financial intermediaries bear the risk. For example, banks gain funds from depositors and lend them to borrowers. Banks uphold information and policy statements about their clients, and they diversify the investments accordingly.

Financial intermediaries observe the borrower activity, and if borrowers have any chance to invest in a risky project, they suggest solutions.

They have a vital role in the saving-investment process. A vital role of financial intermediaries is that they satisfy the portfolio inclination of both depositors and borrowers at the same time.

The pooled funds are invested by issuing securities like bonds, mortgages, bills, amongst others. Instead of directly purchasing stocks, investors deposit funds with financial intermediaries, and they lend those funds to ultimate borrowers.

Non-bank financial intermediaries supply debt instruments to the borrowers independent of the asset type and offer financial assets to the lenders independent of the type of the debt instrument.

Besides bringing depositors and borrowers together, financial intermediaries transform primary securities into secondary securities for ultimate lenders' portfolios.

Financial intermediaries allocate primary securities from ultimate borrowers to ultimate lenders. The efficiency of resource allocation is improved by investing in various projects and thus improving the efficiency of distributive techniques of intermediation.

Their role in the saving-investment process is such influential that they inspire investors to spend more efficiently.

In under-developed countries, the capital market is unorganized, and financial intermediaries play a unique role in those countries. The majority of the people are poor in those countries, and those who save invest their savings in real estate, jewelry, foreign exchange, amongst others.

They inspire the circulation of personal savings from unproductive to productive uses. When the economy of a country develops, the non-financial sector gradually transformed into the financial sector.



Then the banking practices of the common man also increased. It is difficult for commercial banks alone to organize savings and use them for productive purposes. Here the financial intermediaries have an essential role in organizing and investing these savings for economic development.

In under-developed nations, financial intermediaries identify investment opportunities by helping small and new enterprises. They help control inflation in under-developed countries by economizing the use of currency, which pedals the money supply and the demand for goods and services.

The need for two different parties - lenders and borrowers - is the main reason for intermediaries' existence. They make diversified investments and save both time and costs, and thus help in lowering their risks. They provide a large number of services so they can customize services for their clients. They reduce the risk of asymmetric information.

Thus, financial intermediaries are significant for a country's economic development. Finance provides the funds for starting self-employment programs, entrepreneurial development programs, housing finance, a certain percentage of their lending to priority sectors, and loans to industries that started in a backward area. Finance comes with risks such as the risk of default, liquidity, credit, amongst others. The most recent financial crisis is an example of the possibility of the collapse of the world's most prominent financial institutions.

All parties related to the system should bear the risk of being able to continue. Reassigning all the risks is not the solution, which means one party will not have anything, and the other party will have everything if an economic crisis occurs.

If the crumbling party is the bank, the crisis will spread to the whole economy. Nevertheless, given the financial system's complications, by helping the government eliminate poverty and implement different social programs, they play a vivid role in the economic development of a country.

5. CHARACTERISTICS OF FINANCIAL INTERMEDIARIES

The characteristics of financial intermediaries are as below:

Risk Reduction:

Compared to others, financial intermediaries have more excellent resources at their disposal and diversify the risk between various individuals. Since they have know-how in handling the spread portfolios and use other financial experts' expertise. As they control large sizes of the portfolio, they can reduce risk through diversification. They prudently select and scrutinize the borrowers and handle the risk of default. They deliver safety in accessing money and spread the risk by lending to several people.

For example, insurance firms collect premiums from customers and deliver the policy's benefits if unpredictable accidents influence any customer.

Scale Economies:

Commercial banks, mutual funds, credit unions, stock exchanges, insurance companies, etc. are the financial intermediaries that support the economy's growth process. They take deposits



from a wide range of clients and lend money to multiple borrowers, thus maintaining the economies of scale.

They act as a bridge between ultimate lenders and borrowers and discourage stockpiles by people. Suppose they do not exist, there could be several operational costs to the investors. They help in investment and deliver investment advice to their customers, and they help in reducing their opportunity cost. They promote economic growth by encouraging savings and investments.

Regulation:

Regulation is necessary because of the complications of the financial system. Due to weak regulation, financial crises may happen and may put the economy at risk.

The monetary authorities should regulate untruthful financial intermediaries and confirm that there is adequate equilibrium in the scheme to avoid losing the economy.

Provide Loans:

They have a significant role in getting together those investors who have surplus cash desiring to lend them and those companies who wish to acquire loan facilities. They deliver liquidity to the market by providing the shares to shareholders and capital to companies.

Providing short-term and long-term loans are a primary function of financial intermediaries. They gather the deposited funds and support the entities who are looking for funds to borrow.

They award loans to borrowers at a nominal interest rate. A part of that interest is provided to the depositor whose surplus cash has been used. The remaining balance of the interest is retained as the profit of the intermediary. Before lending loans, they evaluate the debtors' capability and solvency to confirm whether the borrowers will be able to pay off the loan or not.

Asset Storage:

They deliver their customers with safe storage of both cash and precious metals such as gold and silver. Customers who make deposits obtain proof of deposit and all records of withdrawals. Depositors can use the deposit cards and checks to access their funds.

Investment Advice:

Many of them help their customers in growing the value of their investments. They support them to grow their hard-earned money through investing. Firms find it challenging to select the apt industry to make investments and maximize returns.

They invest the customer's funds and pay them an approved rate of interest. In addition to managing customer's funds, they also provide investment advice to their clients.

Provide Liquidity:

They bring liquidity into the system by converting assets into cash very easily. They always try their best to maintain their liquidity by providing short-term loans and finance them for longer periods and diversifying loans among different borrowers. They sustain liquidity by their diversified operation.



Bring Stability in the Capital Market:

They deal with a lot of assets and liabilities which are traded in the capital market. By following rules and regulations, financial intermediaries bring stability to the capital market helps industries through diversified financial services.

If there were no financial intermediaries, there would be unexpected changes in the demand and supply of financial assets, which will bring instability in the capital market.

In advanced nations, where there are extensive regulations under which financial intermediaries operate, there is less risk of stock scams.

6. FUNCTIONS OF FINANCIAL INTERMEDIARIES

A financial intermediary achieves the following functions:

- As said before, the principal function of these intermediaries is to transform savings into investments.
- Intermediaries like commercial banks, deliver storage facilities for cash and other liquid assets, like precious metals.
- Providing short and long term loans is a primary function of financial intermediaries. These intermediaries receive deposits from customers having surplus cash and then lend them to entities in need of funds. Intermediaries give the loan at interest, part of which is given to the depositors, while the balance is reserved as profits.
- Another key function is to support customers in increasing their money through investment. Intermediaries like mutual funds and investment banks use their expertise to offer investment products to support their consumers, maximize returns, and diminish risks.

7. ADVANTAGES OF FINANCIAL INTERMEDIARIES

- They help lower the risk of a customer with surplus cash by dispersing the risk via lending to several people. Also, they methodically screen the borrower, thus, reducing the default risk.
- They help in managing time and cost. Since they deal with a large number of clients, they relish economies of scale.
- Since they deal with many services, it helps them serve their customers by providing customized services. For example, banks can tailor loans for small and long term borrowers or their specific needs. Similarly, insurance companies modify plans for all age groups.
- They gather and process information, thus reducing the problem of asymmetric information.

Let us deliberate a simple example that will help us to gain knowledge on understanding the advantages. Supposing that you need some loan, but you do not know who has sufficient money to give you. So, you contact a middleman who has enough funds to help you in meeting your requirement.



8. POTENTIAL ISSUE WITH INTERMEDIARIES

Probably, a financial intermediary may not spread risk. They may direct the money of depositors to schemes which provide more return. Due to mismanagement, they may invest money in schemes, which may not be so attractive now. Intermediaries help us in managing such problems. Furthermore, after the 2008 crisis, the intermediaries are fronting more regulations to guarantee that they do not outwit their limits.

9. ROLE OF FINANCIAL INTERMEDIARIES IN ECONOMIC DEVELOPMENT

Numerous studies discuss the role played by financial intermediaries in economic development. Fry (1995) examines the effectiveness of financial intermediaries' performance judged by intermediation costs for channeling funds from the lenders to the borrowers and concludes financial intermediaries' performances in many developing countries are inefficient because of weak management, government interference, high delinquency, and default rate. Financial liberalization and financial deepening would uplift financial intermediaries' efficiency and stimulate economic development through financial intermediation.

Harris (1988) analyzed the case of Korean financial reforms in 1965, though found that an effective instrument for allocation of credits cannot be formed without financial liberalization. Cho (1988) analyzed the effectiveness of credit allocation in Korea over 1972-1984 and substantiates that the financial liberalization policy in the 1980s has significantly reduced the divergence of borrowing costs.

Using data on 80 countries over the 1960–1989 period and numerous actions of the level of financial development has been used to study intermediaries' role in an economy. King and Levine (1993) present cross-country proof that financial intermediaries can sponsor economic development. Financial intermediation growth is intensely linked with the growth of real per capita GDP, the rate of physical capital accumulation, and advances in economic efficiency.

Fry (1978) ran a regression of the gross domestic saving income ratio on the income growth, the level of real per capita income in natural logarithm, the nominal interest rate of the expected inflation rate, foreign savings relative to income, and the lagged saving ratio for a sample of seven Asian countries over the period 1962-1972. Real interest rates are identified to be positively related to domestic savings and economic growths. A World Development Report (1989) that sampled 33 developing countries over 1965-1985 found that faster economic growth was related to higher real interest rates. Using the same model specification as Fry (1978) but for a different period, Giovannini (1983) found a different conclusion for the same set of countries.

Levine (1997) offers a diagnostic framework for evaluating the quantitative significance of intermediaries and economic development. Levine (1998) explores the association between the legal system and banking development with long-run rates of per capita GDP growth, capital stock growth, and productivity growth and finds that there is a positive association between the development of financial intermediaries and per capita growth, physical capital accumulation, and productivity growth.

Ruehl (1988) specifies the case that extremely controlled the financial system, which is characterized by low-interest rates and credit rationing, which results in a "Japanese miracle"



for the two decades of high growth rates from 1953-1973. The chaos of Asian banking systems, particularly the Korean banking system's downfall, is a good lesson for the developing world. Fragile credit assessment and powerless risk management in the Korean banking system require a highly regulated financial system to stimulate and maintain the financial intermediaries' farsightedness and reliability (Ramos and Lim, 1997). Using a generalized method of moments (GMM) dynamic panel method, Petkovski and Kjosevski (2014) examines 16 transition economies from Central and South-Eastern Europe and finds the banking sector impacts economic growth, explicitly ratio of quasi money (RQM) is positively associated with economic growth.

10. CONCLUSION

Financial intermediaries play a very significant role in economic development. They play an even more prominent role in the emerging nations, including supporting the government to eradicate poverty and device other social programs.

Though, with the given complexities of the financial system and the significance of intermediaries in influencing the public's lives, they are heavily controlled. Several past financial crises, like the sub-prime crisis, have shown that loose or uneven regulations could put the economy at risk.

In conclusion, they can influence the economic development by playing a role in refining the saving-investment ratio, the social productivity of investment, and the aggregated saving rate or dealing with the asymmetric information problems of adverse selection and moral hazards. Policymakers can kindle economic development by eradicating financial restrictions and repression and promoting financial liberalization. Empirical studies offer considerable evidence that proves the positive relationship between the development of intermediaries and economic development. A negative finance economic relationship is also found in case the financial intermediaries are under the government's strict control. Financial deepening and liberalization are the keys to economic development. Developing nations should inspire the liberalization of prudent and sound financial intermediaries. Liberalization, though, should not lead to chaos or disorder. The current liberalization of financial intermediaries in developing countries should be progressed prudentially and methodically while taking into account all likely penalties to maintain macroeconomic stability and kindle economic development.

REFERENCES

1. Diamond, Douglas W. 1984. "Financial Intermediation and Delegated Monitoring." *Review of Economic Studies*, Vol. 51, pp. 393-414.
2. Diamond, Douglas W. 1986. "Financial Intermediation as Delegated Monitoring: A Simple Example." *FRB Richmond Economic Quarterly*, Vol. 82, no. 3, Summer 1996, pp.51-66.
3. Goldsmith, Raymond W. 1969. *Financial Structure and Development*. New Haven: Yale University Press.
4. Greenwood, Jeremy, and Jovanovic, Boyan. 1990. "Financial Development, Growth, and the Distribution of Income." *Journal of Political Economy*, Vol. 98 (October), pp. 1076-1107.



5. Gurley, John G., and Shaw, Edward S. 1955. "Financial Aspects of Economic Development." *American Economic Review*, Vol. 45 (September), pp. 515-538.
6. King, Robert G. and Levine, Ross. 1993. "Finance and Growth: Schumpeter Might Be Right." *The Quarterly Journal of Economic*, Vol. 108 (August), pp. 717-737.
7. Levine, Ross. 1997. "Financial Development and Economic Growth: Views and Agenda." *Journal of Economic Literature*, vol. 35, no. 2, pp. 688-726.
8. Levine, Ross. 1998. "The legal environment, banks, and long-run economic growth." *Journal of Money, Credit and Banking*, 30, 596-613.
9. McKinnon, Ronald L. 1973. *Money and Capital in Economic Development*. Washington, D.C.: The Brookings Institution.
10. Pagano, Marco. 1993. "Financial Markets and Growth: An Overview." *European Economic Review*, Vol. 37, pp. 613-622.
11. Allen, Franklin (2001), "Presidential Address: Do Financial Institutions Matter?" *Journal of Finance*, forthcoming.
12. Mayer, Colin (1990), "Financial Systems, Corporate Finance, and Economic Development," in *Asymmetric Information, Corporate Finance, and Investment*, edited by Glenn Hubbard (Chicago: University of Chicago Press).
13. Fama, Eugene (1980), "Banking and the Theory of Finance," *Journal of Monetary Economics* 10, 10-19.
14. Black, Fisher (1975), "Bank Fund Management in an Efficient Market," *Journal of Financial Economics* 2, 323-339.
15. Fry, Maxwell J. 1978. "Money and Capital or Financial Deepening in Economic Development?" *Journal of Money, Credit, and Banking*, Vol. 10 (November), pp. 464-475.
16. Fry, Maxwell J. 1995. Second Edition. *Money, Interest, and Banking in Economic Development*. The Johns Hopkins University Press.
17. Harris, Laurence. 1988. "Financial Reform and Economic Growth: A New Interpretation of South Korea's Experience." *New Perspectives on the Financial System*, Chapter Seventeen, pp. 368-388. London: Croom Helm.
18. Cho, Yoon Je. 1988. "The Effect of Financial Liberalization on the Efficiency of Credit Allocation: Some Evidence from Korea." *Journal of Development Economics*, Vol. 29, pp. 101-110.
19. Giovannini, Alberto. 1983. "The Interest Elasticity of Savings in Developing Countries: The Existing Evidence." *World Development*, Vol. 11, pp. 601-607.
20. Ruehl, Sonja. 1988. "Interest Rate Policy and Credit Rationing in Japan: The Evidence." *New Perspectives on the Financial System*, Chapter Sixteen, pp. 346-367. London: Croom Helm.
21. Petkovski, Mihail & Jordan Kjosevski. 2014. "Does banking sector development promote economic growth? An empirical analysis for selected countries in Central and South Eastern Europe." *Economic Research*, Volume 27, Issue 1, pp. 55-66.



STRESS MANAGEMENT: TECHNIQUES TO TACKLE STRESS AT WORKPLACE

POOJA BHOWMICK

B.Ed Student, DIET Morigaon
Assam, India

ORCID: <https://orcid.org/0000-0003-2093-2799>

ABSTRACT

In today's competitive, fast-moving, high-tech, and dynamic work environment, the stress level increases both at the top of an organization's lower level. As a result of work stress, more and more employees show signs of chronic fatigue, burnout, and imbalanced work-life. Nowadays, stress is a common problem in almost all countries globally, irrespective of whether the economy is strong or weak. Moreover, according to WHO report on stress in India: Stress levels seem to be high in India compared to other countries, both developed and emerging, says a survey conducted by Cigna TTK Health Insurance: About 89% of the population in India says that they are suffering from stress, as compared to the global average of 86%. (2018). As we know, no one can escape stress, but yes- one can learn to cope with it and can manage it. Thus, it becomes essential to manage "Work Stress" at the workplace.

Hence, the present chapter focuses on the widespread silent issue, i.e., "stress," and describes stress management's importance in the present era. Data is collected from both primary as well as secondary sources. Therefore, primary data is used to study the level of work-stress and its leading causes. Furthermore, an attempt has been made to know the various ways or techniques through which stress can be managed at the workplace. Subsequently, the techniques will help the organizations tackle stress at the workplace and improve their productivity.

KEYWORDS: Work stress, Human resource, Stress management, Workplace, Techniques

JEL CLASSIFICATION: M12, M51, M54

CITE THIS ARTICLE: *Bhowmick, Pooja. (2020, September). Stress Management: Techniques to tackle stress at Workplace. In Perspectives on Business Management & Economics (Vol. II, pp. 129-137). Retrieved from <http://www.pbme.in/papers/49.pdf>*

ARTICLE HISTORY: Received: July 18, 2020; Accepted: September 22, 2020;
Published: September 30, 2020



INTRODUCTION

Nowadays, life is full of hassles, deadlines, frustrations, and demands. For many people, stress is so commonplace that it has become a way of life. Stress is not always bad. In small doses, stress can help one keep oneself on track and perform under pressure and motivate to do one's best and achieve life goals. However, when you are always running in emergency mode, your mind and body pay the price. Stress accounts for 80 percent of all illnesses, either directly or indirectly. Stress weakens the immunity system and has other severe effects on the brain and body such as cardiovascular problems, emotional imbalance, and mental illness such as chronic fatigue, depression. Stress is an unavoidable consequence of modern living and is becoming a part of every sector, whether talking about students' lives, homemakers, managers, financiers, administrators, government, professors, and workers. It can be both protective and harmful, and thus, managing stress with a proper blend is a great deal of the era. Stress up to a level will help an individual achieve their goals; on the other hand, excess stress may lead to "A Victim of Depression."

Moreover, stress management is the need of the present era. Today, stress management is essential in everyone's lives as it helps to balance one's life. Stress management involves understanding the psychology behind or causing stress and finding techniques to deal with, reduce, or eliminate the stress. Stress can result from viewing one's situation negatively or with insecurity. Stress reduction results from managing or positively viewing situations, taking action, organizing, planning, and finding solutions. (Jadoun, N, K., Kushwah A, S., Barodiya, P Dr. Holani U,(2012). By managing stress, one will also feel a sense of control; over the situation and life. Stress is ordinarily an unavoidable part of everyone's life living in this world. It portrays a harmful notion that can have an impact on one's mental and physical well-being.

This study provides practical advice on how to deal with work stress. This paper implies that Work-related stress occurs when there is a mismatch between the demands of the job and the individual worker's resources and capabilities to meet those demands. The present research work is an attempt to study the need and techniques of stress management. The present study is based upon the primary as well as secondary data. The population selected for this particular study consists of various employees or workers from different professions or organizations.

OBJECTIVES OF THE STUDY

The main objective of the present research work is as follows-

1. To study the causes of stress at the workplace.
2. To highlight the various ways or techniques to tackle the stress.

METHODOLOGY OF THE STUDY

The present study is based upon the primary as well as secondary data. The population selected for this particular study is individual employees from different sectors like banking, teaching, and medicine. The size of the sample is 80. The primary data has been collected through questionnaires. The secondary data has been collected from research publications, books, journals, and periodicals.



MEANING OF STRESS

Stress is a natural human response to its environment. It is generally an imaginable part of every person's life. Stress is like slow poison with which we humans react in our ways; there is a long list of commonly experienced effects of stress that ranges from mild to life-threatening.

“Stress is the body's nonspecific response to a demand placed on it.” (Hans Selye). Therefore, stress is the body's reaction to any change that requires an adjustment or response. The body reacts to these changes with physical, mental, and emotional responses. Therefore, common symptoms of stress are aches and pains, irritability or short temper, diarrhea or constipation, nausea, dizziness, chest pain, rapid heartbeat, inadequate sleeping, isolating oneself from others, using alcohol, or drugs to relax, nervous habits (e.g., nail biting, pacing, fast heart beating). Hence, $STRESS = PRESSURE > RESOURCES$, Stress occurs when the pressure is greater than the resources.

Stress can be defined as “the adverse reaction people have to excessive pressure and demands placed upon them.” (International Labour Organisation). Therefore, stress is a normal physical response to changes or events that make one feel threatened or upset his/her cognitive balance somehow. When you sense danger – whether it is real or just imagined – the body's defenses kick into high gear in a rapid, automatic process known as the –fight-or-flight reaction, or the stress response.

UNDERSTANDING WORK-RELATED STRESS

The nature of work is changing at a whirlwind speed. Perhaps more than ever before, work-related stress poses a threat to workers' health and the organization's survival and, ultimately, the prosperity and growth of a nation. Work-related stress is now generally acknowledged as a global issue in all professions, sectors, and countries. It is also widely acknowledged that it has a high cost of human distress and impaired productivity. Stress is the first indication of a problem that can significantly exacerbate acute or chronic damage to the body systems and organs, significantly if the body cannot rest and recover. (Ministry of Labour, Industrial Relations, Employment and Training, Work-Related Stress Guidelines, 2016)

Work stress results from an unresolved mismatch between the perceived load and the worker's capacity to cope. The rapid evolution in the field of work brought about by technological progress is imposing more demands on the worker's physiological and psychological capacity. Therefore, work-related stress is the harmful physiological and emotional responses that occur when the jobs' requirements do not match the capabilities or needs of the worker. Work stress can lead to poor health.

In modern times, when job demands cannot meet, the sense of satisfaction turns into feelings of stress. In a nutshell, the stage is set for illness, injury, depression, chronic fatigue, imbalanced work-life, and job failure. Although it is not possible to give a universal prescription for preventing stress at work, it is possible to offer some guidelines or techniques on stress prevention and management to assist employers and employees. Thus, in this paper, an attempt has been made to showcase the various techniques that can be used to manage one's stress at an organizational and individual level.



CAUSES OF WORK STRESS

Excessive and otherwise uncontrollable demands and pressures can be caused by poor work design, poor management, improper planning, inefficient communication channels, rigid rules, and unsatisfactory working conditions. Such aspects of work have the potential of causing harm; they are called 'stress-related hazards' and have the potential of causing harm to the individual worker and ultimately to the organization. Therefore, some typical job stressors encountered at the workplace include: -

1. Job Content such as Monotonous tasks; Unpleasant tasks, under-stimulating, meaningless task, Unpleasant tasks, workload, and work pace, e.g., Having too much or too little to do; Working under time pressures, time limitations – the inability to meet deadlines at work, working hours such as Strict and rigid working schedules; Long and unsocial working hours; Unplanned working hours; unorganized job structures, badly-designed shift systems.
2. Participation and Control such as lack of participation and acceptance in decision making; Lack of acceptance of views or ideas, Lack of control (such as no decision over work methods, work pace, working hours, and the work environment (including safety and health aspects)).
3. Career developments, status, and pay such as Job insecurity; Promotional issues (e.g., lack/ unfair); Piece rate payments schemes; Unclear, and unfair performance evaluation systems; No retirement benefits.
4. Interpersonal relationships such as Inadequate, Unsupportive supervision; Unhealthy relationship with co-workers; Bullying, harassment, and violence; Isolated or solitary work; Unclear procedures for dealing with problems or complaints.
5. Organizational Culture such as Poor leadership, lack of recognition and motivation, inadequate achievement opportunities, rigid rules and regulations, Poor communication; Lack of clarity about the organizational objectives, aims, vision, and structure.
6. Home-Work interface such as Conflicting demands of work/home; Lack of support for personal issues or problems at work; Lack of support for work problems at work/ at home.

DATA ANALYSIS AND INTERPRETATION

Table 1: Level of Stress among the respondents

Particulars	No. of respondents	Percentage
High	41	51.25%
Moderate	33	41.25%
Low	6	7.5%
Total	80	100%

Source: Field Survey (Primary Data)

Interpretation: Table 1 clearly indicates that the majority of the respondents were highly stressed.

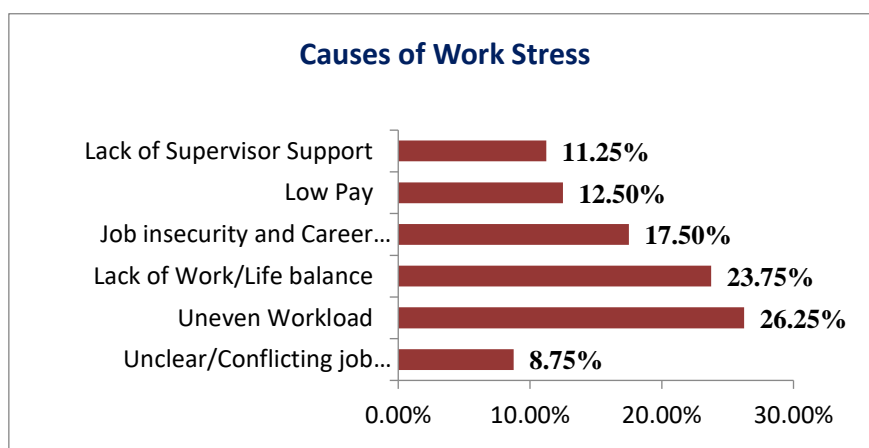


Table 2: Leading Causes of Work Stress

Particulars	No. of Respondents	Percentage
Unclear/conflicting job expectations	7	8.75%
Uneven workload	21	26.25%
Lack of work/life balance	19	23.75%
Job Insecurity, Inadequate Career development	14	17.5%
Low pay	10	12.5%
Lack of supervisor support	9	11.25%

Source: Field Survey (Primary Data)

Chart 1: Leading causes of work stress



Source: Author compilation

Interpretation: Chart 1 shows that most of the respondents were stressed due to the Uneven workload (26.25 percent) followed by a lack of balance between work and life.

TECHNIQUES TO TACKLE STRESS AT WORKPLACE

Managing stress is all about taking charge: taking charge of one's thoughts, values, emotions, schedule, environment, and the way a person deals with his/her problems. Stress management's ultimate goal is a balanced life, with time for work, time for relationships, time for relaxation, and fun – plus the resilience or art to hold up under pressure and meet challenges head-on. (Jadoun, N,K., Kushwah A,S., Barodiya, P Dr. Holani U,(2012). However, stressors, if not escapable, are relatively manageable with the help of the following techniques:

EMPLOYEES/INDIVIDUAL ORIENTED STRATEGIES FOR COPING WITH STRESS

Many effective ways help an individual to combat stress and live a happy and healthy life. These techniques include:



- **Enter in physical activities:** Physical activities boost the mind and body and help regain the confidence lost due to stress.
- **Relaxation techniques:** Activities such as painting, dance, music, or any other artistic work/activity may help people to get more creative and relieves stress.
- **Time management:** allows efficient usage of precious time. Moreover, it helps individuals to organize his/her activities. Furthermore, time management helps to maintain a daily course of activities, and it reduces stress.
- **Say 'NO' to additional unimportant requests:** taking additional, unimportant, irrelevant requests which are not even necessary increases the workload and causes additional stress. So, try to avoid such situations.
- **Take adequate rest if you are ill:** Taking adequate rest helps people regain energy and improve mood.
- **Plan a Vacation with friends or family:** Going for a vacation and spending some time with nature and family/friends will help heal.
- **Avoid unnecessary stress:** Not all stress can be avoided, and it is not healthy to avoid a situation that needs to be addressed.
- **Alter the stressed situation:** If a person cannot avoid a stressful situation, he may try to alter it. Figure out what can do to change things, so the problem does not present itself in the future.
- **Adapt to the stressor:** If a person cannot change the stressor or the cause, change yourself. You can adapt or adjust according to stressful situations and regain your sense of control by changing your expectations and attitude.
- **Accept the things you cannot change:** Some sources of stress are unavoidable. We cannot prevent or change stressors such as the death of a loved one, a severe illness, or a national recession. Acceptance may be difficult, but it is easier or much better than railing against a situation you cannot change in the long run.
- **Healthy ways to relax and recharge:** Go for a walk; spend time in nature; call a good friend; sweat out tension with a good workout; write in your journal; take a long bath; light a scented candle; savor a warm cup of coffee or tea; play with a pet; work in your garden; get a massage; curl up with a good book; listen to music; watch a comedy.
- **Connect with others:** Spend time with positive people who enhance your life. A healthy support system will buffer you from the adverse effects of stress. Share your feelings.
- **Keep your sense of humor alive:** This includes the ability to laugh at yourself. The act of laughing helps your body fight stress in several ways.
- **Exercise regularly:** Physical activity plays a crucial role in reducing and preventing the chances and effects of stress. Make time for at least 30 minutes of exercise daily. Nothing beats aerobic exercise for releasing pent-up stress and tension.



- **Eat a healthy diet:** Well-nourished bodies are better prepared to cope with stress, so be mindful of what you eat. Start a day right with breakfast filled with all the essential nutrients, to keep your body active and energetic, and your mind clear with balanced, nutritious meals throughout the day.
- **Avoid alcohol, cigarettes, and drugs:** Self-medicating with alcohol or drugs may provide an easy escape from stress, but the relief is only temporary. Do not avoid or mask the issue at hand; deal with problems head-on and with a clear mind.
- **Yoga & meditation:** These help in overcoming stress. Thus, make time for Yoga and meditation.
- **Get enough sleep:** Sleep provides proper rest to the body and helps combat stress.

ORGANIZATIONAL ORIENTED STRATEGIES FOR COPING WITH STRESS

- **Flexible time:** Allowing workers to start or end the workday earlier or later can reduce work/life stress, especially for working parents. Flextime can also reduce the stress of commuting in rush hour traffic.
- **Job sharing:** It allows at least two people trained to perform each job, enabling each employee to time off without losing productivity.
- **Work from home:** Working from home can result in higher morale and job satisfaction and lower employee stress and turnover. The prime reason for this is that working at home provides employees more control over how they do their work. Working at home also helps workers better manage work/family demands.
- **Longer lunch hours:** Extending the lunch hour may help discourage snacking and fast food. Adequate time may also encourage time for calming or other stress-reduction activities such as walking.
- **Healthcare advocacy:** Offering an expert who can personally address healthcare issues, such as resolving medical bills and interacting with insurance and providers, can help employees reduce worry and stay focused on their job.
- **EAPs (Employee Assistance Programs):** EAPs are typically offered by the HR department as part of the employer's health insurance plan to assess and address personal issues that affect employee performance and productivity. Issues can range from substance abuse to family problems, and EAPs often include counseling benefits. EAPs for substance abuse can reduce workers' compensation claims, employer healthcare costs, and absenteeism.
- **Stress management programs:** Conducting stress management programs at the organizational level to create awareness about stress and make employees learn stress management techniques.
- **Physical activities planned in job design:** The body can release stress better through physical exertion. As physicians suggest, indulging in any physical activity is recommended during job design.



- **Teaching Employees to do Work-Life balance:** Required training needs to be given to employees to maintain the work-life balance.
- **Use of Technology:** Organizations should use the available technology and provide specialized training courses on any topic required for work advancement.
- **Communication:** Organizations should encourage communication and always asks for feedback, where the HR manager should always be directly accessible to any employee to listen. The organization always tries to follow up with all corporate and business news and new studies published regarding work stress, how to spot it, and solve it.
- **Security Fears:** Organizations should make employees and people feel safe by applying laws for security checks, checking identities of visitors to the firm, and not allowing unauthorized people to enter.
- **Inclusion of Retirement Plan:** Applying the Social Security system and pension funds is excellent insurance and relief for employees not to worry about their retirement anymore.
- **Workplace Diversity:** The firms should hire all kinds of experiences from all ages, genders, and all levels of educations.

CONCLUSION

In a globalized world characterized by intense competition, one cannot ignore the impacts of work-related stress on the employees and the productive organizational capacity. Work stress is a real challenge for workers and their employing organizations. A culture of stress can soon develop with many damaging consequences for the organization, such as physical problems, mental disturbances, emotional imbalance, lifestyle disturbances, and other behavioral problems that lead to a disturbing organization's climate. These issues create interpersonal conflicts, decreased productivity, low organizational commitment, increased absenteeism, and more attrition. Therefore, due consideration must be given to stress management to promote a healthy workforce, culminating in a healthy and prosperous nation. After all, human resources are the main assets of every organization.

Therefore, Stress management is the need of the era. By facilitating the employees with adequate training, the management can provide them with a platform to solve their stress-related problems. Yoga, meditation, exercise, and recreational activities can provide a better environment to control stress. These simple but useful techniques can pave the way for improved employees' efficiency and increased productivity of the organization. It will help individuals balance their work/life efficiently.



REFERENCES

1. Arnold, H.J. (1960). Moderator Variable: A classification of conceptual, analytic and psychometric issues; *Organizational Behaviour and Human Performance*, 29, pp 143–174.
2. Beehr, T.A. and Newman, S.E (1978). Job Stress, employee health and organizational effectiveness: Facet analysis, *Personnel Psychology*, winter, pp 665–669
3. Cartwright Susan, Cooper Cary L. (1997), *Managing workplace stress*, Thousand Oaks, Calif. : Sage Publications, c1997 185 p. 8. Katz, D., and Kahn, R. L. 1978. *The Social Psychology of Organizations*, 2e, New York: Wiley.
4. Davis, M., Robbins Eschelmann, E., McKay, M., (1995) “The Relaxation & Stress Reduction Workbook”. 4th ed. New Harbinger Publications. Oakland, CA.
5. Dr. K. Chandrasekar (2011), "Workplace environment and its impact on organisational performance in public sector organisations", *International Journal of Enterprise Computing and Business Systems*, Vol.1, Issue 1, January 2011
6. Greenberg, J.S. (1993). *Comprehensive Stress Management (4th Eds.)*. Dubuque, IA: William C. Brown Publishers.
7. International Labour Organization [ILO] (1992) “Preventing Stress at Work Conditions of Work Digest”, Vol. 11, International Labour Office, Geneva.
8. Jones F and Bright J, (2001) “Stress: Myth, Research and Theory”, Prentice Hall HSE, (2014), *Work Related Stress*.www.hse.gov.uk/stress.
9. Kavitha 2012, volume 3, issue 1, title – role of stress among women employees forming majority work force at IT sector in Chennai and Coimbatore, web: [https:// www.scribd.com](https://www.scribd.com)
10. Palmer S, Cooper C and Thomas K, (2001), “Model of organizational stress for use within an occupational health education/promotion or wellbeing programme – A short communication”, *Health Education Journal*, Vol. 60 No.4, pp.6.
11. Michailidis M and Georgiou Y (2005), Volume 24, *Journal Work*, Issue 2, title -employee occupational stress in banking, web: <https://pure.unic.ac.cy>.
12. Jadoun, N.K., Kushwah A.S., Barodiya, P Dr. Holani U,(2012) *Journal of Management Value & Ethics*.
13. Sahoo,S.R. (2016), *Management of Stress at Workplace*. *Global Journal Of Management And Business Research: A Administration And Management*, vol.16 issue 6
14. Selys, H., (1936), Quoted by Pestonjee, DM (1999), *Stress and Coping: the Indian Experience*, Sage Publication, 2nd Edition, p 15
15. Ministry Of Labour, Industrial Relations, Employment And Training, *Work-Related Stress Guidelines*, 2016
16. www.stressmanagementreview.com
17. www.stress.org



THE ROLE OF FARMERS PRODUCERS ORGANIZATIONS IN LINKING FARMERS TO AGRI-COMMODITY MARKETS

DR. SAFEER PASHA M

Department of Commerce, St. Claret College
Jalahalli, Bengaluru, Karnataka, INDIA
ORCID: 0000-0002-0596-1076

ABSTRACT

Reaching the market for selling their agricultural commodities is of high risky venture for the farming community. A key reason for this is that they are all small farm holders who do not have their commodities' bargaining capacity in India. Apart from fighting with the risks related to climatic changes, the small farmers also face selling their Agri commodities. Suppose the farmers in India can use the service of FPOs in selling their commodities both in the spot market and the futures market. In that case, it can give at least one more option of selling their produce in a different market condition, and they can overcome the demerits of selling in traditional markets such as Mandis and APMCs.

KEYWORDS: FPOs, Collective bargaining, Agri risk, Commodity markets

JEL CLASSIFICATION: Q10, Q18, Q02

CITE THIS ARTICLE: *Pasha, Safeer M. (2020, September). The Role of Farmers Producers Organizations in linking Farmers to Agri-Commodity Markets. In Perspectives on Business Management & Economics (Vol. II, pp. 138-145). Retrieved from <http://www.pbme.in/papers/59.pdf>*

ARTICLE HISTORY: Received: July 20, 2020; Accepted: September 22, 2020;
Published: September 30, 2020



INTRODUCTION

Linking farmers to the commodity exchanges/market is not easy. The farmers are scattered in a vast geographical area, and their products usually do not meet the minimum lot to be traded in commodity exchanges as their landholdings are small. Moreover, farmers do not believe third-parties to sell their commodities. The panacea for this problem is the farmers they can create an organization on a cooperative basis. Such organizations are called Farmers Producers organizations/companies. These FPOs can work efficiently if managed systematically, just like what Amul did in Gujarat.

One more reason behind the creation of Farmers Producers Organisations is to enable the farming community to trade in the futures market. As India is countries with most of the farmers are either small or marginal, and they do not have the required output or agricultural produce to meet the minimum quantity to be traded in an exchange (Minimum contract size is 10 tonnes or 100 quintals)

Table 1: All India Production Estimates for Foodgrains (million tonnes)

Crop	Season	2014-15	2015-16	2016-17	2017-18	2018-19	CAGR
Rice	Both	105.5	104.4	109.7	112.8	116.4	1.99%
Wheat	Rabi	86.5	92.3	98.5	99.9	100.5	3.05%
Maize	Both	24.2	22.6	25.9	28.8	27.2	2.36%
Barley	Rabi	1.6	1.4	1.8	1.8	2.1	5.59%
Coarse Cereals	Both	42.9	38.5	43.8	47.0	43.0	0.05%
Cereals	Both	234.9	235.2	252.0	259.6	261.6	2.18%
Tur (Arhar)	Kharif	2.8	2.6	4.9	4.3	3.6	5.15%
Gram	Rabi	7.3	7.1	9.4	11.4	11.6	9.71%
Pulses	Both	17.2	16.3	23.1	25.4	23.4	6.35%
Food grains	Both	252.0	251.5	275.1	285.0	285.0	2.49

Source: Ministry of Agriculture, GoI

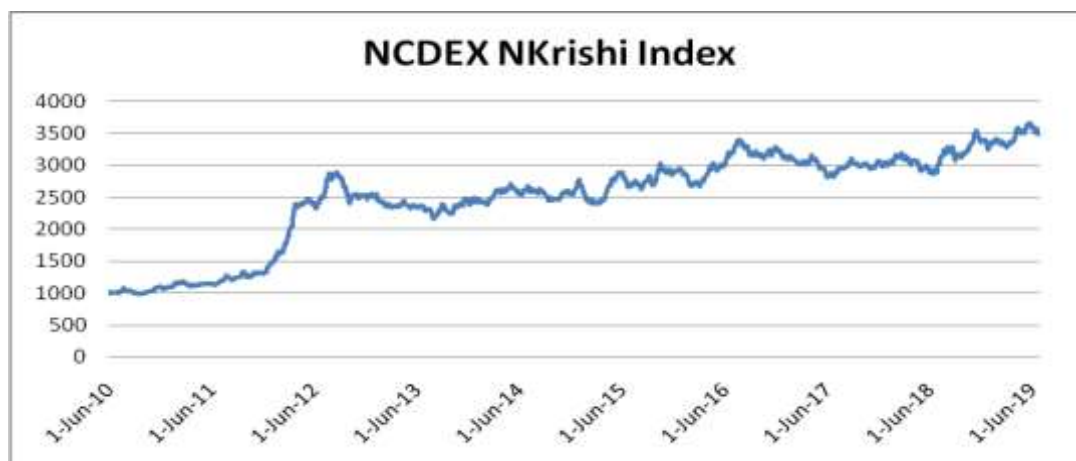
Most of the agriculture commodities in India have seen an increasing trend from the year 2014-15 to 2018-19. Out of this, Wheat, Grams, Pulses, and Cereals can be traded in both spot and futures markets. NCDEX has created the platform for the futures trading of agricultural commodities. The following table depicts the number of FPOs and farmers and the quantity and worth of Agri commodities traded. The increasing trend in the production and output of agricultural produce is a threat to the farming community. As they do not have the sophisticated and modern storage facility or warehouses they were forced to sell their commodity at lower prices in the open market or at Mandis.



The question here is why the farmers should go to the Futures market to sell their produce. These flowing observations can through light on the benefits farmers derive by participating in the futures market;

- Price discovery- based on demand and supply of a particular commodity futures market will help farmers discover the scientific price of the agricultural commodity.
- Real-time provision of price information to the farmers as well as the participants in the exchange.
- Price information or price signaling will enable a farmer to make the right decision on the cropping pattern.
- It also enhances the farmers' bargaining capacity as they will be aware of both spot and futures prices of their produce.
- Another reason farmers should use the futures market is that they will benefit from storing their produce in an exchange accredited warehouse and can sell in subsequent periods when they get a suitable price for the product, thus avoiding distress sale. Moreover, farmers can also use Warehouse receipts to borrow loans to meet their immediate financial requirements.

Chart 1: MCDEX MKrishi Index



Source: Author compilation. NKrishi is a value-weighted index, computed in real-time using the prices of the 10 most liquid commodity futures traded on the NCDEX platform.

MEANING OF FPOS

“Producer institution” means a Producer Company or any other institution having only producer or producers or Producer Company or Producer Companies as its member whether incorporated or not having any of the objects referred to in Section 581B and which agrees to make use of the services of the Producer Company or Producer Companies as provided in its articles.

The creation of hope and belief on farmers to join a producers company is challenging. Even though farmers tend to be unconvinced about the company, the promise of higher price realization through better bargaining power persuades them to sign on. FPCs help the farmers achieve the economies of bulk purchases and the assurance of quality in inputs such as fertilizer, seeds, and chemicals. Since modern agriculture must be run as a business, where



technology and good agronomic practices play a key role, they can jointly hire agronomists as well.

Organizing and grouping the farms to operate in the association as a large cluster is a concept behind forming farmer producer organizations' (FPOs). Small Farmers' Agri-business Consortium (SFAC) is the nodal agency at the national level to create FPOs.

The FPO can offer various services related to agriculture, especially to the members of the organization. FPOs can provide almost all the services to the members' right from input provision to market access. The FPO will help link the farmers, processors, traders, and retailers for harmonized supply and demand and get necessary business expansion services, including market information, the supply of inputs, and the provision of transport services. Depending on the ever-emerging requirements of the members, the FPOs can add new services to timely requirements. Some of the services that can be provided by FPOs are as follows.

Table 2: Number of FPOs registered and No. of Farmers Mobilised by SFAC

Year	No of FPOs Registered	No of Farmers Mobilised
2015-16	410	494513
2016-17	586	615638
2017-18	737	733658

Source: Annual Reports of SFAC

Table 2 clearly shows the increasing trend in the number of FPOs registered. The number of farmers mobilized through these FPOs with an Annual Compound Growth Rate of 21.59% for the number of FPOs and 14.05% for the number of farmers mobilized by late SFAC has been successful in creating the awareness among the farmers in collective work rather than an individual.

SERVICES PROVIDED BY FPO

Services related to Finance - The FPO will supply loans for crops, purchase equipment such as tractors, pump sets, help build wells, and lay pipelines.

Services related to Inputs - The FPO will supply less cost and high-quality inputs to the organization members. The FPOs can supply fertilizers, pesticides, seeds, sprayers, water motor pump sets, accessories, and pipelines to their members. Services related to Procurement and packaging - The FPO can also provide the storage facility to members by procuring their produce during the harvesting season apart from some value additions such as packaging. Services related to Market - The FPO will sell the commodities procured from the farmers directly by saving the time, transaction costs, weight losses, distress sales, price fluctuations, transportation, and quality maintenance.

Services related to Insurance - The FPO can provide different insurance services, such as crop insurance, electric motor insurance, and life and health insurance to the farmers and their



family members. Services related to Networking – provision of information about the product specifications, market prices, and other business services accessible to rural producers; aid linkages with financial institutions, facilitate linkages with government programs and build linkages of producers and processors traders and consumers.

Farmer organizations can play an essential role in contributing to poverty reduction and improved livelihood security.

Table 3: State-wise Number of FPOs promoted by SFAC (As of 29/02/2020)

Sl. No.	State	No. of Farmers			No. of FPOs		
		Mobilized	Under Mobilization	Total	Registered	Under process	Total
1	Andhra Pradesh	8715	4825	13000	8	8	16
2	Arunachal Pradesh	2050	2700	4750	2	4	6
3	Bihar	9331	1169		12	6	18
4	Chhattisgarh	29616	0	29000	26	2	28
5	Delhi	3535	0	3500	4	0	4
6	Goa	1810	0	1750	2	0	2
7	Gujarat	20875	3125	24000	21	4	25
8	Haryana	14049	0	12750	23	0	23
9	Himachal Pradesh	6528	322	6850	7	1	8
10	Jammu	3694	287	3981	1	0	1
11	Srinagar	3120	960	4080	1	0	1
12	Jharkhand	12009	0	12000	10	0	10
13	Karnataka	122907	5593	128500	120	6	126
14	Madhya Pradesh	138118	11882	150000	144	5	149
15	Maharashtra	100845	3655	104500	100	5	105
16	Manipur	5671	1279	6950	7	1	8
17	Meghalaya	2990	760	3750	3	1	4
18	Mizoram	1700	1000	2700	1	1	2
19	Nagaland	1750	2000	3750	2	2	4



20	Odisha	38622	0	38900	41	0	41
21	Punjab	6288	0	6000	7	0	7
22	Rajasthan	58670	1830	60500	50	0	50
23	Sikkim	16279	0	15750	30	0	30
24	Tamil Nadu	14657	2343	13000	13	4	17
25	Telangana	29225	773	29998	21	5	26
26	Tripura	2874	0	2750	4	3	7
27	Uttarakhand	6004	0	6000	7	0	7
28	Uttar Pradesh	55936	0	56000	55	3	58
29	West Bengal	91865	0	90500	86	3	89
Total		846039	43963	884709	843	67	910

Source: Annual Reports of SFAC

There are a total of 843 registered FPOs are working in India with a total No. of 846039 mobilized farmers. The state of Madhya Pradesh has the highest number (144) of FPO, followed by Karnataka (120) and Maharashtra (100). Most of the Farmers Producers Companies were formed under the National Vegetable Cluster and National Accelerated Pulses Production Programme of India's Government under which SFAC as a nodal agency will provide two-year management subsidy to NGOs for forming FPCs. According to the agricultural census of 2011, more than 92.8 million landholdings are less than 1 hectares, and more than 24.8 million farmers are having landholding of fewer than 2 hectares. Both these categories of farmers constitute more 85 percent of the total farm holding in India.

The benefit of futures markets for farmers is that they can easily hedge their futures market positions and ensure the risk of price fluctuation in physical markets. However, as the farmers have small and marginal land holding, they cannot directly participate in hedging because they have to meet minimum quantity requirements. The panacea for this problem is the FPOs.

Agriculture is diversifying towards high-value food commodities, and the food marketing system is moving towards vertical coordination. These imply a greater need for strong linkages between production and markets. Linking smallholders of all sizes to ordered procurement markets is an upward prospect that can be a rewarding alternative for many farmers located in areas with operating procurement markets.



Table 4: FPOs trading with NCDEX

Particulars	1/4/2016	1/4/2017	1/4/18
FPOs traded	1	30	69
Farmer base of FPOs traded	25	875	5878
Commodities traded	1	10	16
Quantity traded (MT)	60	11492	24185
Traded Turnover (Rs in crores)	0.24	20.91	54.50

Source: NCDEX

Most small farm holder farmers are looking for ways to enhance their farms' efficiency and improve their performance in the market. Modernization of the extension and improvement of the link to the market can play an important role in improving the farming community's livelihoods. Helping farmers enhance their access to the commodity market, and performance will need building business relationships in all types of markets. Though formal markets offer the best returns, they are best suited to smallholders with at least 2 hectares of land and reasonable proximity to the markets. To help farmers with less land and poor proximity to urban markets, it may be best to strengthen their links to informal markets.

CONCLUSION

FPOs can be utilized for the benefits of the mobilization of small farmers so that the farmers can develop the capacity to leverage their strength in production and the marketing of their commodities. Apart from linking farmers to the market, the FPOs can also work as a catalyst to provide Agri input facilities such as fertilizers, seeds, agricultural implements, technical assistance, weather-related information, collective bargaining, amongst others.



REFERENCES

1. Jon Hellin, Mark Lundy & Madelon Meijer (2007) Farmer Organization, Collective Action and Market Access in Meso-America, CAPRI Working Paper No. 67, October 2007
2. Pratap S. BIRTHAL, Awadhesh K. Jha and Harvinder Singh (2007) Linking Farmers to Markets for High-Value Agricultural Commodities, Agricultural Economics Research Review Vol. 20 (Conference Issue) 2007 pp 425-439
3. Shaun Ferris, Peter Robbins, Rupert Best, Don Seville, Abbi Buxton, Jefferson Shriver, and Emily Wei (2014), Linking Smallholder Farmers to Markets and the Implications for Extension and Advisory Services, MEAS Discussion Paper 4, May 2014
4. Tushaar Shah, (2016), Farmer Producer Companies Fermenting New Wine for New Bottles, Economic and Political Weekly, Vol.51, Issue No.8, Feb 2016

WEBSITES

1. <http://www.accessdev.org/downloads/Financing-Farmer-Producer-Organizations-FPOs.pdf>
2. http://www.mca.gov.in/Ministry/pdf/Producer_Company.pdf
3. <http://www.firstpost.com/business/agricultures-big-hope-farmer-producer-companies-learn-to-tame-middlemen-2417802.html>
4. https://www.ncdex.com/Downloads/NCDEXImpact/PDF/NCDEX_Doubling_Farmers_income_June_2017.pdf
5. <http://theindianiris.com/farmer-producer-organisation-fpo-policy/>
6. <http://www.thehansindia.com/posts/index/category/2016-07-28/Farmer-Producer-Organisations/245123>
7. http://www.cardindia.net/current_fpo.php

REPORTS

1. Report of the Committee on Doubling Farmers' Income, *Volume IV*, Document prepared by the Committee on Doubling Farmers' Income, Department of Agriculture, Cooperation and Farmers' Welfare, Ministry of Agriculture & Farmers' Welfare.
2. Annual reports of SFAC



REAL-TIME GOVERNANCE SYSTEM IN FARMING: A CROSS-COUNTRY COMPARISON

SREEYA NARRA

IB Student, Oakridge International School
Hyderabad, Andhra Pradesh, India
ORCID: 0000-0002-3798-802X

ABSTRACT

Governments globally are increasingly using analytical reports and dashboards to make vital agricultural data available before Government officials and farmers to take crop-related decisions. The Real-Time Governance System (RTGS) of the Government of Andhra Pradesh is one such implementation where inputs collected from different sources (including from the Union Government) are encapsulated into an easy-to-use interface for quicker and easier agriculture management in the state.

This descriptive research paper uses the non-participant observation method intending to understand the various features of the RTGS and core dashboard used in farming information dissemination to multiple stakeholders, including Government officials, farmers, agri-markets, financial intermediaries and various other stakeholders. Multiple farming variables are identified, and portals features are reviewed. These agri-variables are then compared with the US farming practices where ever possible. These insights can help policymakers in framing better regulations. The study finds that the RTGS information brings in useful information to the hands of the stakeholders for faster decision making. This study indicates that loan waiver programs are unique to India, while crop insurance and new farmer funds are on an advanced level in countries like the USA. Overall, RTGS is contributing a lot to farmers.

KEYWORDS: agriculture dashboard, farm analytics, crop insurance, Indian agriculture, farm loan waiver, US agriculture

JEL CLASSIFICATION: P32, Q12, Q13, Q18

CITE THIS ARTICLE: *Sreeya, Narra. (2020, September). Real-Time Governance System in Farming: A Cross-Country Comparison. In Perspectives on Business Management & Economics (Vol. II, pp. 146-162). Retrieved from <http://www.pbme.in/papers/92.pdf>*

ARTICLE HISTORY: Received: September 1, 2020; Accepted: September 22, 2020; Published: September 30, 2020



INTRODUCTION

Highly populous and consumption-driven India has a high reliance on Agriculture. The South Indian state of Andhra Pradesh (AP), with its reasonably decent water availability from the Godavari and Krishna rivers and adequate seasonal rainfall, makes it an agriculture-driven state. With a population of around 55 million people living in about 2000 villages, agriculture is the predominant occupation in the village communities. Multiple crops and crop rotation are prevalent, particularly in the water abundant coastal belt — commercial crops such as paddy, cotton, and *mirchi* are commonly grown in the region. Governments provide a vital information link for the farmers to get good crop yields and thereby sold at profitable prices.

Governments are now more open to sharing agri-information to their stakeholders. Further, agriculture intelligence has emerged as a new technology enabler for the farmer. (Ghadiyali, Lad, & Patel, 2011) The Real-Time Governance System (RTGS) of the Government of Andhra Pradesh brings in critical functions aligning then with different Government Departments. The core dashboards built for the Chief Minister's Office are now opened for the public view and their understanding and benefit it. (CM Office, 2019) This information availability is a great move and can help Government officers, the common public, and the research community. The system improves public services by reaching out to the farmer community and provides better governance.

COMPARISON WITH THE US FARMER

Several researchers in the past compared various dimensions of Indian agriculture with other countries. The data presented below give a cursory glimpse comparing a typical US and Indian farmer.

The average USA farmland is 178 hectares, while it is merely 1.06 hectares in India. The Indian hectareage levels have come down from 2.63 hectares, as seen in 1960-61. Also, only a 2 percent US population is into agriculture while in India, it is close to 60 percent. The US had 922 million acres under cultivation, while India has 349 million acres in active farming. India's export of agriculture products is to the tune of US\$ 46 billion, while that of the US is at US\$ 175 billion! Due to the average per person farm size is 2 acres, mechanization is also weak. Whereas in the USA, the average per person farm size is 400 acres, and hence the need to invest more towards rich farm mechanization.

I. LITERARY REVIEW

A. THEORY

Several studies dealt with the topic of the use of ICT in e-agriculture. (Yuvaraj, 2019). Increased use of Information technology in agriculture is visible over the years. (Kapur, 2018) A higher degree of focus is to enhance the productivity of farmers and farm output. The advantage of the right kind of information was proven to be very useful over the years. Several studies dealt with the cross-country comparison of Indian agriculture with other countries in various aspects. (Ali, Geng, Robins, Cooper, & Roberts, 2019)



B. LITERATURE GAP

While substantial research work and literature on the Indian agriculture sector is available, this study fills the research gap on the analytical reporting and dashboards usage in Andhra Pradesh.

II. RESEARCH METHODOLOGY

Agriculture needs support and information flow from multiple disciplines, particularly from Governmental entities, and this should be passed on to farmers through the right channels. (Patel, 2016) The current paper tries to identify various areas and parameters to analyze the availability of that information from multiple Governmental channels. Simultaneously, this paper attempted to keep information from other countries into the same section to give an overview of those. Major infrastructure to help agriculture need to be coordinated by Government like power, water (apart from rain-fed), seed supply, fertilizers, pesticides, and, most importantly, creating a marketing environment to handle the outcome. Hence, the Government needs to handle this Governance smoothly, and most importantly, this info needs to be shared through respective bodies and simultaneously keep this information visible to all stakeholders and farmers. (Dasgupta, 2011/18)

A. RESEARCH OBJECTIVES

1. To study various forms of data available for Andhra Pradesh Farmers on Real-Time Governance System and other agriculture department websites.
2. To compare various farming options in India against countries like the USA and Brazil.
3. To identify potential gaps in Information systems available that can potentially benefit the Indian farmers.

B. RESEARCH METHOD

This study uses a qualitative descriptive research approach using the non-participant, indirect, and uncontrolled observation method to study the prevailing situation and to get a better understanding of the subject.

C. VARIABLES STUDIED

The table below is a summary of the various dimensions considered in the research in the context of agriculture in Andhra Pradesh. The practices used in India are then compared to that of the US whenever possible.



Table I: Various agri-variables studied

Land & Water	Seeds & Fertilizers	Power supply
<ol style="list-style-type: none"> 1. Land Availability & Land Leasing mechanisms 2. Soil Tests / Soil Health & Compatibility Info 3. Land Conservation Programs 4. Water availability & Rain Forecast info 5. Ground Water availability 6. Weather Forecast 	<ol style="list-style-type: none"> 1. Seeds availability 2. Seeds Distribution Mechanisms 3. Fertilizers/Chemicals info 	<ol style="list-style-type: none"> 1. Power availability 2. Power Subsidy 3. Low Voltage Transformers
Crop Management	Equipment	Marketing
<ol style="list-style-type: none"> 1. Crop care info 2. Crop Advisory (Dial for Farm help) 3. New Trends in Farming / Latest technologies 	<ol style="list-style-type: none"> 1. Farm Equipment (Tractors, Harvesting Machines) 2. Machines on subsidy 	<ol style="list-style-type: none"> 1. Minimum Support Prices 2. Subsidies - Fertilizers, Power 3. Marketing Support
Financial	Storage & Standardization	Risk Management
<ol style="list-style-type: none"> 1. Farm Loans / Bank Loans 2. Funding Options for New Farmers 3. Loan Waivers 4. Grants / Subsidies 5. Crop Insurance 	<ol style="list-style-type: none"> 1. Storage Mechanisms like cold storages 2. Standards & Certifications 	<ol style="list-style-type: none"> 1. Risk Management 2. Emergency Management 3. Disaster Management

III. DISCUSSION

A. LAND & WATER

1. LAND AVAILABILITY & LEASING MECHANISMS

Andhra Pradesh enjoys reasonably fertile land with good water supply compared to other Indian states. (Pathak, 2010) However, there are thousands of hectares of land suffering without proper water supply. Most of those lands need to depend on seasonal rains, and it affects production to some extent. In the areas where water availability is good, leasing rates seem to be slightly higher. Lands are available for farmers to do Farming.

Farm availability for leasing data is not available on any government websites, and some private sites carry this information. Usually, at the village level, this information needs to be procured manually. Even in other countries, this information is available on private websites



only. However, for entrepreneurs planning for agriculture, the US Agriculture department seems to be extending support in this area.

AP Government allows Lease deeds registration provision, and the rate of this registered lease deeds is very less in case of farmland leasing.

2. SOIL TESTS / SOIL HEALTH & SOIL COMPATIBILITY INFO

Soil health plays a vital role in identifying the suitability of land for different types of crops. (Magdoff, 2001) Soil samples after testing can provide info like available nutrients, pH, and organic matter details. It is also possible to find if the soil has more salt content or sodium contents. Soil health can be evaluated based on chemical health and potential imbalances. If this data is within suitable ranges, the land will be ideal for crops and also helps in deciding the required nutrients, especially phosphorus and potassium.

India has 4000 soil testing centers, with 980 of them located in Andhra Pradesh, as per farmer.gov.in. A detailed list of soil centers along with address details is openly available for farmers to access. Several Governmental websites provide soil compatibility information with pattern matching information between various land types and suitable crops, at both District and Mandal-level. (Dept of Agr, Cooperation & Farmers Welfare, 2019)

3. LAND CONSERVATION PROGRAMS

The U.S. Dept. of Agriculture (U.S. Department of Agriculture, 2019) spends more than 5\$ billion per year towards farm conservation. These funds are used towards the improvement of lands and bringing new areas into cultivation, which helps to increase cultivation.

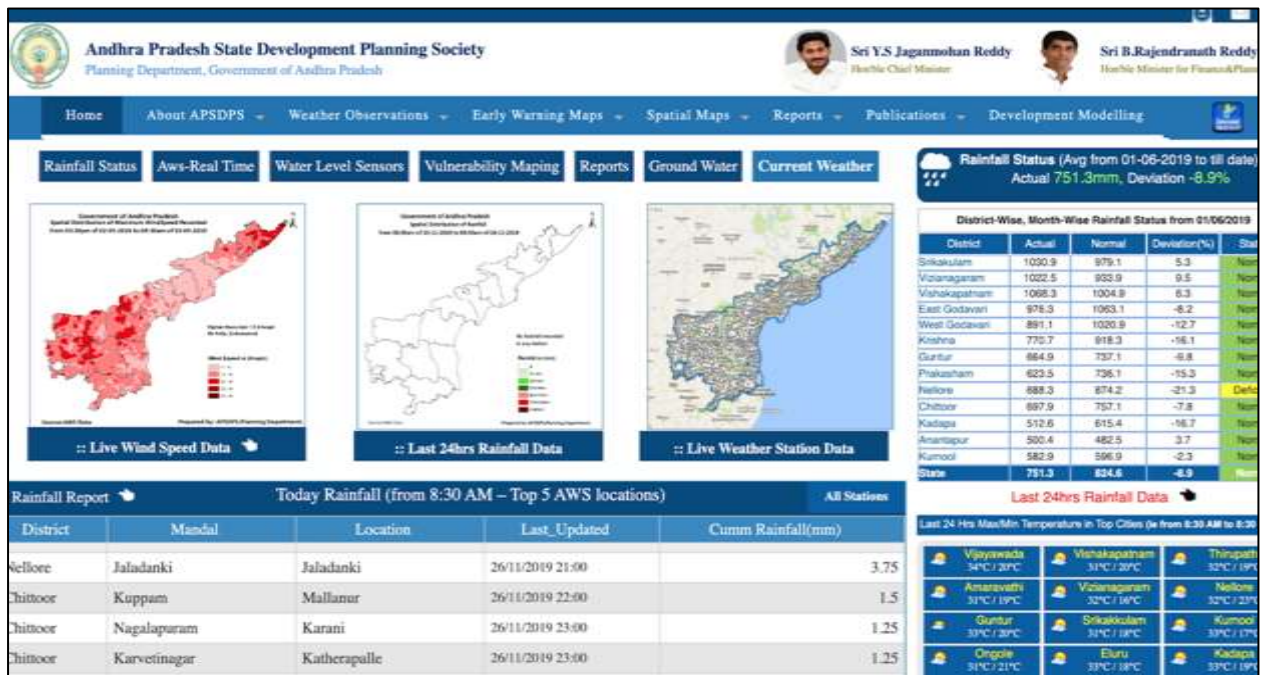
In India, the Department of Land Resources, which works under the Ministry of Rural Development, funds the conservation programs. The Government of India supports 91.66 percent of the grant, and the rest comes from the respective state government. Integrated Wasteland Development Program (IWDP) is active in some states, including Andhra Pradesh, and is giving useful results in few districts.

4. WATER AVAILABILITY & RAIN DATA

Water-rich Andhra Pradesh gets stable river water from the Godavari and Krishna rivers. River-water integrations project is on the way, which will further boost irrigation water availability of the state. The coastal areas will have more streams compared to other regions that have limited water availability. RTGS and AP State Development Planning portals capture water level information based on river capacities and their current status and offer live and comprehensive data providing water availability District-wise and even at Mandal-level points.



Figure 1: Real-Time Governance through dashboards



Source: Planning Department, AP Government (APSDPS, 2019)

Water and rains in Indian are usually at standard levels. India seems to have sufficient analytical tools to assess the water data, though, water channelizing is still in the process, as water wastage into oceans is happening.

5. GROUND WATER AVAILABILITY

The Governments assess groundwater availability and disseminated to farmers. Andhra Pradesh groundwater levels were at an average of 11.24 meters below ground level in November 2019.

Figure 2: Groundwater levels – District-wise Month wise in AP (Meters below ground level)

S.No.	District	Nov-18 27/11/2019 11:00 HRS				Nov-19 27/11/2019 11:00 HRS				Rainfall (in mm) 01/06/2019 to till date			
		Nov-18	Nov-18	Nov-18	Nov-18	Nov-19	Nov-19	Nov-19	Nov-19	Actual	Normal	Deviation %	
1	SRIKAKULAM	5.46	6.87	3.59	2.44	3.05	1.90	3.25	8.00	-1.11	1030.90	979.10	6.33
2	VIZIANAGARAM	6.36	8.28	4.91	3.29	3.88	2.48	4.43	1.23	-0.79	1022.50	933.90	9.50
3	VISHAKHAPATNAM	9.00	10.24	6.48	5.29	6.81	3.19	4.43	8.84	-0.52	1068.30	1004.80	6.33
4	EAST GODAVARI	9.87	10.44	7.18	6.31	6.63	2.44	3.51	0.23	-0.62	976.30	1063.10	-8.20
5	WEST GODAVARI	17.14	21.07	18.07	16.44	17.21	-0.17	3.71	0.76	-0.87	891.10	1020.80	-12.70
6	KRISHNA	10.40	12.01	8.14	8.28	8.05	1.50	3.10	0.19	-0.67	770.70	918.40	-16.10
7	GUNTUR	6.07	11.97	7.18	5.78	6.14	2.80	5.23	1.91	-0.38	664.90	737.40	-9.80
8	PRAKASAM	10.60	15.79	17.89	14.31	14.39	6.20	6.40	3.51	-0.06	623.50	736.40	-15.30
9	NELLORE	10.03	13.08	12.31	9.81	8.09	1.58	3.80	3.25	0.81	588.30	674.20	-21.40
10	COASTAL ANDHRA REGION	10.00	12.83	9.93	7.84	8.45	2.40	4.38	1.18	-0.47	809.80	918.00	-6.33
11	CHITTOOR	11.03	18.35	20.80	23.94	23.81	-2.58	6.74	2.89	0.27	567.90	757.10	-24.80
12	KADAPA	11.80	17.97	25.94	20.83	20.79	5.04	7.21	6.18	0.04	512.60	615.40	-16.80
13	ANANTHAPUR	21.81	25.98	24.32	18.44	19.75	1.76	6.21	8.17	-0.31	500.40	482.50	3.70
14	KURNOOL	9.88	12.74	8.28	6.74	7.20	2.72	5.54	2.09	-0.46	582.90	596.90	-2.40
15	RAYALASEEMA REGION	16.67	20.75	21.69	17.74	17.83	0.74	6.80	3.46	-0.09	673.60	613.60	-6.50
16	ANDHRA PRADESH	12.26	16.19	13.34	10.84	11.24	1.90	4.66	2.89	-0.36	751.30	824.60	-8.90

Source: AP RTGS



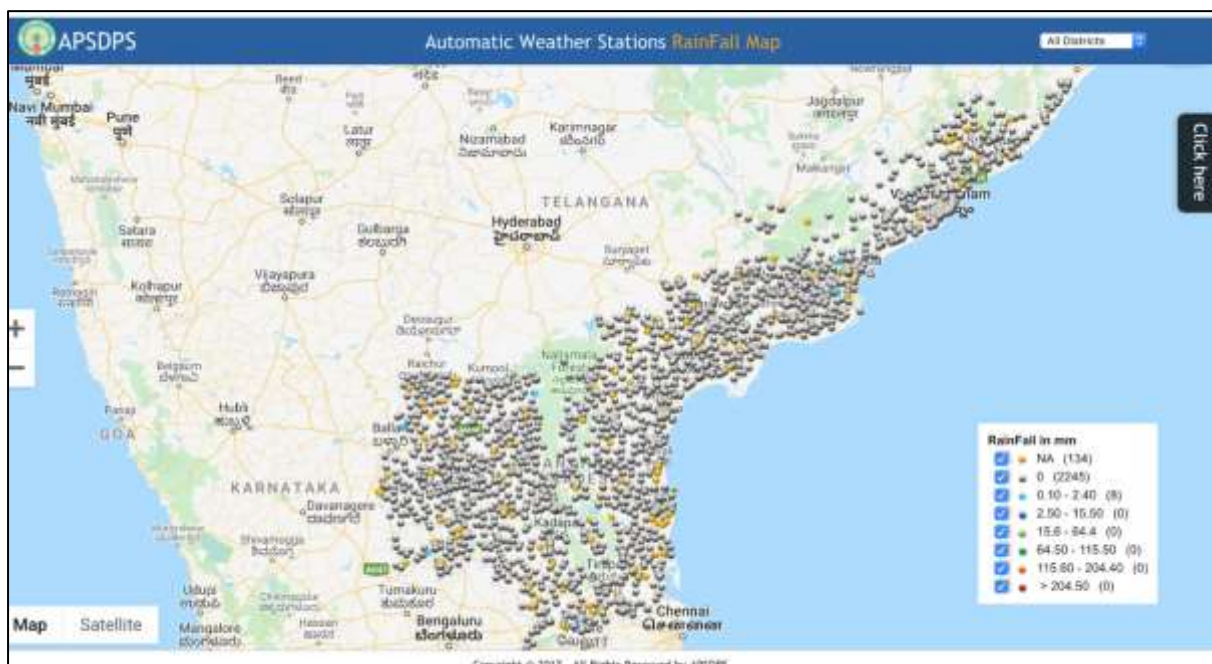
6. WEATHER FORECAST

Weather forecasting, for a climate-sensitive country like India, is a critical function to be carried out by the Government as it shares essential data to farmers to plan and to take sufficient care for their crops. (Kumara & Parikh, 2001) This weather forecasts on the data collected from various points, and it shares current atmosphere details along with rain forecast.

Andhra Pradesh Government entered into a collaboration with the Indian Space Research Organisation (ISRO) to provide comprehensive meteorological services like weather forecasting, extreme conditions data. (ISRO, 2017) RTGS-AWARE advanced modeling used this data for weather forecasting. All kinds of severe weather events information and its forecast, along with advisories and communication, are sent immediately by RTGS. Subsequently, this data shared with Mandal and village level administrations, farmers, and media.

Serious advancements made in the areas of meteorology and weather forecasting globally, as well as in India, are helping the farmers (Aggarwal & Chowdhary, 2018). Weather forecast data provided by AP Government appears to be resourceful, adequate, and practically relevant.

Figure 3: Spatial weather map with automatic data capture from weather stations



Source: APSDPS



B. SEEDS & DISTRIBUTION DATA

1. SEEDS & FERTILIZERS

Quality Seeds are a critical component of agriculture Farming. To organize quality seeds, certified and quality assessment agencies have been made available to farmers. This initiative is helping farmers to increase their productivity by using quality seeds. To enhance the cultivated area, seeds availability in adequate quantity and quality is an essential support for farmers.

2. SEEDS DISTRIBUTION MECHANISMS

Quality seeds are necessary for farmers to get decent produce, and unfortunately, this is scarce in India. Seeds distribution and distributor channel data are essential for farmers to reach out to those places and get quality seeds. (Suresh & Robert, 2002) The Andhra Pradesh Government's e-seed portal provides distributor details and their seed availability across the state. (Aadhaar-enabled Seed Distribution Center, 2019) Apart from government-organized seed distributors, independent seed developers and distributors are active in the country.

3. FERTILIZERS AND PESTICIDES INFO

Indian farming products are often criticized for higher concentrations of harmful chemicals because of the increased inorganic fertilizer practices (largely chemicals-driven nitrogen, phosphorus, and potassium), as against to organic fertilizers (such as cow dung, leaves, and parts of plants, inorganic fertilizers). Farmers need to know the exact combination to be used based on soil and crop, failing which the excessive usage can damage soil health and the plant. Governments regulate harmful products and other products by evaluating them from time to time because some pesticides are highly poisonous and toxic.

Through apagrisnet.gov.in, the AP government is providing these support functions and data to farmers. It consists of e-seeds, e-Panta, and many other relevant data to help. Indian agri-produce contains higher-than-normal chemical content because of increased use of chemicals to grow plants while some countries prohibited these practices. The U.S. uses technology in farming by using GPS, GIS, and remote sensing technologies and satellites for agriculture at a far higher level than in India. The application of natural sources would significantly reduce chemical content.

C. POWER

1. POWER AVAILABILITY

Farm productivity and availability of unit power are linearly associated. (Surendra, R S, & S P, 2014) The solar-powered micro-irrigation system has come to the rescue of smallholders of drylands. (Kumar, Reddy, Adake, & Rao, 2015). Indian farmer now has a power supply from multiple sources.

The availability of nine hours of power is essential for farmers to use electrical equipment such as running water motors to handle water requirements and other farming equipment. Power Demand in Andhra Pradesh is around 168.0 MW per day, and the Government of AP addresses these needs to avoid any supply gap. For AP farmers, the Government has promised the availability of 9 hours of power per day to take care of Farming requirements.



2. POWER SUBSIDY

Not just power availability, but the cost of power for the Indian farmer is at a low price. Electricity is available at a subsidized rate of Rs. 1.5 per unit (USD 0.02). The Indian subsidized power rates are relatively small compared to most other countries across the globe.

3. LOW VOLTAGE TRANSFORMERS

Transformer supply and power distribution is an expensive process to help the Farming community. There are three types of transformers used for agriculture purposes, and those are Auto Transformers, High Voltage Transformers, and Power Supply Transformers. These will vary based on power consumption and demand in respective areas.

AP Government provides this data through the RTGS and other portals so that farmers can understand the availability of power and schedule their work accordingly. There are online features that monitor the status of street lights and transformers across the state.

D. CROP MANAGEMENT

1. CROP CARE INFORMATION

Crop care is an essential part of taking care of crops. As most of the farmers are not entirely aware of this function, the Government's e-Agriculture portal provides support is vital to share knowledge and information at the right times. (AP Agrisnet, 2019)

2. CROP ADVISORY SERVICES (DIAL FOR FARM HELP)

Kisan call centers are a major initiative taken up by the Indian Government by introducing a toll-free number 1800-180-1551 so that farmers can call any time from all kinds of communication networks. AP government has enhanced it by adding the same service in the regional language. These call centers work on all seven days of the week and are accessible to farmers. The local language is beneficial for farmers to take the necessary help.

3. NEW TRENDS IN FARMING/SMART FARMING

Smart farming uses the latest technologies and best agriculture practices together and connecting with information systems to get better outputs and to use raw materials to the best. Considered as the key to sustainable agriculture (Walter, Finger, Huber, & Buchmann, 2017), Smart farming has endless applications using farm technology. The boost in startup culture in India fostered the start of 545 agri-tech startups as of who act as farm technology enablers. (Tracxn, 2019)

New trends keep regularly evolving for any sector, and agriculture is also one of the areas where new patterns and processes keep changing. It could be new machinery or methods or about the way they plant or manage their crops. Precision agriculture technology is getting popular with high computing power tractors and automated machines, which can run even in AutoPilot mode. These can increase the yield and helps farmers to improve their efficiency. Precision application of water and fertilizers to match for the exact requirement will help in reducing costs and safeguarding plants.

Some of the latest trends in Farming:

- Autonomous and Robotic Labour



- Driverless Tractors (Auto Pilot)
- Automated Seeding and Planting
- Automatic Watering and Irrigation
- Weeding and Crop Maintenance
- Harvesting from Field, Tree, and Vine
- Reducing Labor, Increasing Yield and Efficiency
- Drones for Imaging, Planting, Crop Spraying, and Precision farming
- Real-Time Monitoring and Analysis
- The Connected Farm: Sensors and the IoT

New generation tractors are highly technical and can track every inch of land depending on soil type, required chemical application, and seed placements. Farm management software analyzes data and generates personalized recommendations. This precision agriculture approach is catching up in countries like the USA and Brazil (Agriculture Department of Brazil, 2019). Whereas in India, we are in a long way to look at these options. Due to less land per farmer, automation is not going up at a faster pace. In addition to that, costs to manage these new technologies and economic viability are also other reasons for not being used aggressively.

AP Government is trying to share this information on their portals. However, it requires more push compared to other countries.

E. EQUIPMENT

1. FARM EQUIPMENT (TRACTORS, HARVESTING MACHINES)

Various types of farm equipment are available for agriculture, such as cutters and shredders, harvesting equipment, planting equipment, sprayers and applications, tractors. AP Government is offering some subsidies for small tractors to be used within agriculture. Information about these subsidies and utilization data is made available on the RTGS portals.

However, the latest technology-based equipment needs to be encouraged by the Government and bring them to usage for better productivity.

F. MARKETING FARM PRODUCES

Reforms (such as a change in marketing patterns), policies (such as liberalization and globalization), and programs (such as a change in cropping patterns) in agricultural marketing over the years improved the agriculture marketing systems by protecting farmers from organized groups. (Bhat, 2009) Social networks and market access are amongst the top factors affecting farm productivity. (Tisorn, 2015). Development of agricultural marketing alongside improving marketing systems, strengthening of marketing infrastructure, improving investment and funding sources, and trying to involve the private sector is necessary. (Rahul & Sanica, 2014)

Andhra Pradesh is the first state to implement the electronic National Agriculture Market (eNAM, 2019) that allows farmers to sell their products through an online interface. Apart from



the direct online platform, the state has 22 Agricultural Produce & Livestock Market Committees (APMC) and 17 “*mandis*” doing online trading using the eNAM interface. AP has also declared the 22 warehouses running under Central Warehousing Corporation (CWC) to be official marketplaces. The farmer burden and costs in transporting the produce to the market yard will thereby come down. (Sambasiva Rao, 2019)

1. MINIMUM SUPPORT PRICES

A ten percent per annum growth in Minimum Support Prices (MSP) across crops was visible, though there are variations across crops and regions. (Rajiv, 2014) The MSP is a key influencer of the cropping patterns. The average Indian farmer receives only 15% of the price paid for his produce by the consumer, while the average US farmer gets 70 to 75%. Like in several other states, the AP Government is offering crops-based MSP every year, expressing its willingness to pay to farmers to safeguard their efforts and interests. This data, along with crop-wise minimum support prices were mentioned on portals so that farmers can plan accordingly.

2. MARKETING SUPPORT

Several organizations and institutions in India provide direct or indirect assistance in agricultural marketing. (Haveripeth, 2014) Apart from the state portals (such as APAgrieXchange), there are e-Choupal, mandi, yards, and online platforms through which various agencies provide agri-marketing support.

The APEDA's APAgrieXchange (APEDA, 2019) is offering excellent support for farmers producing flowers, fruits, vegetables, and cereals with an opportunity to provide export data. It gives provision for farmers/ traders to see data across countries and export and import data. It also offers to buy leads and sell leads to interested parties. It offers much-required market intelligence.

ITC introduced an e-Choupal model in support of the Government to handle various agricultural challenges. It includes supply chain management features to help farmers produce, finance, manage, and sell their produce.

G. FINANCIAL SUPPORT

1. FARM LOANS / BANK LOANS

Farm Loans is the primary source of funding for farmers in villages to handle their farming needs, to procure farming equipment, and for irrigation. (Agrawal, 1987) Agriculture funding has been declared as priority lending for banks (RBI, 2018) by the Indian Government and monitors the same. Farmers aggressively use farm loan credit because of the attractively lower interest at which it is offered compared to commercial loans and loans from local finance companies.

Some targeted funds are exclusively kept aside in the US to support native American tribes and youth agricultural projects through loans.

When the indebtedness goes beyond a threshold, it leads to distress and forces farmers to commit suicides. Suicide is a crime in India, and as such, is being investigated by state police while the National Crime Records Bureau (NCRB) compiles statistics. Recent research



suggests that farmer suicides have come down over the period 2001 to 2018. Andhra Pradesh has a farmer suicide rate of little over six suicides every 1,00,000 population. (Padmanabhan & Dantewadia, 2020)

2. FUNDING OPTIONS FOR NEW FARMERS

Funding options for new farmers, who start farming without owning any land does not have provision to avail funding in India. However, the US offers different types of funding options to encourage new generation farmers. FSA's "Beginning Farmer" initiative helps and guarantees loans for new farmers.

However, for existing farmers, a funding scheme called Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) was launched in 2009, which initially catered to small and marginal farmers but later also catered to large farmers. Farmers have to apply for the scheme with their Aadhar card. The responsibility of identification and verification of farmers is on the shoulders of the state governments. The Andhra Pradesh segment of the program is linked to the RTGS and thereby is amongst the top states which verified its farmer-beneficiaries. (PMKISANAP, 2020) The farmer payment success rate is high for Andhra Pradesh. When some states could not join the program for lack of farmer information systems or because of delays in identifying eligible beneficiaries, Andhra Pradesh being able to achieve this feat is commendable. (Tiwari R. , 2020)

3. LOAN WAIVERS

Farm loan waivers is a concept unique to India with almost no such implementation in any other developed/ developing country. The first nation-wide loan waiver was offered in 1990 by the Government of India, costing the exchequer around Rs. 10,000 crores. Several state governments subsequently came up with loan waiver plans, but unfortunately, they turned out to be stressing banks and carried negative economic implications. (Vijaya Kittu & Satya Prakash, 2019)

4. GRANTS / SUBSIDIES AND CROP INSURANCE

The central and state governments offer various agriculture and equipment subsidies, and grants (such as local grants) in India. (Kaur, 2013) In India, these subsidies reach close to eighty percent of farmers. The Input-based farmer support model is still in vogue, and bodies like the Confederation of Indian Industry (CII) are suggesting replacing the agri-subsidiary system with a direct cash transfer system in a phased manner. (Business Line, 2020)

USA's Federal Government also spends more than \$20 billion per year on farm subsidies. Around thirty-nine percent of 2.1 million farmers in the USA avail these subsidies. Though there is a conflicting argument about grants that do not help farmers to be innovative and effects GDP, these subsidies are still growing every year.

The US farmers choose to participate in either ARC or PLC apart from enrolling in the crop insurance program, which has the same general function of keeping farm incomes high. So, farmers can double dip from at least two subsidy programs should their crop revenues come up short.

Agriculture Risk Coverage (ARC): If per acre revenue is less than average per acre revenue of the country (a benchmark for these subsidies), this program pays a grant to the farmer. This



subsidy program is applicable for 20 different crops, such as wheat and corn. ARC subsidies were paid as much as \$3.7 billion in 2017.

Price Loss Coverage (PLC): The basis for this program is in a comparison between the National average price of a crop and crop's reference price fixed by the congress. A payout is made in the event the nation's price fall drops below reference price (usually set high). As much as US\$ 3.2 billion is paid towards this in 2017 alone.

The administration of crop insurance for the Indian farmers is through the PM Fasal Bima Yojana (PMFBY) program. Though already implemented, the scheme received some hiccups and is undergoing revision owing to both insurers and state governments opting out of it. Crop damage claims in Andhra Pradesh and few other states for the crop year 2018-19 are more than the premium that is collected, making the implementing private insurers back off. Andhra Pradesh and few other states existed from the program after asking for a change in the premium paying structure and making the crop insurance optional for loanee farmers. (Mishra, 2020) Having exited the program, Andhra Pradesh now has its state-government administered crop insurance program. The event prompted the center to set up a seven-member Group of Minister (GoM) to review the program. (Tiwari R. , 2019)

H. STORAGE & STANDARDISATION

Several methods of farm storage are in use in India. (Vimal, 2002) The Andhra Pradesh Government aggressively gives subsidy (as much as 25 percent) for cold storage development. Several cold storages were constructed in the state, thereby helping farmers to store their agri-produce. Around 200 cold storage facilities were set up in the state under the private sector by using the subsidies provided by the Government, says APEDA report.

Both the central government and state governments, through their various bodies, issue certifications for food-grade produce to increase exports. These standardizations and certifications help farmers to take care of the quality of the final harvest.

In the US, marketing loans were given to farmers during harvesting time so that they may store their crops and sell at a later price mimicking an almost price-guarantee program. The program had spent around US\$ 160 million per year till 2016 before being dropped in 2017.

While farm loans are available at the cultivation stage in India, no such farm credit availability is available at harvest time. Amidst lack of proper storage facilities, farmers most often tend to sell their harvests at lower rates.

I. RISK MANAGEMENT

Agriculture is undoubtedly a risky business (Huirne & Meuwissen, 2000) that gets exposed to unexpected weather conditions, unexpected market variations, unexpected problems to plants. The NIFA of the US Department of Agriculture provides discusses and disseminates information on agricultural systems for agricultural enterprises. (NIFA, 2019)

1. Emergency Management

Massive damage to farms occurs because of unexpected weather conditions such as floods, cyclones, or thunder. Hence, it is essential to know about these scenarios in advance to take some precautions to reduce loss. (Hess, Richter, & Stoppa, 2002) Being a coastal state, Andhra Pradesh gets exposed to such natural calamities frequently.



Subsidies/loan waivers offer required financial support for these emergencies in India and Andhra Pradesh. Usually, in the USA, the emergency loan program is used to help farmers to rebuild and to help them recover from losses. Either Secretary of Agriculture declared a natural disaster or president declared an emergency as per Stafford act, and in such situations, these loans are available. In India, the Central Government has a body to review and announce such conditions. The RTGS has a sound information system to showcase information about such scenarios.

2. Disaster Management (Floods or other calamities)

Disaster preparedness is the most crucial part of dealing with natural calamities. (Dekens, 2007) Real-time communication and proper exchange of data among different government departments are vital to handle the situation. RTGS has a special section to provide information for such incidents. These systems have come to the rescue and reduced the damage to human and property loss during recent cyclones. Farmers were able to get information three days in advance and hence were able to take precautions to minimize damage.

3. Crop Insurance

Crop Insurance assures reimbursement of at least the farmer investment in the event of natural calamities such as floods and cyclones and hence is a critical function to support farmers. Substantial research on this in the Indian context was done and reported by (Sk, 2012) (Jose, 2016), and (Chetana, 2018). Farming, like any other business, involves managing risks, and hence crop insurance is becoming an essential and useful solution for the farmer.

Crop insurance is at an advanced stage in countries like the US, where farmers can avail of crop insurance even for delayed planting and natural calamities. (Hazell & Varangis, 2019) The USDA provides crop insurance through Federal Crop Insurance Corporation. A complete list of agents across the country is available and helps farmers make use of it. USDA spends around \$8 billion per year towards crop insurance.

The Pradhan Mantri Fasal Bhima Yojana (Min. of Agr & Farmers Welfare, 2019) is the flagship crop insurance program in India. Crop insurance is applicable for farmers with or without loans for notified crops across the states, and the cost is 2 percent of the sum insured for Kharif and 1.5 percent of the sum insured for Rabhi season. Crop insurance is an area-based insurance program, and insurance needs to be taken by specific area wise farmers. It covers loss due to natural calamities, even though they are local. This premium to be paid by farmers is relatively low compared to other countries as the Government pays a significant portion of insurance premium.

However, the India crop insurance system is not as advanced stage as in other countries primarily because government schemes are manual leading to time delays in claim payments. Artificial Intelligence (AI) and Machine Learning (ML) are helping in implementing newer models such as Growing Degree Days (GDD) for measuring hyperlocal temperature and IoT sensors to capture field data to augment the insurance claim process. Other deterrents in delays, compared to the US, are because of the number of crops and the nature of types of problems that are unique and complex in the Indian program. Farmer awareness is vital in this area, and the RTGS system, together with other websites, is trying to address this.



IV. CONCLUSION

This paper studies various agriculture variables used in the information dissemination of Governments through the portals for use by farmers, officials of the Agriculture Department, and various other stakeholders. The second aim of this study was to make a cross-country comparison, with the US, as to the farming practices there compare with that of India.

Agricultural data compiled by the Andhra Pradesh Government at the state level and by the Central Government at the union level is deiminated through the RTGS and other information systems. This dissemination is helping farmers in making better farming decisions. This study finds that the support programs/measures rendered in India are on similar lines to other global practices. Few programs such as the Dial for support program, advance financial support, and loan waivers slightly seem to more prevalent in India. Features like the new farmer support and seed funds for agriculture are unique, and no such implementation is available in India. Crop insurance system needs to go a long way in India as it is still at an initial stage compared to other countries like the USA and Brazil. Despite this information and resource availability, agriculture in the state of Andhra Pradesh is still not strongly seen as a business but only as a last alternative. India is yet to pick up automation of farming, which is aggressively used in developed countries using modern technology in agriculture and connected to Government IT systems to gather info and plan automatically.

This study identifies that RTGS acts as an enabler for the farmers to make use of the available data in protecting their crops and eventually leading to better agricultural output. A natural progression of this study is to train the various stakeholders on how to use the information disseminated so that the features can be used to the fullest extent.

REFERENCES

1. Aadhaar-enabled Seed Distribution Center. (2019). Retrieved from Department of Agriculture, Government of Andhra Pradesh: <http://eseed.ap.gov.in>
2. Aggarwal, S., & Chowdhary, S. (2018). An Improved Approach for Accurate Weather Forecasting. 5-8. Retrieved from <http://iitmjp.ac.in/wp-content/uploads/2019/01/IITM-Journal-of-Information-Technology-JIT-2018.pdf>
3. Agrawal, G. (1987). *An analysis of utilization of farm loan by farmers provided by financing institution in bundelkhand region of Madhya Pradesh*. Retrieved from <http://hdl.handle.net/10603/33982>
4. Agriculture Department of Brazil. (2019). Retrieved from <http://agricultura.gov.br>
5. Ali, M., Geng, Y., Robins, D., Cooper, D., & Roberts, W. (2019). Impact assessment of energy utilization in agriculture for India and Pakistan. *Science of The Total Environment*, 648, 1520-1526. doi:10.1016/j.scitotenv.2018.08.265
6. AP Agrisnet. (2019). *Department of Agriculture*. Retrieved from <http://apagrisnet.gov.in/aboutus.php>
7. APEDA. (2019). Retrieved from APEDA AgrieXchange: <http://agriexchange.apeda.gov.in/Home.aspx>
8. APSDPS. (2019). Retrieved from Andhra Pradesh State Development Planning Society, Planning Department, Government of Andhra Pradesh: <http://apsdps.ap.gov.in>
9. Atwal, A. (1976). *Agricultural pests of India and South-East Asia*. Kalyani Publishers. Retrieved from <https://www.cabdirect.org/cabdirect/abstract/19790565441>
10. Bhat, K. (2009). *Paradigm shift in agricultural marketing and its implications*. Retrieved from <http://hdl.handle.net/10603/73517>



11. Business Line. (2020, January 17). CII: Replace agri subsidy with DBT. *Business Line*. Chennai.
12. Chetana, B. (2018). *A critical evaluation of weather based crop insurance scheme in India with a special reference to Karnataka*. Retrieved from <http://hdl.handle.net/10603/228121>
13. CM Office. (2019). *CM Office Real-Time Executive Dashboard*. Retrieved from IT E&C Department, Government of Andhra Pradesh Governance: <http://core.ap.gov.in/CMDashBoard/Index.aspx>
14. Dasgupta, S. (2011/18). Good Agricultural Governance: A Resource Guide Focused on Smallholder Crop Production. *RAP Publication*.
15. Dekens, J. (2007). *Local Knowledge for Disaster Preparedness: A literature Review*. International Centre for Integrated Mountain Development (ICIMOD). Retrieved from <http://agris.fao.org/agris-search/search.do?recordID=QZ2013000064>
16. Dept of Agr, Cooperation & Farmers Welfare. (2019). *Ministry of Agriculture and Farmers Welfare, Government of India*. Retrieved from <http://soilhealth.dac.gov.in>
17. eNAM. (2019). *Small Farmers' Agribusiness Consortium, Department of Agriculture, Cooperation & Farmers' welfare, Ministry of Agriculture and Farmers Welfare, Government of India*. Retrieved from <http://www.enam.gov.in/web/>
18. Ghadiyali, T., Lad, K., & Patel, B. (2011). Agriculture Intelligence: An Emerging Technology for Farmer Community. *IEEE Xplore*. doi:10.1109/EAIT.2011.36
19. Haveripeth, K. (2014). *A Critical Study of Law Relating to Agricultural Produce Marketing in India*. Retrieved from <http://hdl.handle.net/10603/14594>
20. Hazell, P., & Varangis, P. (2019). Best practices for subsidizing agricultural insurance. *Global Food Security*. doi:10.1016/j.gfs.2019.100326
21. Hess, U., Richter, K., & Stoppa, A. (2002). Weather Risk Management for Agriculture and Agri-Business in Developing Countries. *Climate Risk and the Weather Market*. Retrieved from <http://www.fao.org/uploads/media/Weather%20Risk%20Management%20for%20Agriculture%20and%20Agri-Business%20in%20Developing%20Countries.pdf>
22. Huirne, R., & Meuwissen, M. (2000). Risk and risk management in agriculture: An overview and empirical results. *Int. J. Risk Assessment and Management*, 125-136. Retrieved from https://www.researchgate.net/profile/Jock_Anderson/publication/264441447_Risk_and_risk_management_in_agriculture_An_overview_and_empirical_results/links/587529b208ae6eb871c9b41d/Risk-and-risk-management-in-agriculture-An-overview-and-empirical-results.pdf
23. ISRO. (2017). *ISRO signs Three MoUs with Government of Andhra Pradesh for use of Geo-spatial Technology*. Retrieved from <https://www.isro.gov.in/isro-signs-three-mous-with-government-of-andhra-pradesh-use-of-geo-spatial-technology>
24. Jose, J. (2016). *A study on the impact of agricultural insurance on risk management among food crop farmers in Kerala*. Retrieved from <http://hdl.handle.net/10603/195412>
25. Kapur, R. (2018). Usage of Technology in the Agricultural Sector. *Acta Scientific Agriculture*, 2(6), 78-84.
26. Kaur, R. (2013). *Agriculture subsidies in Punjab: an analysis*. Retrieved from <http://hdl.handle.net/10603/10363>
27. Kumar, M., Reddy, K., Adake, R., & Rao, C. (2015). Solar powered micro-irrigation system for small holders of dryland. *Agricultural Water Management*, 112-119. Retrieved from <https://www.researchgate.net/publication/320282117>
28. Kumara, K., & Parikh, J. (2001). Indian agriculture and climate sensitivity. *Global Environmental Change*, 11, 147-154.
29. Magdoff, F. (2001). Concept, Components, and Strategies of Soil Health in Agroecosystems. *Journal of Nematol*, 33(4), 169-172. doi:<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2620515/>
30. Min. of Agr & Farmers Welfare. (2019). *Pradhan Mantri Fasal Bima Yojana*. Retrieved from Official Website: <https://pmfby.gov.in/>
31. Mishra, P. (2020, January 27). PM Fasal Bima Yojna back in the slow lane — check premium collected, claims paid. *Financial Express*. Retrieved from <https://www.financialexpress.com/economy/pm-fasal-bima-yojna-back-in-the-slow-lane-check-premium-collected-claims-paid/1835741/>



32. NIFA. (2019). *US Department of Agriculture*. Retrieved from <https://nifa.usda.gov/topic/agricultural-systems>
33. Padmanabhan, V., & Dantewadia, P. (2020, January 16). The geography of farmer suicides. *The Mint*, 4. Delhi.
34. Patel, A. (2016). GOOD GOVERNANCE: A KEY TO ENHANCE AGRICULTURAL GROWTH IN INDIA. *International Journal of Research - Granthaalayah*, 8-15. Retrieved from <http://oaji.net/pdf.html?n=2016/1330-1479544524.pdf>
35. Pathak, H. (2010). Trend of fertility status of Indian soils. *Current Advances in Agricultural Sciences*, 2(1), 10-12. Retrieved from <http://www.nicra.iari.res.in/pathak%20publi/Pathak%20Curr%20Adv%20Ag%20Sci%202010.pdf>
36. PMKISANAP. (2020). Retrieved from AP PM Kisan: <http://pmkisan.ap.gov.in/>
37. Rahul, P., & Sanica, A. (2014). Status and challenges of agriculture marketing in India. *Indian Journal of Economics and Development*, 10(1a), 114-123. doi:10.5958/j.2322-0430.10.1a.031
38. Rajiv, K. (2014). *Impact of Minimum Support Price on Agricultural Economy in Western Uttar Pradesh*. Retrieved from <http://hdl.handle.net/10603/111438>
39. RBI. (2018). *Priority Sector Lending - Targets and Classification*. Retrieved from RBI: <https://m.rbi.org.in/Scripts/FAQView.aspx?Id=87>
40. Sambasiva Rao, M. (2019). *AP is first state to implement eNAM: Pradyumna*. Retrieved from HANS India: <https://www.thehansindia.com/andhra-pradesh/ap-is-first-state-to-implement-enam-pradyumna-559964>
41. Sk, T. (2012). *Impact of crop insurance on agricultural scenario a study of some selected crops in the district of Hooghly, West Bengal*. Retrieved from <http://hdl.handle.net/10603/66862>
42. Surendra, S., R S, S., & S P, S. (2014). Farm Power Availability on Indian Farms. *Agricultural Engineering Today*, 44-52. Retrieved from <https://www.researchgate.net/publication/270838595>
43. Suresh, P., & Robert, T. (2002). India's seed industry reforms: Prospects and issues. *Indian Journal of Agricultural Economics*, 57(3), 443.
44. Tisorn, S. (2015). *Factors affecting farm productivity in rural India: social networks and market access*. University of Illinois. Retrieved from <http://hdl.handle.net/2142/88037>
45. Tiwari, R. (2019, December 28). GoM set up to review crop insurance scheme. *Economic Time*.
46. Tiwari, R. (2020, January 30). PM-KISAN Fund Allocation may be trimmed by 20%. *Economic Times*, 1,11.
47. Tracxn. (2019, Sep 9). *AgriTech Startups in India*. Retrieved from <https://tracxn.com/explore/AgriTech-Startups-in-India>
48. U.S. Department of Agriculture. (2019). Retrieved from <http://www.farmers.gov>
49. Vijaya Kittu, M., & Satya Prakash, Y. (2019). Banking & Economic Implications of Farm Loan Waivers. *International Journal of Research*, VIII(II), 1475-1485. Retrieved from https://www.researchgate.net/publication/331791144_Banking_Economic_Implications_of_Farm_Loan_Waivers/
50. Vimal, K. (2002). *Storage losses of wheat in rural area A study of North Bihar*. Retrieved from https://shodhganga.inflibnet.ac.in/bitstream/10603/166507/8/08_chapter%204.pdf
51. Walter, A., Finger, R., Huber, R., & Buchmann, N. (2017). Opinion: Smart farming is key to developing sustainable agriculture. *PNAS*, 114(24), 6148-6150. Retrieved from <https://www.pnas.org/content/114/24/6148.short>
52. Yuvaraj, V. (2019). ICT Applications and Returns of Agriculture in India. *Think India*, 22(10), 510-520. Retrieved from <https://journals.eduindex.org/index.php/think-india/article/view/10846>



PBME

**PERSPECTIVES ON
BUSINESS
MANAGEMENT &
ECONOMICS**
Volume II • September 2020



Published by

**Archers & Elevators
Publishing House**
Bengaluru, Karnataka, India

www.PBME.in

Rs. 600

ISBN 978-81-947738-1-8



9 788194 773818 >