

# OPERATION & MANAGEMENT

Dr. Vinodhini C  
Vibhor Jain



# **OPERATION AND MANAGEMENT**



# OPERATION AND MANAGEMENT

Dr. Vinodhini C  
Vibhor Jain





ALEXIS PRESS

*Published by:* Alexis Press, LLC, Jersey City, USA  
[www.alexispress.us](http://www.alexispress.us)

© RESERVED

This book contains information obtained from highly regarded resources.  
Copyright for individual contents remains with the authors.  
A wide variety of references are listed. Reasonable efforts have been made  
to publish reliable data and information, but the author and the publisher  
cannot assume responsibility for the validity of  
all materials or for the consequences of their use.

No part of this book may be reprinted, reproduced, transmitted,  
or utilized in any form by any electronic, mechanical, or other means,  
now known or hereinafter invented, including photocopying,  
microfilming and recording, or any information storage or retrieval system,  
without permission from the publishers.

For permission to photocopy or use material electronically  
from this work please access [alexispress.us](http://alexispress.us)

First Published 2022

*A catalogue record for this publication is available from the British Library*

*Library of Congress Cataloguing in Publication Data*

Includes bibliographical references and index.

Operation and Management by *Dr. Vinodhini C, Vibhor Jain*

ISBN 978-1-64532-403-4

# CONTENTS

<b>Chapter 1.</b> A Comprehensive Study on Tourism’s Contribution to Global Trade and Economic Growth in India .....	1
— <i>Dr. Vinodhini C.</i>	
<b>Chapter 2.</b> Exploring Determinants Associated with Consumer’s Perception towards Use of Credit Cards for Financial Transactions.....	10
— <i>Dr. Narasimha Murthy</i>	
<b>Chapter 3.</b> A Systematic Analysis of e-Commerce Technology as a Business Trend .....	19
— <i>Dr. Muddu Vinay</i>	
<b>Chapter 4.</b> A Review of Inventory Management Methods and Factors that Affecting Business.....	28
— <i>Dr. Muddu Vinay</i>	
<b>Chapter 5.</b> An Evaluation of Mobile Banking Facility in Indian Scenario and Its Impact on Digital Transaction .....	37
— <i>Dr. J. G. Ravi Kumar</i>	
<b>Chapter 6.</b> A Comprehensive Analysis on the Impact of Work Environment on Health Issues .....	46
— <i>Dr. Muddu Vinay</i>	
<b>Chapter 7.</b> A Comparative Study on the Economies of Scale and Economies of Scope for Improved Efficiency.....	54
— <i>Dr. Muddu Vinay</i>	
<b>Chapter 8.</b> Analysis on the Role of Planning Capacity in Corporate Life.....	63
— <i>Dr. Virupaksha Goud</i>	
<b>Chapter 9.</b> An Analysis of Importance of Teamwork and Specular Impact on any Organization ....	72
— <i>Dr. Jayakrishna Udupa</i>	
<b>Chapter 10.</b> An Examination of Strength, Weakness Opportunity and Threat (SWOT) Analysis.....	81
— <i>Dr. Shaik Fakruddin Ali Ahmed</i>	
<b>Chapter 11.</b> The Environmental Forces Affect Business on a Large Scale.....	90
— <i>Dr. Mohammed Imorzuddin</i>	
<b>Chapter 12.</b> System Analysis and Design of Database of the Medical Checkup Systems .....	100
— <i>Vibhor Jain</i>	
<b>Chapter 13.</b> Review of Effective Marketing Techniques to Meet Customers’ Needs.....	108
— <i>Aditya Sharma</i>	
<b>Chapter 14.</b> Project System that Aids Decision Making in Project Management Resources.....	116
— <i>Satyendra Arya</i>	

<b>Chapter 15.</b> A Comparison between the Business to Business and Business to Consumer Management .....	126
— <i>Avinash Rajkumar</i>	
<b>Chapter 16.</b> Explorative Study on the Utilization of Virtual Project Management in Business.....	135
— <i>Chanchal Chawla</i>	
<b>Chapter 17.</b> Analysis on the Importance of Agile Project Management (APM) in Business Sector	143
— <i>Puneet Sethi</i>	
<b>Chapter 18.</b> A Comprehensive Study on the Significance of Mass Media in Rural Development ...	152
— <i>Pirtibha Sharma</i>	
<b>Chapter 19.</b> Project Delays and Factors that Helps to Avoid Project Delay .....	161
— <i>Raghuvir Singh</i>	
<b>Chapter 20.</b> Assessment of the Dynamic Role of Ethics in Business Management and Its Repercussion .....	169
— <i>Manjula Jain</i>	
<b>Chapter 21.</b> An Analysis of Women and Minorities in Management .....	178
— <i>Shipra Agarwal</i>	
<b>Chapter 22.</b> Study of Various Techniques to Enhance the Safety and Health of Employees at the Workplace.....	186
— <i>Vivek Anand Singh</i>	
<b>Chapter 23.</b> A Comparison between Autocratic and Democratic Leadership in Management for Business .....	194
— <i>Vipin Jain</i>	

## CHAPTER 1

# A COMPREHENSIVE STUDY ON TOURISM'S CONTRIBUTION TO GLOBAL TRADE AND ECONOMIC GROWTH IN INDIA

---

Dr. Vinodhini C., Associate Professor,  
Department of English , Presidency University, Bangalore, India,  
Email Id-vinodhini.c@presidencyuniversity.in

**ABSTRACT:** *The largest and most varied sector on the globe is the travel and tourism business. The influence of tourism on raising employment and revenue in foreign currencies, growth in regional sectors, and also the expansion of international collaboration has changed viewpoints in many nations and had a significant impact on policy decisions. Foreign currencies, income growth, and Gross Domestic Product (GDP) growth have all risen as a consequence of this economic boom. India, a country full of both natural and man-made beauties, has embraced tourism with open arms. This study looked at how tourism has impacted India's economic development. These new results' conclusions state that culture and the activities that are directly related to it are the single biggest contributors to the economy. The results of this study will also help in the implementation of strategies that will stimulate a rise in the number of foreign tourists to our country and hasten the pace of the economy's development.*

**KEYWORDS:** *Economic Growth, Gross Domestic Product (GDP), Revenue, Tourism Industry, Tourists.*

### 1. INTRODUCTION

Economically speaking, the phrase "tourist industry" is a more recent development in the field of international commerce. At the current time, tourism is regarded to be one of the most significant sources of foreign currency revenues in any nation. This industry as an activity that contributes to a country's economy, society, and culture has become highly significant for that country's overall growth. Tourism is a phenomenon that, when correctly organized, has the potential to contribute to increased output, an improvement in living standards, the welfare of the general public, and job opportunities for a wide variety of components, including labor, money, and land. Because the tourist industry is now the most lucrative service sector in the world, its continued expansion will likely result in significant changes to both the social and economic landscape [1].

Tourists are people that go from one area to another to have fun and meet new acquaintances. It has a tremendous influence on the growth of a nation. Tourists increase demand for a broad variety of items, resulting in a more homogenous society throughout the world. Development developed, but illnesses were also spread from nation to country around the globe. Tourism is one of the commercial activities that contribute to the creation of products and services. It offers products and services for clients (mostly tourists) while primarily generating jobs and money for residents. In the market, not only tourist businesses create revenue through the operation of their businesses, but also other individuals produce revenue either directly or indirectly [2]. The significant contribution that tourism growth may make to economic development is commonly used to justify the expansion of tourism. To be more specific, there is a widespread belief that tourism can help bridge the growing economic difference that exists between economically developed countries or the so Majority of the World, which is comprised of the countries in which the vast majority of people on the planet live in extreme poverty[3].

The Gross Domestic Product (GDP) of both emerging and wealthy countries receives a significant boost from tourism. To amplify the benefits of this, the many stakeholders need to understand how it works. On the other hand, the success of tourism activities is also dependent on the economic position of a nation, which is why governments need to focus on this element of the problem as well. In the last several years, the Indian tourism industry has grown rapidly, contributing to the country's GDP, foreign exchange earnings, and employment [4]. Indian beauty has also been undeniably and indisputably enhanced. Tourism has also been a major focus for the Indian government over the last several years. Despite having a thriving nature tourism business, India still has issues [5]. Another study by Prerna Garg and Anoop Pandey studied that personal standards may have a mediating role in the decision to engage in sustainable tourism in India, according to new research studying consumer behavior in this area in India. It is a cross-sectional study that collected data from 275 participants with a wide range of socio-economic backgrounds. The hypotheses were evaluated by evaluating structural equation models using exploratory factor analysis (EFA), and confirmatory factor analysis (CFA). To conclude, the findings show a strong correlation between consumer awareness and perceived efficacy, as well as consumer desire to use sustainable tourism practices. A new viewpoint on sustainable tourism has been offered, but the research also aims to attract the attention of academics and practitioners who have hitherto ignored this important subject in the Indian context.

### *1.1. Advantages of Tourism to the Indian Economy:*

Today, tourism is a booming business sector. In addition to the economic benefits of tourism, the expansion of the service sector and job possibilities, improved international contacts and interaction with other economies, leisure and cultural exchange, improved health and well-being, and fun are also positives of the tourist industry.

- *Foreign Exchange Earnings (FEE):*

Foreign visitors are no question drawn to locations. The incoming nation benefits from the expenditures of foreign visitors.

- *Expanding Service Sector:*

A significant proportion of economic activities are concentrated in the service sector, and these activities invest time, money, human capital, and other resources to provide improved services to their clients (mainly visitors). The tourist industry drives development in the service sector, which includes businesses such as airlines, hotels, and surface transportation, amongst others; these businesses likewise expand in tandem with the expansion of the tourism industry [6].

- *Job Opportunities:*

People in the community can find work thanks to tourism. The massive number of people presently working in this area, and also demonstrates the beneficial outcome of quick expansion in comparison to other industries [7].

- *Recreation:*

Participating in enjoyable activities regularly is essential to human biology. Tourists may find comfort, relaxation, and a renewed sense of energy via participation in a variety of leisure activities, which fall under the category of recreation. Simply changing one's environment may have a revitalizing effect on their body, state of mind, and soul [8].

- *Growth of the Economy:*

The expansion of a nation's tourism industry drives up its gross domestic product and contributes to the overall economic growth of the nation. Additionally, it assists people in earning their daily food and necessities. During their time off, vacationers are known for spending lavishly and generously. People that act as human capital by supporting and directing tourists might bring in a healthy income for their efforts.

- *Exchange of cultural heritage:*

People of different cultures are given the chance to absorb and integrate via the medium of tourism. People from a variety of cultural backgrounds join together and attempt to gain knowledge from one another [9]. This affords them the opportunity and flexibility to work on developing mutual respect and awareness of one another. As a result, it promotes cultural compatibility and concord; alternatively, we may say that it facilitates a meeting of minds [10].

- *Wellness and Good health:*

The tourists' mental and physical health benefits from their time spent in tourist destinations. Their travel is for a variety of reasons, one of which is to get treatment for ailments and to cure diseases. It is essential to engage in medical and health tourism to achieve "full psychological and excellent mental health." Several vacation spots provide yoga, adventure clubs, aerobics, and a variety of other appealing treatments and solutions for improving one's health and sense of well-being.

### *1.2. Disadvantages of Tourism to the Indian Economy:*

Tourism has several drawbacks, including higher expenditure by individuals, consumption of time, ecological dangers, loss of the architectural and unstable ecological system, inappropriate use of plastic, a rise in waste materials, and harm to wildlife.

- Holidays spent at leisure and resting are beneficial to one's health on all levels: mind, body, and spirit. However, excursions that are too frantic might lead to stress, which can have negative effects on health.
- Additionally, it may result in risks to the environment, such as pollution brought about by the use of tobacco products and plastic bags.
- Heavy development of high-rise housing and structures may cause water supply and waste disposal services to become fragmented and cause disruptions. This can be a problem in areas where these facilities are located.
- Construction of homes, roads, and food for everybody would rise in tandem with the population and visitor numbers. Therefore, at a certain threshold, a growth in tourism activity will also have negative effects on society it will do more damage than good to the state economy.
- The overuse of natural resources that are restricted in number may lead to major problems. For example, the excessive usage of mountain routes by tourists can lead to an abundance of waste products such as food cans, plastic bags, and other similar items. The destruction of wildlife parks is an easily seen phenomenon. The impact of tourists is detrimental to the ground vegetation.

## 2. LITERATURE REVIEW

Ramphul Ohlan stated in a study that that tourism and economic expansion have a significant link in the immediate and distant future; hence, tourism contributes significantly to a country's growth. Because tourism plays such a significant part in the creation of job opportunities in the nation, the government must do all in its power to encourage it and create conditions that are conducive to it. The country's socioeconomic status will improve even more as a result of tourism [11].

S. Adrani stated in a study that tourism has a strong connection to other economic sectors since it increases the demand for goods and services from foreigners, which in turn boosts the country's industrial growth and alleviates the country's labor shortages. As a result, the tourist sector has a direct influence on the development of other firms as well as worldwide demand for the items it produces. In this manner, not only were the country's industries increasing but the world's cultures were homogenized as well. The spread of one culture to other cultures often causes loss to communities as well. In other words, tourism benefits the local economy while also bringing about societal changes, which may either be beneficial or harmful [12].

A contingent value (CV) survey was used by Tuan and Navrud to examine how the benefits of cultural heritage may be collected and how the site circumstances might be improved. To determine the optimal entry prices for a World Heritage site protection program, they conducted a CV survey of the predicted benefits for visitors. The researchers discovered that, as one would assume, attendance drops as the price of admission rises. Despite this, the expected income climbs to roughly \$14 since the percentage drop in visitors is lower than the percentage increase in the price. Findings from the study revealed how applying the appropriate pricing regime increases income while reducing congestion on the property [13].

Rana and Kumar study discovered that uncontrolled building of infrastructure has a negative influence on the country, although it is also obvious that tourism is an essential source of economic growth for the destination. Large snow-capped mountains, reservoirs, rivers, and forests, as well as wildlife sanctuaries and wildlife parks, are all reasons why tourists flock to the Himalayan regions of India. Although these states are losing their shine because of poor management by both government and commercial actors, a good knowledge of the destination and destination management is essential to bring back the same sheen and glazing. It is, however, important to note that the research focuses mostly on Uttarakhand's tourist industry, which is shown by the "S-curve" in the graph. However, tourism is still a significant source of economic growth, but only with adequate planning [14].

The study by Bairagi et al. focused on the preservation of Cordillera rice, which has a significant cultural significance in the Philippines. They came up with a slew of ideas for promoting the value of heritage rice. This research was done by interviewing 500 urban residents who bid on heritage rice at a price that was less than half of the market price, explaining the difficulties of heirloom rice to get a foothold on the market. In addition, their findings show that accurate information about heirloom rice production may spur demand and raise the heirloom rice's value, helping to protect its cultural legacy [15].

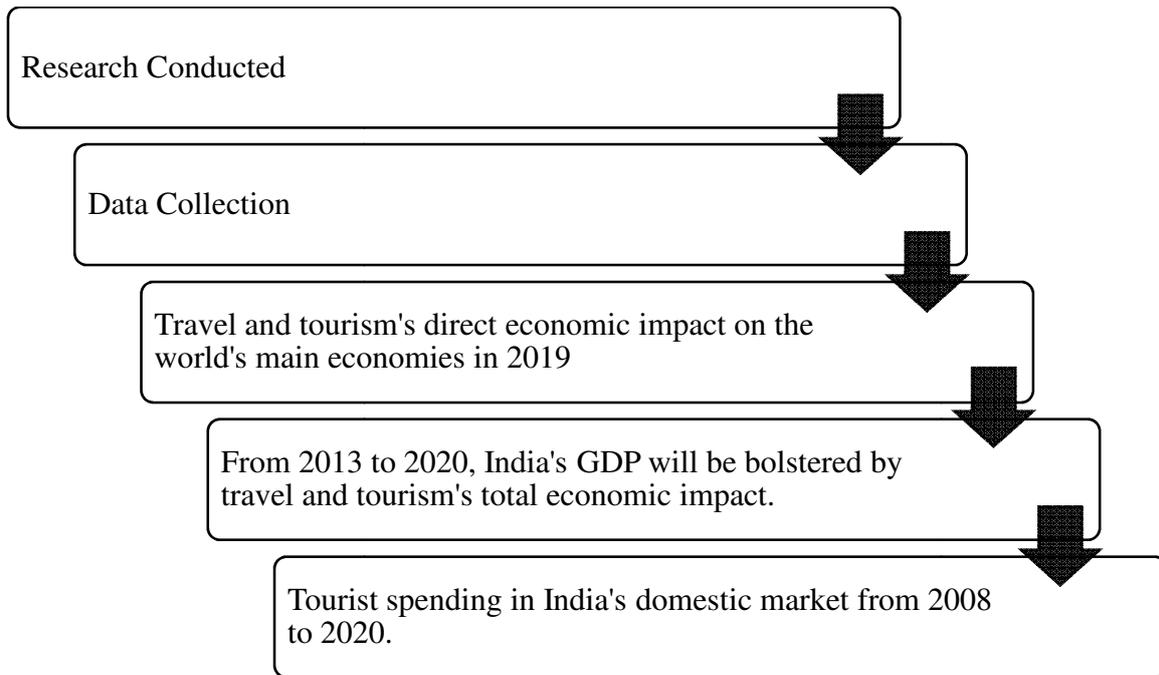
## 3. METHODOLOGY

### 3.1. Design:

The study made use of information from some websites run by various government agencies, as well as research materials and media articles. The information was acquired. There were a few other keywords that were utilized, including "Tourism," "Economic Impact," and

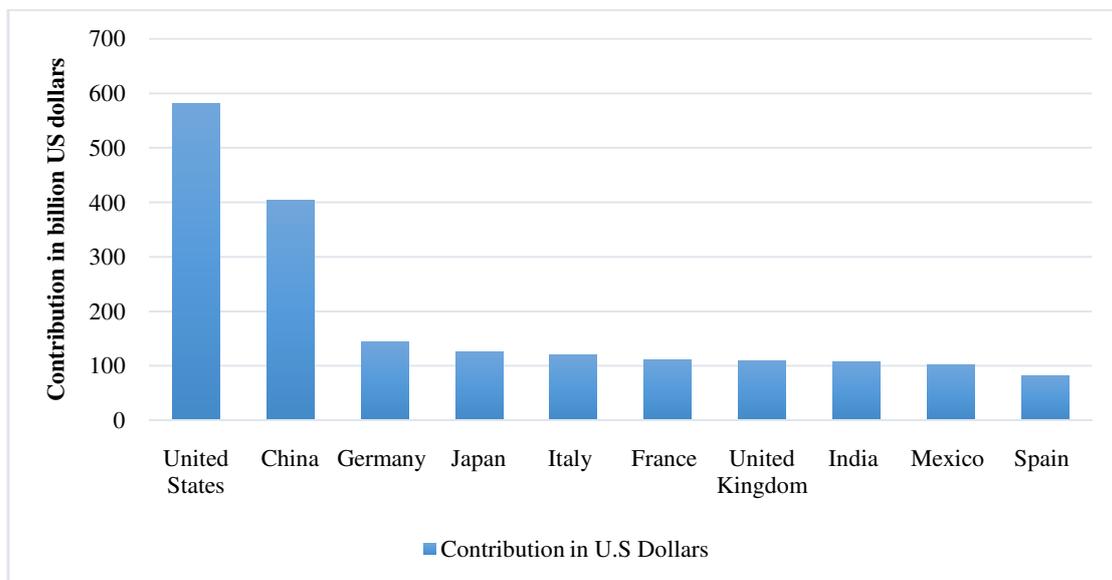
"Travel". There were just a few works of literature that were deemed to be relevant, and out of them, the data that is shown in Figure 1 has been obtained.

According to Figure 2, the travel and tourism industry in the United States contributed considerably the most to the gross domestic profit (GDP) of any nation worldwide in 2019, with a total contribution of 580.7 billion US dollars. In contrast, China's ever-expanding industry of travel and tourism generated the second-highest amount of GDP directly. Furthermore, Europe was home to half of the top 10 countries with the greatest direct contribution to the world's GDP (through travel and tourism).



**Figure 1: Shows the effect of tourism on the country's GDP in the form of a flow chart.**

*3.2. Data Collection:*

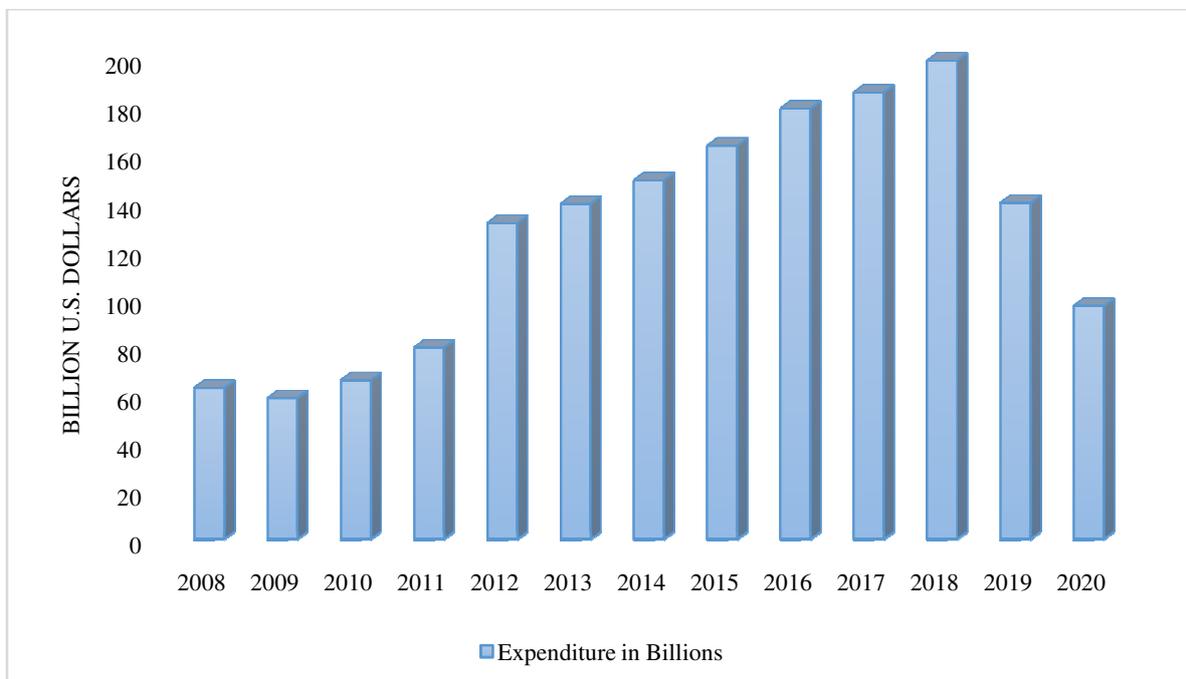


**Figure 2: Displays the Contribution to Global GDP in 2019, by Nation.**

The travel and tourism industry in India is projected to contribute around 122 billion to the country's GDP in the year 2020 when that figure would be expressed in US dollars. In 2017, the country welcomed more than 10 million tourists from other countries, which resulted in a surplus of about 27.31 billion US dollars in profits from foreign currency, as shown in Figure 3.



**Figure 3: This Graph Depicts the Contribution that Travel and Tourism will Provide to India's GDP from 2013 through 2020.**



**Figure 4: Expenditures Generated by India's Domestic Tourism Industry from 2008 to 2020 (in Billion U.S. Dollars).**

It is anticipated that domestic tourist spending in India would amount to 97 billion US dollars in the year 2020. This was a significant drop when compared to previous years, which was to

be expected given the introduction of the coronavirus outbreak and the subsequent lockdown. Figure 4 shows that despite this, the south Asian nation ranked sixth in the world in terms of the amount of money spent by tourists on travel inside the country during the previous year.

3.3.Data Analysis:

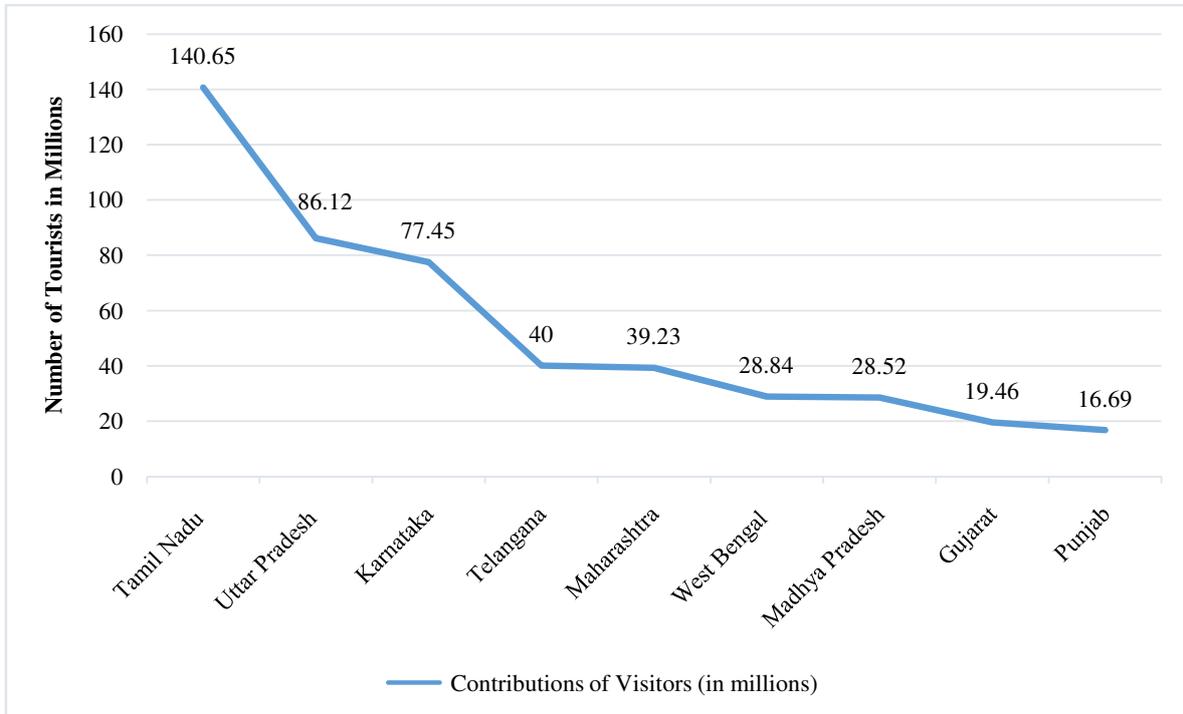
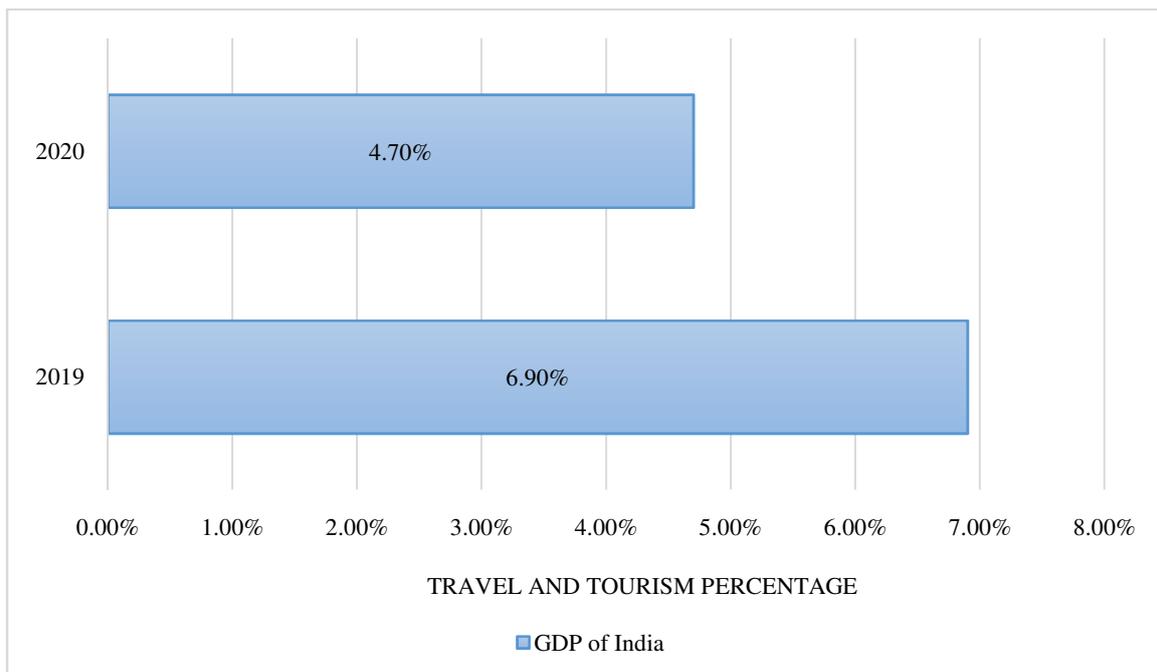


Figure 5: Displays India's Top States in Terms of Domestic Tourists in 2020.

In the year 2020, more than 140 million people visited Tamil Nadu, making it the state with the highest number of domestic visitors. In the same year, the country saw more than 610 million people come for purposes of domestic tourism, as seen in Figure 5.



**Figure 6: Displays the 2019 and 2020 Projections of the Travel and Tourism Industry's Percentage of India's GDP.**

According to Figure 6, The Indian travel and tourism industry is expected to contribute 4.7% of the country's GDP in 2020. According to the previous year's numbers, this was a considerable drop.

#### 4. RESULTS AND DISCUSSION

In 2019, the travel and tourism business in the United States provides the most to the global GDP of any country, with an overall contribution of 580.7 billion US dollars. In contrast, China's fast-increasing travel and tourism sector contributed directly to the nation's second-largest GDP contribution. Furthermore, Europe was home to five of the top 10 nations with the biggest direct contribution to global GDP (through travel and tourism). If expressed in US dollars, the tourism and travel industry in India is expected to contribute approximately 122 billion to the country's GDP in the year 2020. In 2017, the nation received more than 10 million visitors from various nations, which resulted in a profit from foreign currency of around 27.31 billion United States dollars more than it had originally anticipated. In the year 2020, it is expected that the amount of money spent by domestic tourists in India would equal 97 billion US dollars. This was a considerable decrease when compared to past years, which was to be anticipated given the arrival of the coronavirus epidemic and the following lockdown. Compared to previous years, this year's total was much lower. The south Asian country came in at number six on the list of countries across the globe in terms of the total amount of money visitors spent on travel inside the country during the preceding year. In the year 2020, there were over 140 million domestic tourists who traveled to Tamil Nadu, ranking it as the state with the greatest total number of domestic tourists. More than 610 million individuals entered the nation intending to engage in tourism inside the country in the same year. It is anticipated that the travel and tourism sector would contribute 4.7 percent of the gross domestic product of India in the year 2020. This was a significant decrease when compared to the statistics from the prior year.

#### 5. CONCLUSION

Because of its special characteristics, the tourism industry is often seen as a lively sector with a hopeful future. Investments in the tourism industry are increasing in every country around the world. Because the tourism sector not only advances the country's economy and generates foreign exchange income, but it is also a hygienic and pollution-free industry that creates new job opportunities, entities involved in the tourism industry have become incredibly competitive in their attempts to attract tourists from other countries in today's world. Both the inbound and outbound aspects of tourism have an impact on the economy of national destinations. While we are well aware that research on tourist development requires a more comprehensive methodology that takes into consideration all of the development-related aspects and correlations, such an approach has not yet been developed. The research shows that tourism and economic growth are intertwined, but that both positive and negative factors may significantly affect the tourist industry. The tourist business benefits from several favorable circumstances. Things like infrastructure, education, population trend, hills and Greenfield, healthcare facilities, cottage industries, languages, and the number of visitors are only a few of the factors that contribute to a place's overall quality of life.

#### REFERENCES

- [1] O. Shiji, "Economic impact of tourism in India," *Int. J. Soc. Sci.*, vol. 5, no. 1, p. 35, 2016, doi: 10.5958/2321-5771.2016.00013.2.

- [2] H. B. Rout, P. K. Mishra, and B. B. Pradhan, "Socio-economic impacts of tourism in india: An empirical analysis," *J. Environ. Manag. Tour.*, 2016, doi: 10.14505/jemt.v7.4(16).22.
- [3] A. León-Gómez, D. Ruiz-Palomo, M. A. Fernández-Gámez, and M. R. García-Revilla, "Sustainable Tourism Development and Economic Growth: Bibliometric Review and Analysis," *Sustainability*, vol. 13, no. 4, p. 2270, Feb. 2021, doi: 10.3390/su13042270.
- [4] H. G. Scarlett, "Tourism recovery and the economic impact: A panel assessment," *Res. Glob.*, vol. 3, p. 100044, Dec. 2021, doi: 10.1016/j.resglo.2021.100044.
- [5] J. Brohman, "New directions in tourism for third world development," *Ann. Tour. Res.*, vol. 23, no. 1, pp. 48–70, Jan. 1996, doi: 10.1016/0160-7383(95)00043-7.
- [6] F. Manzoor, L. Wei, M. Asif, M. Z. ul Haq, and H. ur Rehman, "The Contribution of Sustainable Tourism to Economic Growth and Employment in Pakistan," *Int. J. Environ. Res. Public Health*, vol. 16, no. 19, p. 3785, Oct. 2019, doi: 10.3390/ijerph16193785.
- [7] S. M. N. Islam, M. Al-Amin, and S. R. Akter, "COVID-19 Impact on Regional Tourism Development in Bangladesh-A Study of Cumilla District," *South Asian J. Soc. Stud. Econ.*, pp. 50–58, Jan. 2021, doi: 10.9734/sajsse/2021/v9i1130232.
- [8] F. F. Adedoyin and F. V. Bekun, "Modelling the interaction between tourism, energy consumption, pollutant emissions and urbanization: renewed evidence from panel VAR," *Environ. Sci. Pollut. Res.*, vol. 27, no. 31, pp. 38881–38900, Nov. 2020, doi: 10.1007/s11356-020-09869-9.
- [9] B. AKTYMBAYEVA, U. KOSHKIMBAYEVA, Z. ABISHEVA, U. TOKBERGENOVA, and M. TUMAZHANOVA, "TOURISM INDUSTRY DEVELOPMENT AND GOVERNANCE: A COMPARATIVE STAGE REVIEW OF KAZAKHSTAN'S EXPERIENCE FOR THE YEARS OF INDEPENDENCE, 1991-2020," *Geoj. Tour. Geosites*, vol. 34, no. 1, pp. 69–76, Mar. 2020, doi: 10.30892/gtg.34110-621.
- [10] H. Hølleland, J. Skrede, and S. B. Holmgaard, "Cultural Heritage and Ecosystem Services: A Literature Review," *Conserv. Manag. Archaeol. Sites*, vol. 19, no. 3, pp. 210–237, Jul. 2017, doi: 10.1080/13505033.2017.1342069.
- [11] R. Ohlan, "The relationship between tourism, financial development and economic growth in India," *Futur. Bus. J.*, vol. 3, no. 1, pp. 9–22, Jun. 2017, doi: 10.1016/j.fbj.2017.01.003.
- [12] S.-C. Adrian, "The Impact of Tourism on the Global Economic System," *"Ovidius" Univ. Constanta, Fac. Econ. Sci.*, vol. 17, no. 1, 2017.
- [13] T. H. Tuan and S. Navrud, "Capturing the benefits of preserving cultural heritage," *J. Cult. Herit.*, vol. 9, no. 3, pp. 326–337, Jul. 2008, doi: 10.1016/j.culher.2008.05.001.
- [14] G. Rana and S. Kumar, "Prospects and Problems of Tourism Industry in Uttarakhand," *SSRN Electron. J.*, 2016, doi: 10.2139/ssrn.3017392.
- [15] S. Bairagi, M. C. Custodio, A. Durand-Morat, and M. Demont, "Preserving cultural heritage through the valorization of Cordillera heirloom rice in the Philippines," *Agric. Human Values*, vol. 38, no. 1, pp. 257–270, Feb. 2021, doi: 10.1007/s10460-020-10159-w.

## CHAPTER 2

# EXPLORING DETERMINANTS ASSOCIATED WITH CONSUMER'S PERCEPTION TOWARDS USE OF CREDIT CARDS FOR FINANCIAL TRANSACTIONS

---

Dr. Narasimha Murthy, Associate Professor,  
Department of English, Presidency University, Bangalore, India,  
Email Id-narasimhamurthysv@presidencyuniversity.in

**ABSTRACT:** *A credit card is a type of payment card in which credit is charged online instead of being deposited in cash by the account holder. The impact of the credit card industry and the expansion of new deployment scenarios is a major concern in customer and vendor interactions. This circumstance is responsible for obsessive buying, which has adversely affected consumers and resulted in unmanageable debt levels. Financial advisors look at the causes and circumstances of debt accumulation. Compulsive patterns of credit card use and purchases can have a significant impact on customers' ability to manage their money. Additionally, this study links compulsive spending to credit card use and attitudes toward money. The study looked at how knowledge about using credit cards is affected by media awareness, views, family influences and religious variables. According to the study, customer attitudes toward credit card usage are strongly influenced by information, media awareness, perceptions or family influences. The main objective of this paper is to learn more about the effect of credit cards on consumer behavior. In the future, this paper makes people aware of credit cards and their benefits.*

**KEYWORDS:** *Credit Card, Consumer Behavior, Card technology, Customer Relationship Management(CRM), Marketing.*

### 1. INTRODUCTION

People have been leaving digital traces in numerous areas of people's lives as technology has advanced. Various researchers have published their analysis of this transition in customer preferences from traditional to modern transactional styles, which is taking place as the pattern of consumer buying behavior changes as a result of the introduction of digitalization. To determine the extent and features of credit card ownership in the modern world is the aim of this study [1]. Although there has been a relationship with a broad array of benefits, such as carrying physical currency every time, it is not practical. Electronic money transfer systems, including such credit card facilities, help in allowing cashless modes or falls in line with smart card technology. However, it can lead to increased personal debt levels, decreased savings, and higher total spending [2], [3].

The fact that credit card users lack the self-control attitude necessary to effectively employ smart card technology is one of the key causes behind poor savings rates. The development of smart card technology has led to the observation that owner purchases have increased. According to Trans Union "Credit Information Bureau (India) Limited" (CIBIL) findings from 2017, Indian consumers' dependency on credit cards increased by 57% over the previous 12 months. Additionally, it forecasted that around 19% of influential urban customers will likely make new credit card purchases in the future [4]. People may use a credit card effectively without going overboard with their spending by doing several things. Make it a point to keep track of your credit card expenditures every day, whether on a spreadsheet, in a budgeting program, or by hand with paper and a pen. People will be forced to deal with your purchases immediately, which might educate you to weigh your decisions more thoroughly rather than waiting until your statement arrives to find out the cost. Maintaining a record of your credit card usage will also assist you in ensuring that you have enough income each month to pay off the entire balance [5], [6].

It was easy to explain this rising trend using a credit card to make purchases entitles the owner to discounts as well as other benefits. Additionally, young adults between the ages of 18 and 24 prefer not to carry actual currency in their wallets and are therefore in favor of the smart card capability. But not everybody who uses a credit card does it wisely [7], [8]. People frequently overlook the fact that using credit cards directly affects their credit scores. The method via which a customer decides to borrow, in turn, has a significant impact on both of these variables. They must devote significant effort to learning how their use of credit card facilities impacts their credit score each month [9].

Introducing a program to promote financial literacy might assist consumers in realizing the value of cashless transactions in the modern world. Other than that, making financial education a required component of academic instruction. The young of the nation will be inspired to be financially independent and think from an investment viewpoint if timely webinars and seminars, among other things, are highlighted in these areas. The rural and isolated communities seen in underdeveloped countries are one of the primary situations where the suggested method would not be effective. Both regions still lag in terms of financial literacy and educational attainment, so it may be challenging for locals to comprehend the advantages of smart card technology. Additionally, it becomes challenging for them to understand the CIBIL score's purpose and how it would benefit them [10].

To optimize client pleasure and hence increase client loyalty and retention, customer relationship management (CRM) is utilized to create more effective business-customer connections. The continual development of methods for querying vast amounts of data led to the development of data mining. CRM may be made in the best setting thanks to data mining. CRM is regarded as database marketing for businesses with customer databases [11], [12]. CRM detects the most lucrative clients and offers them the best level of service. A customer-centric strategy helps to increase customer satisfaction and, as a result, client retention. This study uses real datasets obtained through surveying to construct classification and clustering algorithms on to study the behavior of credit card proposers.

The study of consumer behavior examines how individuals, groups, or organizations select, acquire, use, or discard commodities, experiences, concepts, or other needs-satisfying objects, as well as how these decisions influence the consumer or society [13]. Concerns about an individual's or a group's conduct, such as how a person's college buddies may influence how they should dress, or concerns about a corporation Employees of the firm decide on the things it should utilize. The use of a product is usually extremely important to the marketer since it may change how a product is best positioned or how we may drive additional consumption. In addition to physical products, services and concepts also have an impact on customer behavior. Businesses and organizations might improve their marketing efforts by acquiring knowledge on issues like customer behavior [14], [15].

- The psychology of the customer, or how people think, feels or chooses among several options.
- The attitude of how the environment influences the customer.
- Consumer behavior when they purchase or make other marketing-related decisions.
- How management might improve and adjust its marketing strategies and tactics to better reach customers;
- How different products that have varying levels of relevance or interest that they suggest for the customer affect consumer motivation and choosing strategies.

Credit is a way of offering products or services to customers who do not have cash. A credit card is only an automated way of providing credit to the consumer. Nowadays, every credit

card has a unique number that speeds up online purchases. Credit card banks have given their customers the option of borrowing only a certain amount from their card to segregate the two identical debit/credit cards. They can also be attracted with the help of this service or credit. Yet, even though customers have the option of roaming around, not all of them do.

## 2. LITERATURE REVIEW

Mathew Tingchi investigated the operation of the credit card incentive program in China. The study attempts to assess how well-informed Chinese credit card customers are about reward point programs. The factors affect how reward points are used. It was found that the reward point system and the redemption procedure weren't well understood. There were also poor redemption rates and little customer awareness of the point-based rewards scheme. A positive attitude on incentives from credit card use. It has been found that credit card usage patterns or redemption behavior may change amid financial crises [16].

R. Roselin and C.Hanupriya studied the examination of credit card user activity. Over the past twenty years, consumer finance has grown in significance in the private sector. Due to recent developments in the banking industry, the marketing of financial commodities has become more competitive, demanding careful preparation of marketing tactics. This study looks into the rise in consumer use of credit cards and other forms of plastic money. Data was gathered through a survey of customers with one or no credit cards. Age, economic status, and gender demographic characteristics have all been considered. Methods of data mining help in the study of client behavior. The property is used to predict using the appropriate data set collected from the database [17].

Manuela Pulina studied about Behavior of consumers in the credit card industry. This study examined the factors that affect credit card decisions on a demographic, socioeconomic, and banking-specific level. The empirical results provide both a valuable understanding of the structural components of the card payment system and a microeconomic viewpoint on customer choice and behavior. Italians residing in the country's center, women, the elderly, and secondary cardholders are more likely to receive a traditional card. Italy may be seen as a conservative market with the potential for credit card upgrading or expansion into more complicated commodities, according to the analysis of continuous variables [18].

## 3. DISCUSSION

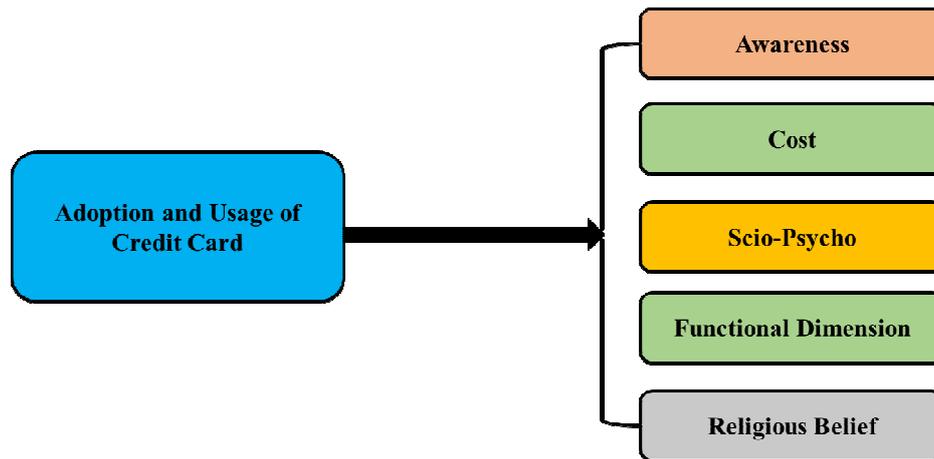
Credit cards are plastic cards that are distributed by banks and other financial organizations. Payment cards are far more convenient to carry than cash when traveling. People can use credit cards to make online payments. As the use of credit cards for online purchasing has substantially expanded, credit card fraud has dramatically increased. When a card or account number is used without the owner's knowledge, credit card fraud has occurred.

### 3.1. *Good Credit Card Uses: Motives for Using Your Credit Card*

For good reason, personal finance experts make a lot of effort to discourage consumers from using credit cards. The majority of us recklessly utilize our credit cards, which results in debt. Contrary to popular belief, you are far better off restricting your cash transactions or using a credit card rather than a debit card while making purchases. We'll examine why your dependable credit card is the best, and we'll offer advice on how to apply for and use credit cards.

3.1.1. *Extra Bonuses:*

When applying for a new credit card, the initial bonus potential is unmatched. Applicants with excellent or outstanding credit are frequently accepted for credit cards that provide incentives of \$150 or more, and occasionally even considerably more, in exchange for spending a certain amount in the account's first few months. Other credit cards lure potential customers by providing bonus rewards points or miles that may be exchanged for goods, gift cards, bill credits, checks, or even other products. The standard debit card that is provided in such a bank checking account, in comparison, typically does not provide an initial bonus or ongoing possibilities to accrue points, as illustrated in Figure 1.



**Figure 1: Illustrate the Conceptual Framework usage and Adoption of Credit Cards.**

3.1.2. *Cash Back:*

The Discover cash-back credit card, which was made popular in the United States (US), operated on a straightforward premise: use the card to earn 1.00% of your purchases reimbursed in cash back. The idea has developed and gained popularity nowadays. Currently, several credit cards offer 2.00%, 3.00%, or even 6.00% cash back on particular purchases, however, these alluring offers have quarterly or annual spending caps. The finest cash-back credit cards include no annual fees, low-interest rates, or high reward percentages. Some credit cards, like the Fidelity Rewards card, provide high payback rewards rates of 2.00% on all transactions, but to take advantage of these benefits, you must deposit your money directly into a Fidelity investment account.

3.1.3. *Bonus Points:*

If you use the right credit card, you might receive one or more points for every dollar spent. Many reward credit cards provide extra points for certain sorts of transactions, such as gasoline, retail purchases, or dining out. After fulfilling certain earning criteria, points can be redeemed through the credit card company's online rewards program for goods, gift cards to shops and restaurants, as well as travel. The opportunities for credit card incentives are virtually endless. Choose a credit card that shares a logo with a chain of hotels, a retailer, or even a nonprofit. Then, you may utilize your regular purchases to earn points every day. It's crucial to choose a credit card that complements your spending style. Oppositely changing your purchasing patterns only to use a certain card might be detrimental. However, if you already do business with a certain retailer or have a sweet spot for a particular hotel [19], [20].

#### 3.1.4. *Safety:*

It's easy to stay away from the pitfalls of extortion when making purchases with a credit card. When a fraudster uses your check card, money is deducted from your account immediately. The original invoices for which you have set up web-based installments or paid by postal check may not be paid, causing you late fees and wasting your credit. Even if missing or late payments aren't your fault, they can harm your financial valuation. While the bank conducts its checks, it may require some investment before the wrong transaction can be reversed and cash is credited to your account. However, if your visa is used fraudulently, you will not lose any money. All consumers have to do is prepare the charge card organization for extortion and accept payment while the situation is resolved. MasterCard networks, for example, Visa and MasterCard, offer no-fee coverage for wrongful purchases to encourage customers to use their cards instead of cash or checks.

#### 3.1.5. *Grace Period:*

Your money is immediately spent when you make a transaction using a debit card. Your money stays in your checking account after you make a transaction using a credit card until you settle the balance. Keeping your money in reserve during this extra period might be beneficial in two ways. First off, even a minute's time worth of the money will result in savings for you. Your purchase is somewhat less expensive than it would be if you made the payment later. Furthermore, paying using a credit card rather than cash, debit card, or check allows your money to stay in your bank account for a longer amount of time. Furthermore, if you settle your credit card amount using an interest-bearing checking account during the grace period, you will make money. The additional cash will eventually add up to a sizable sum.

#### 3.1.6. *Insurance:*

Most people are unaware that the majority of credit cards include several consumer safeguards, such as automatic travel insurance, rental car insurance, and possible product warranties that were longer than the manufacturer's warranty.

#### 3.1.7. *Universal Recognition:*

It could be difficult to use a debit card for some transactions. However, if your Visa is used fraudulently, consumers will not lose any money. All consumers need to do is prepare the charge card organization for extortion and concede payment while it solves the situation. Mastercard networks, for example, Visa and Mastercard, offer no-fee coverage for incorrect purchases to encourage customers to use their cards rather than cash or cheques. As a result, the business can want you to put a hold on a few hundred dollars if you wish to pay for one of these things using a credit card. Furthermore, shops in other nations commonly decline to take your credit card while you're there, even if it has the logo of a large bank.

### 3.2. *Benefits or Drawbacks of Using a Credit Card:*

Due to their simplicity of use and practical pay-back choices, credit cards have become a necessary part of our life. A credit card offers discounts, offers, as well as deals that are unsurpassed by any other financial good and are a gold mine for the savvy user. Nevertheless, if used improperly or if you charge more than you can afford to pay back when the bill arrives, credit cards may turn into debt traps. Here is a rundown of the benefits and drawbacks of your tiny plastic card if you're new to the world of credit.

### 3.2.1. *Easy Credit Access:*

The biggest benefit of credit cards is how simple it is to get credit. Users can use a credit card, but because they need delayed payment, they will now have to pay for their purchases later. Because no money is taken out of your account each time you swipe, your bank balance stays the same.

### 3.2.2. *Making room for EMI:*

If you choose not to utilize your entire available credit limit on anything, someone may opt to charge a significant transaction to your credit card as a way to postpone payment. To avoid paying it off all at once and emptying their bank account, people can alternatively choose to pay it off in equalized monthly payments. Compared to obtaining a personal loan and paying for an expensive refrigerator or television, an EMI payment plan is more economical.

### 3.2.3. *Incentives and Promotions:*

The majority of credit cards provide several bonuses and promotions. By making purchases with your card, you may earn reward points that can then be converted into airline miles, cash back or a credit against an outstanding balance. Lenders frequently provide discounts on credit card purchases, such as vacations, large purchases, or plane tickets, to save you money.

### 3.2.4. *A Cost Breakdown:*

All of the credit card transactions that have been registered are fully described in your monthly credit card statement. This might be useful for recording or estimating your expenses or purchases when creating a budget or for tax purposes. Lenders provide you with quick information when you swipe your card, indicating how much credit is still available or how much is now outstanding on your card.

## 3.3. *Disadvantage:*

### 3.3.1. *Bare Minimum Trap:*

Every credit card transaction that has been registered is fully described in your monthly credit card statement. This might be useful for recording and estimating your expenditures and purchases when creating a budget or for tax purposes. Lenders provide you with quick information when you swipe your card that highlights how much credit is still available and how much is currently owed.

### 3.3.2. *Added Expense:*

Credit cards are simple and convenient, but they also come with several additional costs that can dramatically increase the overall cost. Late payment costs, membership fees, renewal fees, or processing fees are just a few examples of taxes and charges that apply to credit cards. Your credit score or future credit chances might decline if you often miss payments or pay your bills late, which could lower your credit limit.

### 3.3.3. *Very simple to Use:*

Your bank balance stays the same when you have revolving credit, so you could be tempted to charge everything to get around knowing how much you owe. This might result in increased fees and the beginning of a new loan cycle with increasing interest rates for your subsequent payments.

#### 3.3.4. *Increasing Interest Rate:*

Without paying off your loan in full by your billing due date, the balance is carried forward as well as interest is assessed. On purchases made after the interest-free period has passed, this interest builds up over time. The typical interest rate for credit cards is 3%, or 35% per month, which is a quite high rate.

#### 3.3.5. *Credit Card Theft:*

Even while credit card theft is not extremely widespread, it is nevertheless possible for you to fall victim. The ability for someone else or a company to use your card for transactions has been made feasible by technological improvements making it easier to copy cards and access personal information. Check your statements carefully for any purchases that seem unusual, and then notify the bank straight once. If fraud is established, banks frequently cover the cost of the purchases made by the thief, so customers won't be responsible for them.

#### 3.3.6. *Establishing a Credit Line:*

You can raise your credit limit while using a credit card. This is crucial since banks will be able to view your active credit history based on how you use or return your card. Since banks and other financial organizations routinely assess credit cards used to establish a potential loan applicant's creditworthiness, your credit card will be required for any future loan or rental applications.

Major credit card companies levy a transaction fee that is calculated as a percentage of each sale. Many stores provide discounts in exchange for the ability to quickly collect your cash since a cash transaction increases the retailer's profit margin more than a comparable credit sale. The difference may be significant on a major item like a furniture set. However, the consumer protections offered by credit cards would be lost. As technology has developed, individuals have been leaving digital footprints in numerous aspects of people's life. Numerous research studies have published their assessments of this transition in consumer buying behavior from the traditional to the contemporary type of transaction, which is taking place as a result of the introduction of digitalization.

The significance of having a credit card is growing among Botswanans, according to the study "Credit Card Ownership but also Usage Behavior in Botswana. The objective of this study was to provide evidence of the relationship between the owner of the credit card facility and the characteristics and usage patterns of its consumers. The results of this study shift the focus back to the association between credit card use and owner characteristics including age, income, and level of education. The use of credit cards and a tendency to spend spare time engaging in compulsive shopping. For training and counseling their readers on how to utilize traditional and digital financial resources to the fullest extent possible, the authors here present informative data on the formation, revisions, and subsequent policies.

It is not practicable, even though there has been a link with a wide range of advantages, such as carrying actual cash everywhere. Systems for electronic money transfers, like credit card features, aid in enabling cashless modes and are compatible with smart card technology. However, it could result in higher levels of personal debt, lower savings, and higher overall consumption. One of the primary reasons credit card users have low savings rates is a lack of self-control, which prohibits consumers from using smart card technology effectively. The development of smart card technology has led to the observation that owner purchases have increased.

According to Trans Union CIBIL findings from 2017, Indian consumers' dependency on credit cards increased by 57.00% over the previous 12 months. Additionally, it forecasted that around 18% of influential urban customers will likely make new credit card purchases in the future. The rural and isolated communities seen in underdeveloped countries are one of the primary situations where the suggested method would not be effective. Both regions still lag in terms of financial literacy and educational attainment, so it may be challenging for locals to comprehend the advantages of smart card technology. Additionally, it becomes challenging for them to understand the CIBIL score's purpose and how it would benefit them.

#### 4. CONCLUSION

One of the most significant developments in consumer financial services over the past several decades has been the rise in the use of credit cards as revolving credit sources or payment mechanisms. Today's market makes use of credit cards and debit cards to carry out millions of additional transactions that would otherwise be difficult or perhaps impossible, such as making retail purchases over the phone or online. The installment-purchase program that was crucial to increasing the sales volume at many retail businesses in earlier decades has been largely superseded by credit cards. The main source of unsecured open-end revolving credit is now credit cards. As India's borders are increasingly being opened to the world economy, the Indian credit card market is changing quickly. Major credit card companies have begun entering the Indian market as profit prospects have increased.

The early days of credit card users have seen virtually little use. They were mostly employed in high-end hotels, eateries, shops, and urban hubs. However, the Indian credit card business later underwent considerable adjustments. People can get cash-back rewards or airline miles by using credit cards wisely. People can take advantage of these benefits and keep high-interest rates away as long as people repay their loans in full and on time every month. However, according to studies, using a credit card can cost you more than using cash. To tailor their marketing efforts to potential clients, banks need thoroughly grasp the elements influencing the adoption of credit cards. The study examines the relationship between media awareness, media perspectives, familial influences, religious factors, and credit card knowledge. The study found that knowledge, media awareness, beliefs, and familial factors had a significant impact on consumer attitudes toward using credit cards. This paper's major goal is to learn more about how credit cards affect customer behavior. This paper will educate readers on credit cards and their advantages in the future.

#### REFERENCES

- [1] F. S. Hamid and Y. J. Loke, "Financial literacy, money management skill, and credit card repayments," *Int. J. Consum. Stud.*, vol. 45, no. 2, pp. 235–247, 2021, doi: 10.1111/ijcs.12614.
- [2] A. A. Taha and S. J. Malebary, "An Intelligent Approach to Credit Card Fraud Detection Using an Optimized Light Gradient Boosting Machine," *IEEE Access*, vol. 8, pp. 25579–25587, 2020, doi: 10.1109/ACCESS.2020.2971354.
- [3] Y. B. Limbu and S. Sato, "Credit card literacy and financial well-being of college students: A moderated mediation model of self-efficacy and credit card number," *Int. J. Bank Mark.*, vol. 37, no. 4, pp. 991–1003, 2019, doi: 10.1108/IJBM-04-2018-0082.
- [4] Y. Ming, C. Li, and J. Chen, "Acquisition mode and credit card overspending behavior: An empirical analysis of the credit card industry," *J. Consum. Aff.*, vol. 55, no. 1, pp. 232–253, 2021, doi: 10.1111/joca.12341.
- [5] U. G. Singh, "Investigating mobile payment adoption in Mauritius," *African J. Bus. Econ. Res.*, 2021, doi: 10.31920/1750-4562/2021/V16N3A13.
- [6] A. Kundan, A. Gupta, M. Kapoor, and B. Kumar, "Factors Influencing Consumer's Perception towards the Acceptance of Credit Cards," *Pacific Bus. Rev. Int.*, 2017.
- [7] K. Randhawa, C. K. Loo, M. Seera, C. P. Lim, and A. K. Nandi, "Credit Card Fraud Detection Using AdaBoost and Majority Voting," *IEEE Access*, vol. 6, pp. 14277–14284, 2018, doi: 10.1109/ACCESS.2018.2806420.

- [8] S. N. Kalid, K. H. Ng, G. K. Tong, and K. C. Khor, "A Multiple Classifiers System for Anomaly Detection in Credit Card Data with Unbalanced and Overlapped Classes," *IEEE Access*, vol. 8, pp. 28210–28221, 2020, doi: 10.1109/ACCESS.2020.2972009.
- [9] A. S. Hussein, R. S. Khairy, S. M. Mohamed Najeeb, and H. T. Salim ALRikabi, "Credit Card Fraud Detection Using Fuzzy Rough Nearest Neighbor and Sequential Minimal Optimization with Logistic Regression," *Int. J. Interact. Mob. Technol.*, vol. 15, no. 5, pp. 24–42, 2021, doi: 10.3991/ijim.v15i05.17173.
- [10] Y. Liu and S. Dewitte, "A replication study of the credit card effect on spending behavior and an extension to mobile payments," *J. Retail. Consum. Serv.*, vol. 60, 2021, doi: 10.1016/j.jretconser.2021.102472.
- [11] K. Y. Wong and M. Lynn, "Credit card cue effect: How mere exposure to credit card cues promotes consumers' perceived financial well-being and spending," *Int. J. Bank Mark.*, vol. 38, no. 2, pp. 368–383, 2020, doi: 10.1108/IJBM-01-2019-0010.
- [12] S. Sarofim, P. Chatterjee, and R. Rose, "When store credit cards hurt retailers: The differential effect of paying credit card dues on consumers' purchasing behavior," *J. Bus. Res.*, vol. 107, pp. 290–301, 2020, doi: 10.1016/j.jbusres.2018.08.031.
- [13] K. P. Prabheesh and R. Eki Rahman, "Monetary policy transmission and credit cards: Evidence from Indonesia," *Bul. Ekon. Monet. dan Perbank.*, vol. 22, no. 2, pp. 137–162, 2019, doi: 10.21098/bemp.v22i2.1039.
- [14] Umar Mohammed Idris, "Effects of Islamic Credit Cards on Customer Spending," *Bus. Manag. Rev.*, 2012.
- [15] A. Ahmed, A. Amanullah, and M. Hamid, "Consumer Perception and Attitude towards Credit Card Usage: A Study of Pakistani Consumers," *J. Comp. Int. Manag.*, 2009.
- [16] M. T. Liu and J. L. Brock, "Antecedents of redemption of reward points: Credit card market in china and international comparison," *J. Int. Consum. Mark.*, vol. 22, no. 1, pp. 33–45, 2010, doi: 10.1080/08961530902844923.
- [17] R. Roselin, "Customer Behaviour Analysis for Credit Card Proposers Based on Data Mining Techniques," *Int. J. Innov. Res. Adv. Eng.*, vol. 1, no. 11, pp. 2349–2163, 2014, [Online]. Available: <http://www.ijirae.com/volumes/vol1/issue11/11.NVCS10132.pdf>
- [18] M. Pulina, "Consumer behaviour in the credit card market: A banking case study," *Int. J. Consum. Stud.*, vol. 35, no. 1, pp. 86–94, 2011, doi: 10.1111/j.1470-6431.2010.00939.x.
- [19] M. Zulfeequar Alam and S. A. Elaasi, "A Study on Consumer Perception towards E-Shopping in KSA," *Int. J. Bus. Manag.*, 2016, doi: 10.5539/ijbm.v11n7p202.
- [20] A. Khare, A. Khare and S. Singh, "Asia Pacific Journal of Marketing and Logistics Factors affecting credit card use in India Factors affecting credit card use in India," *Asia Pacific J. Mark. Logist. J. Consum. Mark. Int. J. Bank Mark.*, 2012.

## CHAPTER 3

### A SYSTEMATIC ANALYSIS OF E-COMMERCE TECHNOLOGY AS A BUSINESS TREND

---

Dr. Muddu Vinay, Professor & Pro Vice Chancellor,  
School of Management, Presidency University, Bangalore, India,  
Email Id-muddu.vinay@presidencyuniversity.in

**ABSTRACT:** *Electronic commerce and its uses are growing daily along with the Internet and E-commerce is a rapidly expanding field of technology that is entirely supported by the internet and networking. This study sheds light on how quickly e-commerce is developing, as well as how security concerns are grabbing the attention of people in the many domains of online buying, electronic money transfer, systems integration, and Internet marketing merchant services. The results show the progress of e-commerce is largely dependent on the contract's protection. E-commerce is becoming more and more popular around the world, and it is playing a significant role in internet shopping marketing. The author concludes that with the rapid growth of the internet in India, this paper discusses the knowledge base of keyword research or e-commerce, annotated bibliography, and immediate and potential aspects of e-commerce in India. The objective of this paper is to highlight the significant role E-commerce is expected to play in the new employment sector that will be created and will be available to both giant organizations and small businesses.*

**KEYWORDS:** *Businesses, Electronic, E-Commerce, Internet, Marketing.*

#### 1. INTRODUCTION

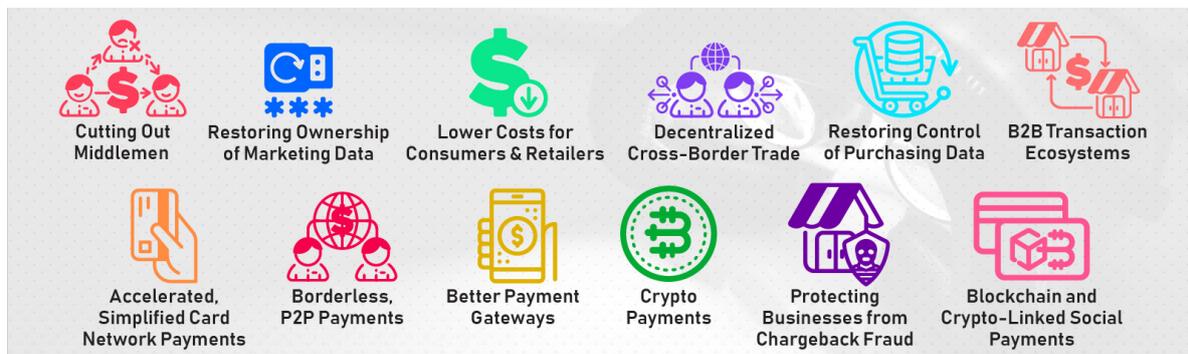
The development and proliferation of the internet around the globe have an impact on people's daily lives. Nearly every part of their way of life had been altered in some way, and some internet elements had been introduced. Internet jobs and employment are now two of the most essential topics in the online world of internet-based home shopping. E-commerce is purchasing and selling goods and services online, or on various networks. The act of doing business using computer networks is known as electronic commerce. One may use the Internet's purchasing and selling capabilities while seated in front of a virtual machine.

The E-commerce market has made it simpler for people to eliminate physical labor and save time compared to conventional commerce, which is accomplished materially with a patient's effort to travel and collect items. Payment, clearing, and settlements of credit debit claims in a timely and safe manner are critical components of e-commerce [1]–[3]. Everyone believes that if we depend on traditional payment methods like cash, cheques, bank draughts, or bills of exchange, the clearing and settlement procedure is a possible bottleneck in the quick-paced online tourism ecosystem. Many businesses have used the internet and e-commerce to save costs, boost sales, and improve customer experience [4]–[6]. This method of doing business encourages and draws upon advancements in

- Online money transfers
- The electronic movement of funds from one organization to another, whether it's inside a using computer-based system, inside a trading entity, or between many institutions.
- Supply chain administration
- It involves overseeing a network of related companies that are responsible for providing the final product bundles of goods and services needed by final consumers.

- Online advertising
- The marketing (usually promotion) of goods or services on the Internet is associated with internet market research, also referred to as online brand management, marketing, digital advertising, or electronic marketing.
- Processing transactions online
- It speaks of a group of management and facilitation solutions for transaction-oriented applications usually for transaction processing including data input and retrieval.
- Electronic Data Interchange (EDI)
- It is the electronic communication of structured data between companies. It serves to move digital files or commercial information from one personal computer to another system, i.e. without human interference from one trade partner toward another merchant.
- System for managing inventory

The positioning and size of stored items are largely specified inventory control is necessary at a facility's various locations or throughout a supply network's many hubs to guard against arbitrary running interference and preserve the planned and regular stream of products made from products or resources. Figure 1 illustrated the blockchain for e-commerce use cases.



**Figure 1: Illustrated the blockchain for e-commerce use cases [7].**

Whenever a person writes about one's organization on a digital platform, one seeks to avoid that area, whether that person's opinion is positive or poor. Involving the opinions of organizations, on the other hand, helps to strengthen one's brand and convey a powerful message to save one's image. Involving opinions on a personal website or blog is just as responding to the opinion of one's organization is the most important part of creating efficient communication in one's industry, responding to the viewing public who is engaged in having to watch one's organization's content is the most effective way to create good communication in one's industry. Inbound Marketing (IM), IM refers to a marketing strategy in which a practitioner attracts, engages, and delights customers at all phases of their journey. All computerized promotional methods are available. In comparison to traditional advertising, here are some outstanding instances of inbound advertising:

- Pop-up ads vs. blogging
- Advertising messaging vs. video advertising
- Sending content-related emails to contacts vs. spam mail

#### *1.1. Content That Is Funded:*

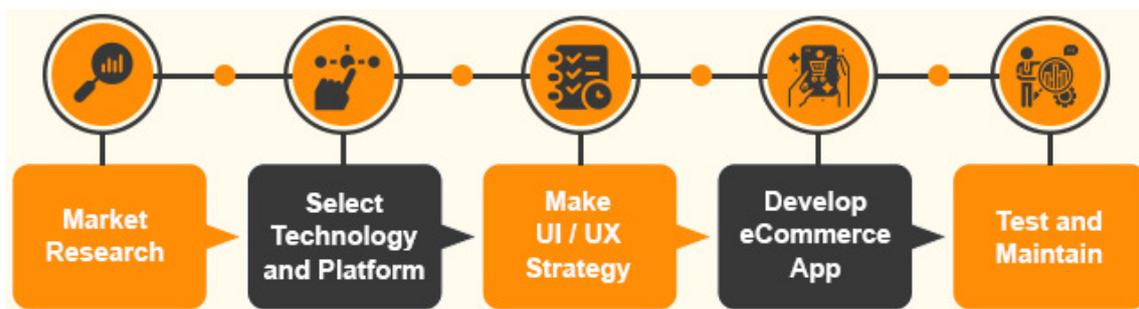
The paid content gives you a brand that pays someone else's organization to improve to create and market data that describes your service or brand in some way. Product placement is a

well-known type of material. It is a technique of performing advertisements with talent. With this sort of sponsored content, a business funds a professional influencer to broadcast a video or produce material relating to the organization.

### 1.1. Timeline of the eCommerce:

- Michael Aldrich created internet purchasing in 1979.
- The first business-to-business (B2B) internet retailer was Thomson Holidays in the United Kingdom (UK) in 1981. 1982 saw France Telecom's statewide rollout of Minitel, which was utilized for online purchasing [8].
- Mrs. Snowball, 72, became the first online home shopper in 1984 with the Gateshead SIS/Tesco business-to-consumer (B2C) online shopping launch.
- 1985: Mitsubishi UK sells vehicles online from dealer lots and offers financing with credit checks to clients.
- 1987: Swreg launches a service that enables shareware and software creators to sell their works online using an electronic commerce site [9].

1990: Using the NeXT computer, Tim Berners-Lee creates the first search engine, Worldwide Web. Figure 2 discloses the eCommerce development process.



**Figure 2: Discloses the eCommerce development process [10].**

- 1994: Netscape unveils the Navigator browser, code-named Mozilla, in October. On its website, Pizza Hut provides online ordering. The initial online bank launches. Attempts to sell magazine subscriptions and flower deliveries online. The same goes for adult materials, automobiles, and bicycles. Late in 1994, SSL encryption was made safe with the release of Netscape 1.0 [11].
- 1995: The first 24-hour, no-commercial broadcasters, Transmitter HK and Net Radio go on the air, and Jeff Bezos opens Amazon.com. Dell and Cisco start to utilize the Internet for business transactions extensively. Pierre Omidyar, a computer programmer, established eBay as Auction Web [12].
- 1998: Online retailers began offering electronic postal stamps that could be downloaded and printed.
- In 1999, Business.com, which had cost companies US \$149,000 in 1997, sold for the United States (US) \$7.5 million. Launch of the peer-to-peer file-sharing program Napster. ATG Stores opens to sell home decor online [13].
- The dot-com bust of 2000.
- PayPal is purchased by eBay in 2002 for \$6 billion. The idea behind the establishment of niche retail businesses CSN Stores and Net Shops was to offer goods via several focused domains rather than a single central gateway.
- 2003 saw Amazon.com report its first annual profit.
- R.H. Donnelley purchased Business.com in 2007 for \$345 million.

- In 2009, Amazon.com paid \$928 million to purchase Zappos.com [14].
- Retail Convergence, the company behind the private sales website RueLaLa.com, was purchased by GSI Commercial activity for \$180 million, with an additional \$207 million in earn-out compensation contingent upon performance through 2012 [15], [16].
- According to reports, Google made a \$6 billion bid on Groupon in 2010. The group purchasing websites want to proceed with their IPO in mid-2011 instead. US the e-commerce market and internet shopping sales are anticipated to hit \$197 billion in 2011, up 13% from 2010. Amazon.com purchased Quidsi.com, the parent business of Diapers.com, for \$500 million in assets in addition to \$45 million in savings and other commitments.

## 2. LITERATURE REVIEW

R. Langan et al. in their study embellish the different aspects of roughly fifty organizations that employ a digital marketing approach, we looked at digital marketing and its influence on sales. This paper's findings demonstrate the value of content marketing for both evangelists and consumers. The study examines the impact of digital marketing on a company's income. The distinctions between forms of marketing are also examined in the study. The author states that this study has covered a variety of digital marketing strategies, their utility, and the influence they have on revenues. The results of the poll do not include information on increased sales as a result of Facebook's digital marketing efforts [17].

Saura, Jose Ramon, et al. in their study illustrates that in the promotion of items, internet marketing is quite important. Filled with a lot of return of interest in social media marketing at both the retail and corporate level, Saura, Jose Ramon, et al. applied a methodology during which participants explained that perhaps a different promotion impact, when done on Facebook and Twitter campaigns, started showing at both the organization and the customer level. The results reveal that social media accounts have the most impact at the corporate level. While some firms struggled with Twitter and Facebook engagement, the author believes that the usage of measurements helped. offered them a major competitive advantage [18].

E.M. Olson et al. in their study embellish that the internet ushered in a slew of new digital marketing strategies, which wreaked havoc on the company scene. Olson et al. applied a methodology in which they stated that with new tactical possibilities, marketing managers must now prioritize what they want to achieve and decide which digital marketing approaches to investing in. the results show Adventurers, analyses, low-cost defenders, and unique freedom fighters are four business methods that the author considers as he investigates these issues. The author concludes that this paper will provide business owners with insight into how organizations pursuing various strategies deal with these digital marketing challenges, with the ultimate goal of assisting managers in the effective and successful execution of their company's preferred strategy [19].

This study elaborates that at both the consumer and business levels, there has been a resurgence of interest in social media marketing. The findings reveal that social media account has the greatest impact at the organizational level. While other organizations were still battling with social media responsibilities, the author concluded that using analytics gave them a significant competitive edge.

### 3. DISCUSSION

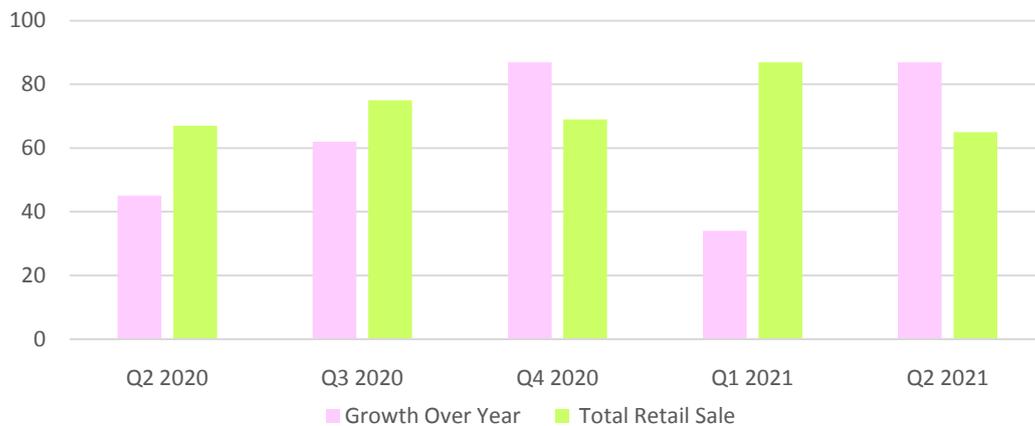
In the modern technological era, e-commerce offers a broad variety of uses. The author lists a few of them in this paper.

#### 3.1. Automating Documents:

The development of digital information is aided by the workforce and system designs. These include argument systems that piece together new documents from original messages and data. In certain businesses, it is becoming more common to put together partnerships, legal papers, and letters using this method. Additionally, dependent text, adjustable text, and data stored inside a collection of papers may all be automated using a documentation admin tool [20].

#### 3.2. Systems For E-Commerce Payments:

A system for electronic payments in e-commerce makes it easier to take payments online. E-commerce banking transactions, sometimes referred to as an example of Electronic Data Interchange (EDI), are becoming more and more well-liked as a result of the extensive usage of online banking and shopping. Due to the perceived higher risk of fraud, many customers were hesitant to use their electronic payments for B2C purchases in the early years. 90 percent of UK residents still avoid online shopping because they don't trust internet payment methods, according to recent data. Online shopping is still considered to be secure by 54% of respondents, up from 86% in 2021. Figure 3 embellishes The Different Growth Scales of Ecommerce in Discrete Quarters [21].



**Figure 3: Embellishes The Different Growth Scale Of Ecommerce In Discrete Quarters.**

#### 3.3. Content Management For Businesses:

Documents and other material related to an organization's operations may be formally organized and stored using enterprise content management (ECM). The phrase covers all tactics, procedures, and equipment used during the content's lifespan.

#### 3.4. Bulk Purchasing:

Group purchasing, commonly referred to as collective buying, provides goods and services at much lower costs in exchange for a certain minimum number of purchasers. The practice of team purchasing, or tuángu, was used in China to negotiate lower rates from merchants when a big number of individuals were eager to purchase the same item. Group purchasing websites have been a significant role in the online retail market recently. These web pages

often provide a bargain of the day, which becomes active if a certain number of individuals commit to purchasing the item or service. The purchasers then print a coupon to present to the merchant to redeem their discount. Numerous group purchasing websites operate by striking partnerships with neighborhood retailers and promising to bring in crowds in return for discounts [22].

### 3.5. Computerized online helpers:

Software that employs machine learning that can provide customer support or other help on a website is known as an automated online assistant. Such a personal assistant may essentially be made up of a conversation system, an avatar, and an expert system that can provide the user with specialized knowledge. Automated online assistants can provide customer service twenty-four hours a day, seven days a week, and may, at the very least, be a compliment to human service quality.

### 3.6. The newsgroups:

A newsgroup is a collection of messages submitted by numerous users in many places, often inside the Usenet system. Some people may find the phrase puzzling since it normally refers to a community forum. While technically different from discussion groups, newsgroups are comparable to them in terms of functionality. Planning to make are read using news presenter freeware.

- *Online Purchasing:*

Buying goods and/or services from a vendor online in real-time without the need for a middleman service is called online commerce. It is a kind of online trade. The physical equivalent of purchasing goods or services from a paver's merchant or at a shopping Centre is evoked by the terms business. If a company, shop, e-store, broadband shop, webshop, website, authorized retailer, or virtual store. Online purchasing from a business to a consumer, or B2C, is the process. Business-to-Business (B2B) internet commerce refers to transactions between businesses.

- *Banking Online:*

Your financial cyber security continues to be put at risk by online payments. Checking account hacks have affected millions of individuals, mostly as a consequence of internet banking. You should be aware of the dangers and take preventative measures to reduce them if you plan to perform financial transactions via internet banking. You may prevent typical security issues with online banking by using the measures listed below, which are covered in more detail in this document:

- Read the whole policy and privacy details.
- Using unusual and challenging-to-guess login details.
- Keep your PC secure.
- Regularly check the balance of your account.
- Use credit cards for payment.
- Don't use a public computer to access your account.
- Check bank email communication for accuracy.

- Act quickly if your system is compromised.
- *Online Workspaces:*

A sort of office suite delivered by websites as software as a service is an online office suite, often known as an online productivity suite. Any Internet-capable device having any software may access them online. This makes it possible for anyone to collaborate online and at any time, fostering global web-based cooperation. Typically, its more basic versions are provided without charge, while the more complex ones need a small monthly membership fee.

- *Software for Shopping Carts:*

Shopping cart software, sometimes known as "shopping cart" in American English, is a kind of e-commerce tool that helps customers make purchases online. It is often referred to as a carrier bag in British English and is abbreviated to "basket" on websites nearly entirely. Customers who shop online may compile a list of products they want to buy using the program, which is referred to as "putting stuff in the checkout process" in a metaphorical sense. When placing an order, the technology normally generates a number that includes the cost of postal, packaging, and transportation as well as any relevant taxes [23].

- *Video Conferences:*

The live communication and mass interpretation of knowledge among several individuals and computers that are apart from each other but connected by a communication connection are known as videoconferencing or gaining additional knowledge. Conferencing has sometimes been referred to by terms like audio conferencing, telephony voice and video, and phone conferencing. To enable the teleconference, the telecoms system may provide one or more of the trying-to-follow audio, video, and/or data offerings through one or more methods, including the telephone, computer, typewriter, terminal emulation, radio, and television [24].

- *Digital Tickets:*

When a passenger on a civilian aircraft is purchased, it is often done so online, over the phone, sometimes at an airline ticket counter, or via a travel agency. This is known as an electronic ticket or e-ticket. From almost zero to 100% in around ten years, this kind of plane ticket promptly replaced the earlier multi-layered boarding passes and became required for IATA members as of June 1, 2008. Airlines routinely added fees for providing paper tickets during the final few years while they were still an option. Some entertainment venues also provide electronic tickets [25].

#### 4. CONCLUSION

People's everyday lives are impacted by the global expansion and development of the internet. Almost every aspect of their manner of life had undergone some kind of change, and some online components had been added. The two most important themes in the online environment of information home deliveries right now are jobs and work. In this paper the author discussed e-commerce then the author discussed its many applications, including electronic bank transactions, procurement, online transaction processing, internet marketing, electronic data interchange (EDI), and stock control. The following looked somewhere at the chronology of e-commerce. The results show several e-commerce applications in further depth. They included discussions, mechanized online aides, online office suites, e-commerce payment solutions, business process management, group purchasing, automated trading assistants, supermarket trolley software, videoconferences, and electronic tickets. The future potential of this paper is the development of automated electronic data interchange.

## REFERENCES

- [1] X. Yang, X. Chen, Y. Jiang, and F. Jia, "Adoption of e-commerce by the agri-food sector in China: the case of Minyu e-commerce company," *Int. Food Agribus. Manag. Rev.*, vol. 23, no. 1, pp. 157–171, Jan. 2020, doi: 10.22434/IFAMR2019.0049.
- [2] J. Lv, Z. Wang, Y. Huang, T. Wang, and Y. Wang, "How Can E-Commerce Businesses Implement Discount Strategies through Social Media?," *Sustainability*, vol. 12, no. 18, p. 7459, Sep. 2020, doi: 10.3390/su12187459.
- [3] S. Noamna and S. Kiattisin, "A Conceptual Model of E-Commerce Taxation Using a Circular Model for E-Commerce Sustainability," *J. Mob. Multimed.*, Aug. 2020, doi: 10.13052/jmm1550-4646.16126.
- [4] J. Šaković Jovanović, R. Vujadinović, E. Mitreva, C. Fragassa, and A. Vujović, "The Relationship between E-Commerce and Firm Performance: The Mediating Role of Internet Sales Channels," *Sustainability*, vol. 12, no. 17, p. 6993, Aug. 2020, doi: 10.3390/su12176993.
- [5] Q. Ding and H. Zhao, "Study on e-commerce logistics cost control methods in the context of COVID-19 prevention and control," *Soft Comput.*, vol. 25, no. 18, pp. 11955–11963, Sep. 2021, doi: 10.1007/s00500-021-05624-5.
- [6] I. Zuniarti *et al.*, "The effect of the presence of e-commerce on consumer purchasing decisions," *Int. J. Data Netw. Sci.*, pp. 479–484, 2021, doi: 10.5267/j.ijdns.2021.3.005.
- [7] A. T. Bin Serojai, H. B. Ujir, and I. H. B. M. Hipiny, "E-commerce readiness assessment in Sarawak," *Acta Inform. Pragensia*, 2021, doi: 10.18267/I.AIP.153.
- [8] A. Abudureheman and A. Nilupaer, "Optimization model design of cross-border e-commerce transportation path under the background of prevention and control of COVID-19 pneumonia," *Soft Comput.*, 2021, doi: 10.1007/s00500-021-05685-6.
- [9] V. Gomero-Fanny, A. R. Bengy, and L. Andrade-Arenas, "Prototype of Web System for Organizations Dedicated to e-Commerce under the SCRUM Methodology," *Int. J. Adv. Comput. Sci. Appl.*, 2021, doi: 10.14569/IJACSA.2021.0120152.
- [10] M. Choshin and A. Ghaffari, "An investigation of the impact of effective factors on the success of e-commerce in small- and medium-sized companies," *Comput. Human Behav.*, 2017, doi: 10.1016/j.chb.2016.09.026.
- [11] I. O. Adam and M. D. Alhassan, "The Role of Social Media in the Diffusion of E-Government and E-Commerce," *Inf. Resour. Manag. J.*, vol. 34, no. 2, pp. 63–79, Apr. 2021, doi: 10.4018/IRMJ.2021040104.
- [12] I. D'Adamo, R. González-Sánchez, M. S. Medina-Salgado, and D. Settembre-Blundo, "E-Commerce Calls for Cyber-Security and Sustainability: How European Citizens Look for a Trusted Online Environment," *Sustainability*, vol. 13, no. 12, p. 6752, Jun. 2021, doi: 10.3390/su13126752.
- [13] B. Zhang, Z. Du, B. Wang, and Z. Wang, "Motivation and challenges for e-commerce in e-waste recycling under 'Big data' context: A perspective from household willingness in China," *Technol. Forecast. Soc. Change*, 2019, doi: 10.1016/j.techfore.2018.03.001.
- [14] Y. Cai, D. Wang, C. Xia, and C. Wang, "Study on the governance mechanism of rural e-commerce service centers in rural China: Agency problems and solutions," *Int. Food Agribus. Manag. Rev.*, 2019, doi: 10.22434/IFAMR2018.0088.
- [15] N. Hua *et al.*, "The power of e-commerce," *Int. J. Contemp. Hosp. Manag.*, vol. 31, no. 4, pp. 1906–1923, Apr. 2019, doi: 10.1108/IJCHM-02-2018-0168.
- [16] T. E. Mofokeng, "The impact of online shopping attributes on customer satisfaction and loyalty: Moderating effects of e-commerce experience," *Cogent Bus. Manag.*, vol. 8, no. 1, Jan. 2021, doi: 10.1080/23311975.2021.1968206.
- [17] R. Langan, S. Cowley, and C. Nguyen, "The State of Digital Marketing in Academia: An Examination of Marketing Curriculum's Response to Digital Disruption," *J. Mark. Educ.*, 2019, doi: 10.1177/0273475318823849.
- [18] J. R. Saura, "Using Data Sciences in Digital Marketing: Framework, methods, and performance metrics," *J. Innov. Knowl.*, 2021, doi: 10.1016/j.jik.2020.08.001.
- [19] E. M. Olson, K. M. Olson, A. J. Czaplewski, and T. M. Key, "Business strategy and the management of digital marketing," *Bus. Horiz.*, 2021, doi: 10.1016/j.bushor.2020.12.004.
- [20] Y. Lin, "A study on the relationship between project management competency, job performance and job motivation in e-commerce industry," *Meas. Bus. Excell.*, 2021, doi: 10.1108/MBE-10-2020-0144.
- [21] S. H. Khahro, S. Hassan, N. Y. B. Zainun, and Y. Javed, "Digital Transformation And E-Commerce In Construction Industry: A Prospective Assessment," *Acad. Strateg. Manag. J.*, 2021.

- [22] S. Jain and M. Sundström, "Toward a conceptualization of personalized services in apparel e-commerce fulfillment," *Res. J. Text. Appar.*, 2021, doi: 10.1108/RJTA-06-2020-0066.
- [23] L. Li, J. Lin, O. Turel, P. Liu, and X. (Robert) Luo, "The impact of e-commerce capabilities on agricultural firms' performance gains: the mediating role of organizational agility," *Ind. Manag. Data Syst.*, 2020, doi: 10.1108/IMDS-08-2019-0421.
- [24] Y. Chang, S. F. Wong, C. F. Libaque-Saenz, and H. Lee, "e-commerce sustainability: The case of Pinduoduo in China," *Sustain.*, 2019, doi: 10.3390/su11154053.
- [25] D. Tolstoy, E. R. Nordman, S. M. Hånell, and N. Özbek, "The development of international e-commerce in retail SMEs: An effectuation perspective," *J. World Bus.*, vol. 56, no. 3, p. 101165, Apr. 2021, doi: 10.1016/j.jwb.2020.101165.

## CHAPTER 4

### A REVIEW OF INVENTORY MANAGEMENT METHODS AND FACTORS THAT AFFECTING BUSINESS

Dr. Muddu Vinay, Professor & Pro Vice Chancellor,  
School of Management, Presidency University, Bangalore, India,  
Email Id-muddu.vinay@presidencyuniversity.in

**ABSTRACT:** *Inventory management (IM) is critical to improving the effectiveness and competitiveness of commercial organizations. It also contributes to cost-effectiveness, time efficiency, and inventory purity. Factors affecting business such as political, economic, sociocultural, technological, environmental, and legal factors. The challenges that arise in managing inventory management such as uneven tracking, poor visibility, complex supply chains, excess inventory, and lack of expertise and insufficient software. Hence all these challenges are overcome with help of managing inventory management methods, and techniques such as demand planning, inventory classification, safety stock, consolidated tracking, and human error reduction. In this paper, the author focuses on managing inventory management and factor affecting business such as economic factors, demographic factors, social factors, and so on. It concluded that using inventory management processes can help us save costs, maintain accurate stock counts, and make efficient use of both people and resources. The scope of an inventory system can accommodate a variety of needs, such as inventory valuation, tracking inventory adjustments, and forecasting future inventory levels.*

**KEYWORDS:** *Business, Company, Economic, Inventory, Management.*

#### 1. INTRODUCTION

Inventory management involves placing orders, placing them, and using the supplies or goods used by the company. Inventory of raw materials, cycles, and Maintenance, Repair, and Overhaul (MRO) products are just a few examples of the many different types of inventory. Users can determine what they should buy or make more frequently to reliably meet customer expectations by prioritizing their inventory [1],[2]. Even though good inventory management is essential to business success, many small businesses lack the resources to manage the products they sell. Meeting customer expectations can be challenging for some businesses because they do not keep a large inventory [3],[4]. Because of this, customers regularly turn away, sometimes permanently and sometimes from another business. However, many businesses choose the opposite strategy and supply their goods just in case [5],[6]. Even if the company will always have the item customers want, the risk with this strategy is that your company will go bankrupt. It costs more to keep and track excessive inventory than it does to use up significant cash flow [7],[8]. Between these two extremes lies where efficient inventory management lies [9],[10]. Although setting up an efficient management process requires more time and planning, your efforts will result in higher returns [11],[12]. Inventory is one of the most important assets of an industry. The company's activities in retail, manufacturing, food preparation as well as other inventory-intensive industries are based on its inputs and finished goods. Lack of inventory can be quite harmful. Even though it is not a liability in the sense of traditional accounting, inventory can still be considered.

When there is a large inventory, the risk of spoilage, theft, loss, or changes in demand is greater. Always insure your inventory, which may perish or be resold at clearance prices if it is not sold quickly. For businesses of all sizes, inventory management is essential. Small businesses typically maintain their inventory manually when using spreadsheet formulas to determine order quantities and quantities. Large businesses will employ specialized enterprise

resource planning (ERP) software. Highly customized applications as a service (SaaS) are used by the largest organizations. Inventory is often spread between multiple points along the supply chain in companies fulfilling orders from multiple channels. Inventory visibility is the knowledge of what stock a company has and where it is located. Businesses must calibrate their inventory properly to ensure that customer requirements are met, reduce delivery turnaround times, and minimize stock-outs, overpriced and markdowns. The most valuable asset of a business may be its inventory. When it comes to inventory management, the entire supply chain comes together. A dissatisfied consumer may be the result of not having enough inventory when they need it. The cost of keeping and insuring a large inventory, as well as the risk of spoilage, theft, and damage, are all liabilities that come with it. Businesses with complex production and supply networks must strike a fair balance between holding excessive and insufficient inventory.

### *1.1. History of Inventory Management:*

Hermann Hollerith created the first punch card that a machine could read in 1889, by making tiny holes in sheets of paper, individuals were allowed to collect data for a variety of reasons, such as sensors and timesheets for the workplace. In the 1930s, Harvard University used Hollerith's concept as inspiration to develop the first check-out system in use today. It generated invoices and managed inventory using punch cards referencing catalog items. Punch cards were filled by customers, which were read by computers and sent to the warehouse, which then delivered the item to the consumer. Although it is still in use today for expensive, regulated goods such as medicine, the method did not catch on due to its high price and poor speed. Between the late 1940s and early 1990s, the precursor to the contemporary barcode was developed. It was composed of an ultraviolet-sensitive reader and ink.

Unfortunately, his assumption had not yet been adopted by technology, making the system overly bulky and without the computational power needed for success. Modern barcodes were developed in the 1960s by a group of businesses to track inventories. Scanners can be made faster and cheaper thanks to lasers. Inventory monitoring became more effective in the 1980s and 1990s with the introduction of increasingly sophisticated software and computers. From procurement to tracking and monitoring, and later, again, these systems operate in cycles. As personal computers became more widely used, barcodes and readers became significantly less expensive. Barcode inventory management, especially with small and medium-sized companies, has been sluggish in the beginning as there was no room for businesses to keep the data they collected. Until recently, inventory monitoring was done manually by scanning things and entering data manually into the computer. Inventory management software advanced in the early 2000s, making it unnecessary for firms to manually enter data and enabling barcode readers to quickly update databases.

The present paper is a study about small businesses needing effective inventory management because it helps them manage various locations, avoid running out of products and maintain accurate records. Using an inventory solution instead of having to complete these tasks manually simplifies them. This study is divided into several sections, the first of which is an introduction, followed by a review of the literature and suggestions based on previous research. The next section is the discussion and the last section is the conclusion of this paper which is declared and gives the outcomes as well as the future scope.

## **2. LITERATURE REVIEW**

Rashmi Ranjan Panigrahi [13] et al. have explained inventories management practices (IMP) are widely used in organizations to control and monitor inventory. The main objective is to

assess how distribution changeover and inventory automation affect competitive strength and operational efficiency in steel manufacturing companies. The author claims that several statistical procedures, including the Kolmogorov-Smirnov test, confirmation factor analysis, multiple linear regression, and correlations, were applied. The study demonstrates the significance of distribution turnover (DT) in the technique of inventory management (IM), but it also shows that it has a higher impact on manufacturing enterprises' competitive strength (CS). In conclusion, the effect of IMP on the performance of manufacturing enterprises among five chosen steel production units.

Esha Saha and Pradip Kumar Ray [14] have explained how to reduce inventory-related costs, IM in a public healthcare system must be consistent with its procedures and key features. These elements are taken into consideration in the author's analysis of various IM systems used in the healthcare sector. The author has gathered and critically analyzed the present modeling approaches and approaches to solutions for healthcare inventory systems. The study showed the integrated framework's applicability, potential, and usefulness for studying systems for IM in the healthcare sector. In conclusion, enhancing the efficiency of healthcare IMS reduces inventory-related expenditures, which may ultimately result in a decrease in the cost of treatment.

Marcela Malindzakova and Dominik Zimon [15] have identified the things that are crucial to the business as the major goal of IM. The purpose of the paper is to show how the application of inventory management might help the company's sales in a few specific areas. To assess a logistics corporation's sales data from the sale of vehicle components, the author has used a case study scenario. The article's concluding sections compare the company's better condition in terms of tracked sales indicators. The pricing comparison shows that shipping firm Car's package, with a total monthly cost of 8,920.00 Euros, is the most appropriate one. In conclusion, maintaining an adequate supply of materials will ensure that consumer demands are satisfied regularly.

Daniel Atnafu and Assefa Balda [16] have explained the effect of IM practices on business performance and attractiveness. The 188 micro and small businesses (MSEs) that operate in the manufacturing sub-sector provided the author with the data for the study, and structural algebraic modeling was used to examine the correlations and hypotheses given in the conceptual framework (SEM). It has been demonstrated that better inventory management practices may improve competitive edge and organizational effectiveness. Furthermore, a company's performance may be immediately and favorably impacted by a competitive edge. The study concludes that a firm's increased competitiveness may enable it to apply more IM processes due to the need to consistently outperform its competitors and preserve its market advantage.

Thomy Eko Saputro [17] et al. has explained that the process of controlling supply is not simple, and it becomes more difficult as uncertainty and interruptions increase. The choice of suppliers for strategic commodities should take a more comprehensive approach to the supply chain's activities to lessen their influence. The author has put up a comprehensive strategy for choosing suppliers that takes inventory control and incoming shipping into account. Decisions on suppliers are made using a genetic algorithm, whereas choices about inventories are made analytically. To assess overall performance and change the lead time dynamically in response to disturbances, discrete-event simulation is utilized. It was discovered that the success of disruption mitigation techniques depended on the features of the disruption and that factors in supplier selection should be given a variable priority based on the characteristics of the products. In conclusion, the mitigation technique is more effective in mitigating the effects of disruptions and preventing them, particularly when they are frequent

and brief. The above study shows that identifying the important things for the business is the major goal of inventory management as well as the process of controlling the supply is not simple and becomes more difficult as the uncertainty and blockage increase. In this study, the author discusses the method of inventory management and the factors affecting businesses.

### 3. DISCUSSION

Tracking the supply of raw materials from the time of supply to final goods is one of the most important components of inventory management. To keep projects on time and under budget, it is important to reduce overstock and increase efficiency. Depending on the size of the business and the number of items needed, different industries may demand different inventory management strategies. For example, an oil depot may hold a large stockpile for a long period. Or it may be too costly for enterprises that deal in perishable items, such as fast-fashion items, to maintain inventory control [17]. Although its origins are unknown, it is fair to conclude that some of the earliest inventors in the field of inventory management were merchants and store owners. In the era before the Industrial Revolution, inventory control was fairly basic. To place orders, retailers and merchants had to rely on their handwritten notes and intuition. It takes shops days or hours to count all tangible items to check if something is there, which makes it incredibly difficult to quantify stolen goods. To be honest, no effort was made to increase the efficiency as the size of the activities was less than it is now.

#### 3.1. Types of Inventory Management:

Inventory management, where all elements of the distribution chain come together, can be a corporation's most important asset. A dissatisfied consumer may be the result of not having enough inventory when they need it. However, a large list carries its risks, including the cost of storage and insurance, as well as the potential for spoilage, theft, and damage. Businesses with complex production and supply networks must strike a fair balance between holding too much inventory when there isn't enough.

##### 3.1.1. Periodic Inventory Management:

When valuing inventory for financial reporting, a perpetual inventory system mechanically counts items at predetermined intervals. With this accounting technique, inventory is taken at the beginning of a term, more inventory is purchased during the term, and ending inventory is taken to determine the cost of products sold.

##### 3.1.2. Barcode inventory management:

Businesses assign a number to each item they sell using barcode inventory management systems. Suppliers, product dimensions, quantities, and even variable data, such as the number of items in stock, can all be linked to specific numbers.

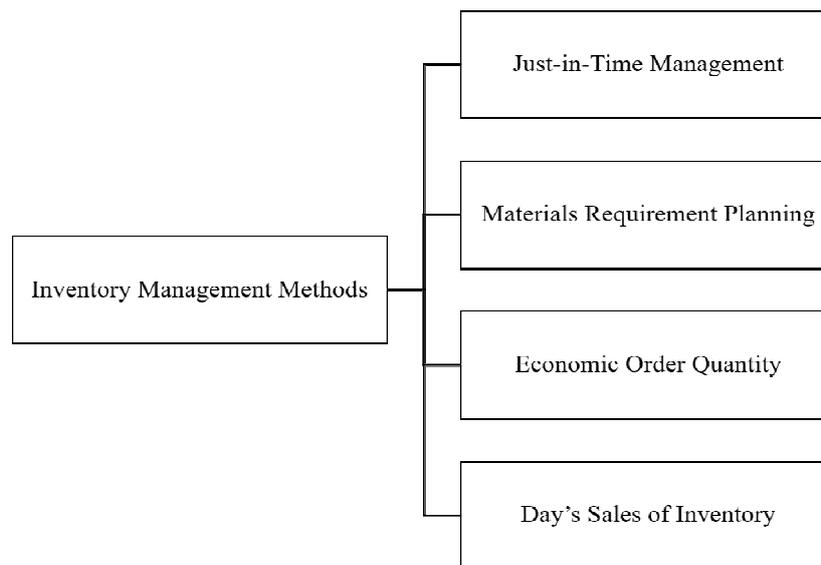
##### 3.1.3. Radio Frequency Identification (RFID) Inventory Management:

To monitor items and deliver comprehensive product information, RFID is a technology that wirelessly transmits a unique serial number that identifies a product. Systems for warehouse management based on RFID can increase efficiency, improve inventory visibility, and ensure rapid self-recording of collection and distribution.

#### 3.2. Inventory Management Methods:

A corporation will employ a range of inventory management approaches depending on the kind of company's product being discussed. Just-in-time (JIT) production, material

requirement planning (MRP), economic order quantity (EOQ), and day-to-sales (DSI) of inventory are a few of these management techniques, as shown in Figure 1.



**Figure 1: Illustrates the Inventory management method in which strategies provide businesses with various avenues to meet customer demand.**

### 3.2.1. *Just-in-Time Management:*

In the 1960s and 1970s, the concept of this building was invented in Japan, and the biggest contribution to its development came from Toyota Motor(TM). Businesses can save significant amounts of money and waste by using this strategy, which involves keeping only the inventory needed to manufacture and sell products. This equipment reduces the cost of storage, insurance, and disposal of excess cargo [9]. Maintaining JIT lists can be risky, with the company struggling to obtain the inventory needed to meet a sudden increase in demand, which will damage its reputation with customers and drive business to rivals. A bottleneck can develop if a critical input is not received promptly, so even the smallest delay becomes significant.

### 3.2.2. *Materials Requirement Planning:*

This inventory management strategy relies on forecasting sales, so producers must have accurate sales data to accurately estimate inventory requirements and quickly share those requirements with material suppliers. Employing this MRP inventory system, a ski manufacturer, for example, can ensure that materials such as plastic, fiberglass, wood as well as aluminum are in stock based on anticipated demand. Because they are unable to estimate sales accurately and schedule inventory purchases, manufacturers are not able to fulfill orders.

### 3.2.3. *Economic Order Quantity (EOQ):*

To reduce the cost of its stock and maintain a steady level of customer demand, this approach is used in IM to calculate the number of units a business needs to add to its inventory at each step. The cost of the model's inventory includes holding and setup expenses. To cover excess inventory and avoid placing orders, the EOQ model aims to ensure that the correct amount of stock is purchased in each batch. It is founded on the idea that the cost of maintaining inventory is a trade-off for applying inventory, but when these costs are reduced, the amount of inventory as a whole falls.

$$EOQ = \frac{2DK}{H} \text{ or } \sqrt{\frac{2 * D * K}{H}}$$

Where:

D = Cost of setup or order.

K = Demand Rate.

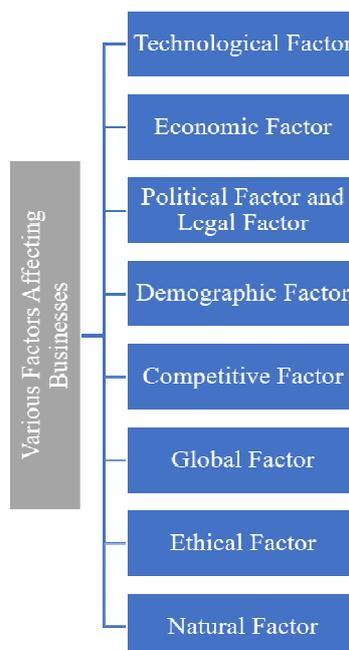
H = Holding cost.

3.2.4. Day's Sales of Inventory (DSI):

The average time a company takes to sell each item in its inventory, including those that are actively produced, is shown by this financial ratio. There are several ways to interpret DSI, also known as inventory outstanding days (DIO), inventory in days (DII), date of inventory sold, or simply days in inventory. This number determines how liquid the inventory is and how long the company will maintain its current supply. Although the average DSI varies by market, a smaller DSI is sometimes better because it reflects a faster time to clear inventory.

$$DIO = \frac{\text{Cost of Average Inventory} * 365}{\text{Cost of Goods Sold}}$$

There are many ways to check inventory, and if a corporation changes its technique of inventory accounting frequently for no good reason, management is probably trying to provide a more optimistic view of the company's operations. Public corporations that can be listed using LIFO costs compared to first out (FIFO) costs must obtain disclosure from the Securities and Exchange Commission (SEC) about last in first out (LIFO) reserves. Frequent inventory write-offs can be a sign that a firm is having trouble selling its completed items or that its inventory is becoming obsolete. Additionally, it may cast doubt on the company's future ability to maintain a competitive edge and provide goods that consumers find attractive.



**Figure 2: Illustrates the Various Factors Affecting the Business including the Opportunities, Threats, and Challenges Posed by the Firm.**

### 3.3. External Environmental Factors Affecting Businesses:

Because of their potential for both direct and indirect effects on business operations, employees, and revenue in Figure 2, external environmental factors matter a lot. Even though the environment around a firm is constantly changing in ways beyond its control, directors and managers can track these changes and mitigate their consequences [10]. Organizations have the option to monitor changing external environmental factors, allowing them to avoid predictable events and reduce the effects of unforeseen changes.

#### 3.3.1. Technological Factor:

Technology advancements can help businesses or make it difficult for them to compete. For example, a company that produces Global Positioning System (GPS) technology for personal autos may see a drop in revenue as a result of incorporating GPS into smartphones, but they have been able to stop this by producing other products. It is possible other industries, such as the healthcare industry, may use cutting-edge methods to collect information from their customers, track patients, and enhance patient care.

#### 3.3.2. Economic Factor:

Many aspects of daily life are greatly influenced by the state of the workforce, the capacity of the company, and the state of the economy. When the economy is sluggish and unemployment is rising, companies may need to intensify their efforts to retain their employees and change their operating processes to make money. For example, if the company produces goods for the retail industry, it may consider lowering the price to increase sales and strengthen its financial position.

#### 3.3.3. Political Factor and Legal Factor:

Political leaders regularly retire and are therefore replaced, which has implications for businesses in the industry concerned. Because governments can be so unpredictable, businesses often track legislative actions to be prepared for potential adjustments. Policies affecting firms in the long term include taxes, tariffs, employment regulations, competition laws, restrictions on trade, and laws on intellectual property as well as political decisions. Politically influenced businesses will have to change how they operate to comply with the new norms and laws, but they do. If they do then they can continue to do so.

#### 3.3.4. Demographic Factor:

To ensure that their products and services meet the needs of individuals who may benefit from them, profitable entrepreneurs analyze the demographics of their market segments. They test their personnel to see how well they handle customers. Businesses can use this data to determine whether their intended market has changed and how they can improve the experience for their current customers while attracting new customers. Youth, gender, ethnicity, nationality, religious views, relationship status, employment, income, and occupational status are among the demographic factors that influence company decisions and practices.

#### 3.3.5. Social Factor:

When, where, and why people buy it depends on their economic status, values, and place of residence. Businesses consider social elements when creating and promoting their products, and many of them use them in the context of recent events, social movements, and other relevant topics. For example, a business that supports a women's organization may gain the trust and firm support of consumers who identify as women. Customer experience and

business performance can be influenced by the unique tastes and needs of underrepresented minorities, making a more significant impact on the market today than ever before.

### 3.3.6. *Competitive Factor:*

Companies can expand their market share and stay relevant to their consumers by keeping an eye on their competitors. They can identify and evaluate successes and issues, understand what needs to be included in processes and how to prevent revenue loss. They can also create concepts for product upgrades, launches, and new product innovations using the information they collect.

### 3.3.7. *Global Factor:*

Executives have to keep an eye on both domestic and international issues, especially if they conduct business abroad. By being aware of other countries' economic conditions as well as social issues affecting their cultural norms, changing customer preferences, and other social constraints, business executives can provide their employees with the instruction they need. They may create products or offer services that meet the needs of foreign consumers by solving the problems they face as consumers.

### 3.3.8. *Ethical Factor:*

Given that everyone has a different understanding of ethics and these concepts, it can be difficult for some businesses to strike a balance between employees' personal lives with their commitments at work. Employees' extra-curricular activities, such as their presence on social media, can negatively affect their employment. They should refrain from taking any action that may hurt the reputation of the company. Managers can address issues such as disclosing personal information or kicking a coworker out of the office by creating guidelines and taking appropriate disciplinary action as necessary.

### 3.3.9. *Natural Factor:*

As this continues to climb, more consumers are becoming aware of how business actions harm the environment. Some customers have used their purchases to support companies that employ environmentally friendly processes, such as solar power, as well as biodegradable packaging. By managing these external challenges, businesses can modify their operations in a way that helps them retain customers, preserve the environment, and increase profitability.

## 4. CONCLUSION

Inventory management keeps records of inventory counts from the moment of acquisition until the sale of products or finished goods. This includes, among other things, information about how the industry orders, stores and uses raw materials and finished products. Perpetual inventory, or real-time inventory monitoring, is particularly effective in small business operations because it provides real-time inventory counts. Inventory management is a technique that establishes and ensures the right amount of inventory to meet customer demands and also issues warnings for the shortage of stock or safety stock. Unsold inventory, or deadstock, can hinder a company's ability to produce cash flow. Keeping complete records of goods requires the management of inventory. This is necessary to cut costs. Any inventory-related problems that the company may have, will surely get resolved with better inventory management, which will also reduce the need for substantial investments. Inventory management can be beneficial to a business in many ways. It guarantees that consumer expectations are met when required, thereby increasing customer satisfaction and service. This enables you to maintain cash flow while investing the appropriate number of

shares in the order quantity to increase the profit of the company. It suggests that to calculate the overall cost of the solution, demand uncertainty and constraints should be included in the simulation. The suggested method can help streamline lead times in supplier selection and inventory management, especially when shortages are costly. The scope of inventory systems can accommodate a variety of needs, such as inventory valuation, tracking inventory changes, and forecasting future levels of inventory. The accounting information on the balance sheet is based on the inventory value at the end of each period.

## REFERENCES

- [1] N. A. Karim, A. Nawawi, and A. S. A. P. Salin, "Inventory management effectiveness of a manufacturing company – Malaysian evidence," *Int. J. Law Manag.*, vol. 60, no. 5, pp. 1163–1178, Sep. 2018, doi: 10.1108/IJLMA-04-2017-0094.
- [2] Pradeep Kumar Shetty et al., Pradeep Kumar Shetty et al., "A Study of Inventory Management at Manufacturing Industries in Rural India," *Int. J. Mech. Prod. Eng. Res. Dev.*, vol. 9, no. 1, pp. 73–80, 2019, doi: 10.24247/ijmperdfeb20198.
- [3] D. Singh and A. Verma, "Inventory Management in Supply Chain," *Mater. Today Proc.*, vol. 5, no. 2, pp. 3867–3872, 2018, doi: 10.1016/j.matpr.2017.11.641.
- [4] I. Acosta, L. Cano, O. Peña, C. Rivera, and B. Bravo, "Design of an inventory management system in an agricultural supply chain considering the deterioration of the product: The case of small citrus producers in a developing country," *J. Appl. Eng. Sci.*, vol. 16, no. 4, pp. 523–537, 2018, doi: 10.5937/jaes16-17696.
- [5] A. Diamant, J. Milner, F. Queresby, and B. Xu, "Inventory management of reusable surgical supplies," *Health Care Manag. Sci.*, vol. 21, no. 3, pp. 439–459, Sep. 2018, doi: 10.1007/s10729-017-9397-3.
- [6] A. Nagle, S. Fisher, S. Frazier, and S. McComb, "Streamlining a Simulation Center's Inventory Management," *Clin. Simul. Nurs.*, vol. 18, pp. 1–5, May 2018, doi: 10.1016/j.ecns.2018.01.001.
- [7] H. Karadağ, "Cash, receivables and inventory management practices in small enterprises: their associations with financial performance and competitiveness," *Small Enterp. Res.*, vol. 25, no. 1, pp. 69–89, Jan. 2018, doi: 10.1080/13215906.2018.1428912.
- [8] R. Uzsoy, J. W. Fowler, and L. Mönch, "A survey of semiconductor supply chain models Part II: demand planning, inventory management, and capacity planning," *Int. J. Prod. Res.*, vol. 56, no. 13, pp. 4546–4564, Jul. 2018, doi: 10.1080/00207543.2018.1424363.
- [9] S. Al-Fedaghi and N. Al-Huwais, "Conceptual Modeling of Inventory Management Processes as a Thinging Machine," *Int. J. Adv. Comput. Sci. Appl.*, vol. 9, no. 11, 2018, doi: 10.14569/IJACSA.2018.091161.
- [10] G. Priniotakis and P. Argyropoulos, "Inventory management concepts and techniques," *IOP Conf. Ser. Mater. Sci. Eng.*, vol. 459, p. 012060, Dec. 2018, doi: 10.1088/1757-899X/459/1/012060.
- [11] D. Shenoy and R. Rosas, "Introduction to Inventory Management," in *Problems & Solutions in Inventory Management*, Cham: Springer International Publishing, 2018, pp. 3–11. doi: 10.1007/978-3-319-65696-0\_1.
- [12] J. Schlapp and M. Fleischmann, "Technical note - Multiproduct inventory management under customer substitution and capacity restrictions," *Oper. Res.*, 2018, doi: 10.1287/opre.2017.1690.vol.66,pp.740-747.
- [13] A. Sahoo, D. Tandon, D. Jena, P. C. Mishra, J. R. Meher, and R. R. Panigrahi, "Inventory Management and Performance of Manufacturing Firms," *Int. J. Value Chain Manag.*, vol. 12, no. 2, p. 1, 2021, doi: 10.1504/ijvcm.2021.10033598.
- [14] E. Saha and P. K. Ray, "Modelling and analysis of inventory management systems in healthcare: A review and reflections," *Comput. Ind. Eng.*, vol. 137, p. 106051, 2019, doi: 10.1016/j.cie.2019.106051.
- [15] M. Malindzakova and D. Zimon, "Design supply cycle for inventory management," *TEM J.*, vol. 8, no. 3, pp. 894–899, 2019, doi: 10.18421/TEM83-29.
- [16] D. Atnafu and A. Balda, "The impact of inventory management practice on firms' competitiveness and organizational performance: Empirical evidence from micro and small enterprises in Ethiopia," *Cogent Bus. Manag.*, vol. 5, no. 1, pp. 1–16, 2018, doi: 10.1080/23311975.2018.1503219.
- [17] T. E. Saputro, G. Figueira, and B. Almada-Lobo, "Integrating supplier selection with inventory management under supply disruptions," *Int. J. Prod. Res.*, vol. 59, no. 11, pp. 3304–3322, 2021, doi: 10.1080/00207543.2020.1866223.

## CHAPTER 5

### AN EVALUATION OF MOBILE BANKING FACILITY IN INDIAN SCENARIO AND ITS IMPACT ON DIGITAL TRANSACTION

Dr. J. G. Ravi Kumar, Professor,  
Department of English , Presidency University, Bangalore, India,  
Email Id-ravimanchi@presidencyuniversity.in

**ABSTRACT:** *Paying through a mobile device and giving it payment details is an instant fixture for mobile banking. This action has made it very easy for the bank to inform customers about fraud or the use of internet banking from personal mobile phones and on the other hand it can be very complicated. One of the benefits of using mobile banking is to log into the bank occasionally or only when necessary. When compared to traditional or online banking, there are drawbacks such as security concerns and poor performance. The banking sector is largely technology dependent and one of the largest financial industries, banking constantly looks for ways to use technology enabled solutions to deliver greater convenience and better customer experience to customers. Mobile banking is a rapidly expanding alternative platform for the transmission of financial goods. Mobile banking offers significant potential in India, the major communication market in the world. Nevertheless, a large number of people all over the world no longer choose mobile banking. The primary priorities of this study are to evaluate mobile banking security vulnerabilities and describe the contemporary opinion of Indian banking customers. This paper will provide an analytical review on mobile banking facility in Indian scenario and its role in digital transaction of banking services. This study may provide the issues related to mobile banking and challenges faced from banking system as well as from user customer side.*

**KEYWORDS:** *Banking System, Consumer, Customer, Mobile Banking, Mobile Communications, Mobile Services.*

#### 1. INTRODUCTION

The accomplishment of M-Pesa in select jurisdictions has prompted banks in different countries to examine the possibilities and the use of mobile banking. Mobile banking's true advantage is that it makes it easier for consumers to access financial services, even if they live in remote locations. This is now conceivable due to the portability of mobile policies in bucolic expanses, somewhere they can be obtained for a few hundred dollars. The rapid change in telecommunication systems in India is due to the widespread use of mobiles. In addition to widening the reach of communication equipment, mobile technology improvements such as 2G, 3G, and 4G have opened up new markets where potential consumers are adopting the latest innovations due to technological developments, and the results of mobile banking options can be seen. The operating system of a mobile device is needed to build apps that make it easy to connect a variety of services [1]. This paper discusses the problems and limitations of mobile-banking. Banking is one of the most imperative financial enterprises in India. The introduction of electronic banking in India is a result of advances in banking technology updating the new technology [2]. Customers can also save time and money by using mobile banking alone by making separate banking procedures more convenient for them. Mobile banking software allows for simple payment information between one financial institution and another. Customers of mobile banking can make use of many benefits like SMS alerts, faster financial transactions, online bill payments, and balance inquiries. Customers are implementing mobile banking at a very fast pace.

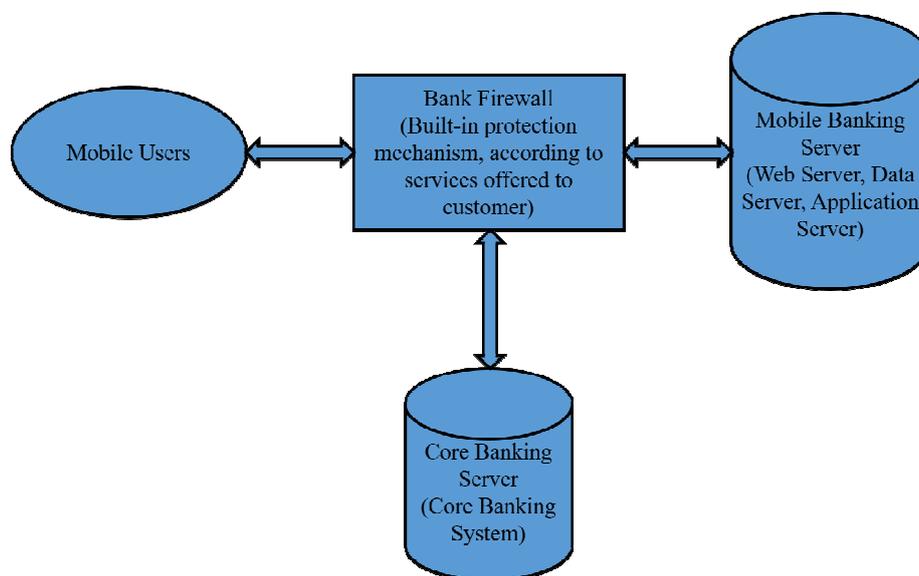
In this paper the author agrees that it is only a matter of time before identity hacker learns to employ some of their most effective technological methods at the mobile phone level, users

really shouldn't think that antivirus software for a smartphone should be used. Some banking institutions do not provide the equivalent level of privacy for mobile money transfers as they do for online or in-person connections. Some banks are hesitant to give guarantees about what will or won't be covered when you join mobile banking, as the concerns are still mostly understood.

## 2. LITERATURE REVIEW

### 2.1. The architecture of Mobile Banking:

A proxy-based firewall and a collection of devices calculated to allow or disagree sufficient amounts, depending on a system of regulations, to protect a network from unsanctioned contact while consenting authentic correspondence to pass through are used. Figure 1, demonstrates a conceptual design for the m-banking customer relations sector. It follows a basic layered structure and client-server model for such a communication layer. In a general variation of this design, a third-party vendor is considered in this design. The vendor side consists of a firewall and a mobile banking server, and the banking server interfaces with the merchant website over the Internet [3].



**Figure 1: Architecture for M-Banking Customer Services, Following a Client-Server Model.**

The above figure describes three major layers that are considered:

*i. Client-Side-Layer:*

The client-side layer is made up of several mobile operating systems, such as Android, Symbian, iOS, and Blackberry, that support smartphones, and a final part that groups together previous system iterations that supported fewer specialist calls [4].

*ii. Server-Side-Layer:*

Mobile banking services are provided by the server-side layer, which uses a layered design and usually involves a third-party supplier. It consists of two primary parts:

- *Mobile-Banking-Server:*

Servers for mobile banking usernames and passwords that are multiple layers of authentication can be used, one for a third-party vendor and one for the bank to increase the

security level. Access to key m-banking features, m-accounting that is transactions involving payments, and m-financial information transactions are possible through the mobile banking server which is consultancy operations and other services that do not involve payments [5].

- *Centralized-Bank-Server:*

M-Banking Business Logic, Banking Business Logic, and Data Access and Data Base are all elements of a centralized bank server [6].

- iii. *Transmission-Layer:*

A proxy-based firewall is commonly used to address this need and with many mobile channel technologies. The Transmission project tackles security versus unwanted access and enables legitimate communications to flow. Banking organizations use some mobile-media networks, comprising short-message-service (SMS), mobile-client-application, and SMS plus a combination of mobile web and secure SMS. These basic delivery mechanisms are also available to financial organizations [7]. These networks are mostly used by devices to communicate on the client side, and each communication has weaknesses and advantages. For example, SMS is ubiquitous on all devices, easy to use, and supports only moderately rich media.

As a result, it is excellent for alerts, announcements, and advisory functions, but it is not indicated for money transactions. There are no set standards for instructional strategies, Probability Sampling Banks must determine which and how many delivery configurations should be offered in their mobile money services [8]. It is important to choose the delivery system that is best for each online banking and device.

## 2.2. *Facilities of Mobile Banking:*

The Reserve Bank of India's (RBI) annual report for 2019–20 shows that mobile banking transaction volume increased by 95% and 15%, respectively. There were 251 million registered subscribers at the end of March 2020, an increase of 56% as compared to 163 million at the same time in 2020 [9].

- i. *Entrance to Account Info:*

The principal purpose of mobile-banking is to provide access to personal financial data. Additionally, it helps in financial management. Customers can check transaction records, account e-statements, loan transactions, credit cards, and e-passbooks using these services[10].

- ii. *Regular Transactions:*

Making electronic payments and transferring funds between different accounts is the most basic aspect of mobile banking. Through Unified Payments Interface (UPI), which supports bank to a bank transfers, self-transfer, National Electronic Funds Transfer (NEFT) or Immediate-Payment-Service (IMPS), or real-time-gross-settlement (RTGS) payments, among many other things, customers can send additional income to anyone by adding others as a beneficiary [11].

- iii. *Investment Purpose:*

Opening Investments in mutual funds, fixed as well as recurrent deposits, portfolio administration services, etc.

iv. *Other Services:*

For efficient financial institutions, a client also needs a summary of accounts, bill payment solutions, cash transfers, and alternative investments. Other assistance may also be available, such as a grievance redressed. For banking-related problems or inquiries, mobile banking is also helpful. Some of the services available include identifying ATMs and branches, lodging complaints or reporting requests, obtaining additional checkbooks, and delaying or canceling checks issued [12].

- *SMS-Banking:*

Most organizations provide SMS banking products in addition to the services through mobile applications. People who do not have smartphones or internet access can benefit from this service. To use SMS-Banking, consumers should first inventory their mobile-phone numbers with their bank. The following SMS banking options are provided: steadiness inquiry, credit card, and ATM interruption, and rate inquiry for various exchanges [13].

- *Mobile Banking over USSD:*

An unstructured complementary service called unstructured-supplementary-service-data (USSD) enables people can access financial services thanks to technology, a method of communication. It is not important to use a smartphone or even have internet connectivity to access this service. Programs provided include balance inquiry, mini statement, economic number, MPIN change, and the ability to generate a one-time password (OTP) [14].

### 2.3. *Mobile Banking in India:*

To enhance their operations and serve a wider range of customers, banks are continuously introducing new technologies. Banks deliver their client's mobile banking in combination with ATMs, online banking, and many other technology-based offerings. The amazing telecom industry expansion, rural reach, and software viability are the main drivers behind the growth of mobile banking services [15].

**Table 1: Mobile Banking Services Offered By Some leading Banks In India.**

Sr. No.	Mobile Banking Services	Name of the Bank
1.	iMobile, SMS Banking, M-PESA, m-Rupee	ICICI
2.	SMS Banking Service, U-Mobile	UBI
3.	Freedom, SMS Banking Service, USSD	SBI
4.	Browser-Based Service, SMS Banking Service, App-Based Service	HDFC
5.	SMS Banking	PNB
6.	Phone-Banking, Internet-Banking on Mobile, SMS Banking	AXIS Bank

Table 1 enlist the various mobile banking services that are offered by the various institutions. State Bank of India (SBI), Union Bank of India (UBI), Punjab National Bank (PNB), Housing Development Finance Corporation Limited (HDFC), Industrial Credit and

Investment Corporation of India (ICICI), Axis Bank, and other Indian banks have begun offering mobile banking services to its clients.

#### *2.4. Advantages and Disadvantages of The Mobile Banking Internet:*

##### *i. Advantage:*

- *Time-Saving:*

You may check financial accounts, plan and receive a payment, transfer money, and reorganize your institutions while you're on the road but instead of setting aside the time to visit a bank [16].

- *Convenient:*

It may be convenient to be able to access your bank accounts, make expenses, and perhaps even keep a pathway of investment from anywhere. Do your banking when it's comfortable for you rather than standing in long lines.

- *Secure:*

Good mobile accounting applications typically provide us with a secure connection or send you an SMS relative to the total that you must enter to approve a payment. Even more safe than online or over banking, mobile banking is purported.

- *Easy access to your finances:*

You may now manage your financial data even beyond business hours due to the development of mobile banking. Even calling the financial institution to request banking products and services is helpful.

- *Increased efficiency:*

The application in mobile banking is practical, productive, and competitive. Additionally, it lessens documentation for both the banking and the consumer and aids in eliminating the banking corridors.

- *Fraud reduction:*

Implementing mobile banking has one significant benefit: customers are being substituted in real-time to examine their explanations. It does not need internet access because it makes use of telecommunications carriers' mobile connections. Humans can maintain the investment, pay bills, locate ATMs, monitor transaction data, transfer money, check their cash accounts, and more. For the majority of mobile telephone owners in rural places, mobile banking is the better decision for gaining access to financial institutions since it is readily available around-the-clock, accessible, and easy.

##### *ii. Disadvantage:*

- Users using mobile banking have the risk of being the target of scammers and counterfeit SMS messages.
- When a smartphone device is lost, it's often potential for thieves to access critical information like your mobile banking password.
- In comparison to previous versions of mobile phones and smartphones, mobile devices like tablet computers and smartphones are more proper for insolent banking.

- Regular mobile financial institutions may accrue considerable fees from their establishment's completed time.
- Even though the fact that 4.5 billion people use mobile phones and there are 1.5 billion mainframes with access to the Internet, there is absolutely no important operating system that accommodates the mobile environment. Hackers aim to put in the smallest amount of work possible for the maximum reward.
- Most mobile banking authors consider an internet construction to function, you won't be bright to contact your bank account if you reside in a remote place or have difficulties with your internet connection. The same thing holds if the battery inside your mobile phone dies.
- Antivirus software isn't acceptable with many phones. Even though most cellular applications can access the internet, they do not however come equipped with anti-virus protection by default. There are reported incidents when customers were unable to install antivirus software that was allocated to them on professional mobile phones. Some phones aren't even compliant with the anti-virus software that is now available.

D. Chawla and H. Joshi illustrated that mobile banking has provided banks with greater opportunities to interact with clients more productively. Both urban and rural areas of the country are seeing a growth in the number of mobile-internet managers because of rising smartphone penetration and cheaper internet access. The majority of recent research into mobile banking has developed nations as their major concentration. There aren't many Indian researches that look at the components that influence user intentions and attitudes to the use of mobile banking; most of them focused on online banking. This study's objective is to develop and verify a measure for evaluating the utilization of mobile banking in India. By include, the study aims to improve the technology acceptance model (TAM). The scale emphasizes both socio-technical dimensions and incorporates LS into the already-existing variables. Banks could employ the scale to gauge how consumers think about their mobile banking service and to discover any gaps or openings for the creation of sustainable mobile payment services [17].

S. Singh and R. Srivastava embellish to create and scientifically verify a model describing the behavioral agreement of internet banking in the Indian banking sector, this study will investigate factors that influence the adoption of mobile banking in India. In this study, a strategy that explains individuals' intentions to utilize mobile banking is built and offered forward. Six factors are factored into the model: perceived usability, computer self-efficacy, social impact, perceived pecuniary cost, confidentiality, and belief. The link between psychological empowerment of routine and related to self, as well as that between security and confidence are similarly described by the paradigm. The suggested imaginary model was determined to calculate the desire to use mobile banking statistically different, accounting for 75% of the variation of the dependent variable. According to the studies, consumers' aspirations to use mobile banking are predisposed by retreat, professed ease of use, and subjective norms, in that order of effect. The findings will aid in the explanation, knowledge, and elucidation of the situation of mobile banking in India as well as in the formulation of tactics to hasten the adoption of internet banking by both academics and practitioners. In India, mobile payment is still in its infancy compared to industrialized nations like the United States of America and the United Kingdom, but it is anticipated to catch up with or even outperform the rate of adoption of internet banking in such nations [18].

D. Suhas and H. N. Ramesh stated that emerging economies like India, where he researched the impact of internet payments on economic development, are crucial. The focus of banks has moved away from traditional banking to the virtual banking system. Because of computer technology, customer experiences in commercial banking are increasingly effective. To strengthen their ability that provides consumers with high-quality service, banks are implementing IT-enabled tools and processes for banking processes. To get financial services in traditional finance, users must visit bank branches. With the emergence of ATMs, methodologies of service are being replaced by mobile banking and IT-enabled amenities. Recently, banks have been concentrating on delivering real worth services via E-banking. The current learning motivations are information on the growth of electronic banking and its associated items employed in the financial industry [19].

### 3. DISCUSSION

The indications of today's financial services industry's extreme development are clear: every day, new devices, players, and channels emerge developing. All areas of the financial sector are undergoing this upheaval. Technology has played an important role in this fundamental transition that now has led to the removal of restrictions related to geography, the law, and commerce, as well as the creation of new items and services. A platform with incredible potential for offering services to customers has been generated by the expansion and unification of cellular telephony. According to predictions, there are close to three billion mobile subscribers worldwide, and both operators and advertisements are aware of the opportunity for connecting with customers using mobile devices. The study is inspired by the recently developed channels for providing services and the quickly rising mobile phone increasing adoption. The global awareness, employment, and intention to utilize mobile banking are shown in Table 2.

**Table 2: Worldwide Awareness, Usage, and Intent to Use Mobile Currency.**

Sr. No.	Region	Current Uses	Internet to Use	Awareness
1.	Rest of Asia	5%	44%	37%
2.	The U.S.	1%	37%	23%
3.	Japan	2%	51%	48%
4.	Europe	1%	47%	45%
5.	Worldwide	2%	45%	41%

In the intense competition financial services sector, technology has developed be a crucial component. The use of mobile devices in accounting has been made possible by breakthroughs in telecommunications. The author has concluded that technical aspects are important to the acceptance of mobile value-added services.

Smartphones are no longer utilized as frequently for service as they once were. Speaking and texting (SMS) will continue to survive, but more people are predicted to utilize a comprehensive range of services. These characteristics, combined with the fact that mobile devices have much more personality than PCs do internet and that top-of-the-line machines offer a wide variety of computer-like capabilities, have some commentators speculating that many people would begin to view mobile devices as alternatives in the coming years. The capability to utilize cutting-edge technology in delivering services has presented

complications to those that produce financial products; competitiveness can be acquired through potential savings or an improvement in customer experience, or it can be lost by investing in incorrect technologies. Telecommunications companies are even more motivated to improve their knowledge of customer behavior patterns to meet the aforementioned difficulties.

#### 4. CONCLUSION

The present study concluded that the financial inclusion, commercial banking, bank assurance, housing loans, depository services, mortgage-backed securities, personal banking, etc., banks can now increase their revenue sources. This is made possible by the mechanisms of liberalization, privatization, globalization, and deregulation. To provide individuals with integrated financial services, technology is indispensable. Indian banks have been slow to adopt computers for integrated financial institutions and the automation of procedures. Additionally, the implementation of E-banking and reforms to the banking industry have significantly altered the way commercial banks provide their services and make organizational decisions that affect operational efficiency, competitiveness, and productivity. Various reasons have strongly impacted the Indian banking industry in terms use of technology. Furthermore, modern technology has immediately changed how banks do business compared to the past. The proliferation of ATMs, plastic cards, electronic clearance amenities, and mobile banking had also greatly lowered the number of times consumers must visit branch locations and has given them access to a greater selection of services. With the use of a smartphone, such as a smartphone customers of a banking institution can undertake a variety of economic transactions. Bill payment and bank account maintenance via financial services can be extremely easy, despite several serious drawbacks, along with the possibility of fraudulent activity. Most of the vulnerabilities can be avoided in the future through simple techniques like paper encryption techniques and strong password management and with this technology and infrastructure in mind it should be possible to have a more secure mobile banking experience.

#### REFERENCES

- [1] E. E. Frolova, "LEGAL REGULATION OF INTERNET BANKING IN INDIA," *Rudn J. Law*, 2019, doi: 10.22363/2313-2337-2019-23-3-351-374.
- [2] S. Kumar Sharma and S. Madhumohan Govindaluri, "Internet banking adoption in India," *J. Indian Bus. Res.*, vol. 6, no. 2, pp. 155–169, Jun. 2014, doi: 10.1108/JIBR-02-2013-0013.
- [3] I. Bashir and C. Madhavaiah, "Consumer attitude and behavioural intention towards Internet banking adoption in India," *J. Indian Bus. Res.*, vol. 7, no. 1, pp. 67–102, Mar. 2015, doi: 10.1108/JIBR-02-2014-0013.
- [4] R. P. Rustagi and V. Kumar, "Experiential Learning Of Networking Technologies: Evolution Of Socket Programming – Part I," *Adv. Comput. Commun.*, Dec. 2019, doi: 10.34048/2019.4.F4.
- [5] A. S. and K. S. AnilKumar, "Secure mobile internet voting system using biometric authentication and wavelet based AES," *J. Inf. Secur. Appl.*, vol. 61, p. 102908, Sep. 2021, doi: 10.1016/j.jisa.2021.102908.
- [6] H. Leinonen, V.-M. Lumiala, and R. Sarlin, "Settlement in Modern Network-Based Payment Infrastructures - Description and Prototype of the E-Settlement Model," *SSRN Electron. J.*, 2002, doi: 10.2139/ssrn.342361.
- [7] M. Elkhodr, S. Shahrestani, and K. Kourouche, "A proposal to improve the security of mobile banking applications," in *2012 Tenth International Conference on ICT and Knowledge Engineering*, IEEE, Nov. 2012, pp. 260–265. doi: 10.1109/ICTKE.2012.6408565.
- [8] J. R. Kala Kamdjoug, S.-L. Wamba-Taguimdje, S. F. Wamba, and I. B. Kake, "Determining factors and impacts of the intention to adopt mobile banking app in Cameroon: Case of SARA by afriland First Bank," *J. Retail. Consum. Serv.*, vol. 61, p. 102509, Jul. 2021, doi: 10.1016/j.jretconser.2021.102509.
- [9] V. Yakubiv *et al.*, "Development of electronic banking: a case study of Ukraine," *Entrep. Sustain. Issues*, vol. 7, no. 1, pp. 219–232, Sep. 2019, doi: 10.9770/jesi.2019.7.1(17).

- [10] M. Sailaja, "Comparative Study of Net Banking vs Mobile Payment Apps," *Sanshodhan*, vol. 9, no. 1, p. 37, Dec. 2020, doi: 10.53957/sanshodhan/2020/v9i1/152478.
- [11] J. Wennerblom *et al.*, "Reinforced versus standard stapler transection on postoperative pancreatic fistula in distal pancreatectomy: multicentre randomized clinical trial," *Br. J. Surg.*, vol. 108, no. 3, pp. 265–270, Apr. 2021, doi: 10.1093/bjs/znaa113.
- [12] F. S. Fall, L. Orozco, and A. Akim, "Adoption and use of mobile banking by low-income individuals in Senegal," *Rev. Dev. Econ.*, vol. 24, no. 2, pp. 569–588, May 2020, doi: 10.1111/rode.12658.
- [13] A. A. Shaikh and H. Karjaluo, "Mobile banking adoption: A literature review," *Telemat. Informatics*, vol. 32, no. 1, pp. 129–142, Feb. 2015, doi: 10.1016/j.tele.2014.05.003.
- [14] H. Al Ryalat, "Perspectives Relative to Mobile-Banking Adoption in the United Arab Emirates," *Am. J. Inf. Syst.*, vol. 5, no. 1, pp. 13–20, Aug. 2017, doi: 10.12691/ajis-5-1-2.
- [15] N. Saxena, N. Gera, and R. P. Singh, "Exploring the effect of perceived risk on adoption of mobile banking in India," *Int. J. Public Sect. Perform. Manag.*, vol. 6, no. 5, p. 722, 2020, doi: 10.1504/IJPSPM.2020.110141.
- [16] M. J. S. Harchekar, "Digitalization in Banking Sector," *Int. J. Trend Sci. Res. Dev.*, vol. Special Is, no. Special Issue-ICDEBI2018, pp. 103–109, Oct. 2018, doi: 10.31142/ijtsrd18681.
- [17] D. Chawla and H. Joshi, "Scale Development and Validation for Measuring the Adoption of Mobile Banking Services," *Glob. Bus. Rev.*, vol. 20, no. 2, pp. 434–457, Apr. 2019, doi: 10.1177/0972150918825205.
- [18] S. Singh and R. K. Srivastava, "Predicting the intention to use mobile banking in India," *Int. J. Bank Mark.*, vol. 36, no. 2, pp. 357–378, Apr. 2018, doi: 10.1108/IJBM-12-2016-0186.
- [19] S. D and H. N. Ramesh, "E-banking and its growth in India – A synoptic view," *J. Manag. Res. Anal.*, vol. 5, no. 4, pp. 376–383, Dec. 2020, doi: 10.18231/2394-2770.2018.0060.

## CHAPTER 6

### A COMPREHENSIVE ANALYSIS ON THE IMPACT OF WORK ENVIRONMENT ON HEALTH ISSUES

Dr. Muddu Vinay, Professor & Pro Vice Chancellor,  
School of Management, Presidency University, Bangalore, India,  
Email Id-muddu.vinay@presidencyuniversity.in

**ABSTRACT:** *A deliberate attempt to raise the manufacturing standard and quality may be used to identify company improvement. The workers' technical expertise will be required to achieve this goal. How successfully such employee duties are fulfilled is significantly influenced by the quality of work health and safety. In this paper, the author discussed about particularly in underdeveloped nations, the management strategy for controlling employee safety and dependability is still not up to the person. As a consequence, there are more occurrences and dangers, which raises the costs of medical care for hospitalized patients as well as their payments and refunds. The findings demonstrate staff absenteeism, worsening performance results, increased inefficiencies, and therefore decreased effectiveness in such commercial enterprises. The author concludes that to satisfy and motivate workers, administration must maintain a constantly safe work environment and be dedicated to it in all aspects. This paper will provide a method for future research that will help readers comprehend the nature of the issue and possible solutions.*

**KEYWORDS:** *Health, Management, Organization, Performance, Safety.*

#### 1. INTRODUCTION

The role of human resource administration in the market is first and foremost to connect the financial factors with the organization's current programs, plans, and strategies. Reevaluating human resource management is necessary, and the company's guiding principles should put people first. The senior management should stress the value of the Internet, e-commerce, and globalization for the expansion and competitiveness of the company. These will be useful to include. Management specialists should serve as intermediaries between management and the employee throughout this period of change [1], [2].

The human resource (HR) department's consistent commitment to using all other organizational resources inside the company for production may be the basis for present management's recognition of it as the most significant of all things. Among many other qualities, employees have competence, comprehension, efficiency, principles, attitude, and temperament. They provide the company with a variety of human resources. The administration must accept and adore the whole underlying, even though employment and organizations largely depend on the knowledge and skills of the employee. The subordinate won't develop business loyalty before that [3], [4].

The driven professional is a fantastic resource for industrial structure even though he offers his whole set of abilities and experience. Additionally, the enthusiastic crew is committed to the business. As part of its efforts to maintain human relations, the company makes sure that workers have a comfortable place to work. Management has already demonstrated the worth of each employee in the workplace by taking deliberate, planned action to find replacements

for them as soon as they quit. One example of such strategic decisions is making an effort to provide a safe and healthy work environment. Safety is defined as the absence of disasters. To put it another way, the concept is comparable to protecting employees against the danger of injury [5].

### 1.1. Accidents and Their Types:

- The severity of the damage determines whether it is major or minor.
- An accident is considered to be bad if it leaves a victim dead or permanently damaged.
- A cut or puncture that wouldn't render him incapacitated is a small mishap but a terrible occurrence.
- Even if a person has a serious bruise or a little cut, it may likely take time for the person to become debilitated.
- An employee may miss work for many months or a few days, weeks, or even a half-day.
- If he or she recovers from it, the disability will be transient. If the trauma prevents a complete recovery, his or her damage is irreversible.

### 1.2. Safety-Management Requirements:

Management of safety refers to the progression of formulating and distributing protection procedures for any association grounded on the regulation and requirements of the corporation. According to the Occupational Safety and Health Administration, every level of administration and the working team must be involved in a safety plan to benefit the organization. Safety Management Systems (SMS) are comprehensive systems intended to handle industry safety, health, pollution, and generally associated risks. Regulatory and monitoring structures exist. An SMS is a kind of quality manager to focus on security. A plant that is accident-free receives certain benefits, and an organization must implement safety performance (Figure 1).

- Risk Assessment
- Worksite Inspection
- Action Item Tracking
- Employee Training
- Employee Qualification
- Incident Tracking



**Figure 1: Illustrates the safety management like incident tracking, risk assessment, employee training, etc.**

### 1.3. The necessity for safety:

There are also several benefits to getting a factory that is free of catastrophes. The big ones are significant.

- Cost improvements
- A rise in production
- Morale
- Legal considerations.

### 1.4. Workplace accident prevention:

Occupational and Occupational-Safety and Health Act (OSHA) initiatives notwithstanding, it was advised that businesses implement a variety of safety measures to provide a safe and healthy working environment, particularly in light of workplace accidents. Therefore, he believes that hiring safety experts to undertake thorough environmental inspections, identify and isolate dangerous conditions, and give solutions to address such problems is a crucial approach. Use of appropriate protective clothes, earplugs in noisy situations, eye protection, a face mask, waders, and other protective footwear, as well as waist support buckles, and wrist and shoulder straps, in the braising room. To assist and lower the risk of computer industrial accidents, measures like monitor filters, appropriate chairs, desks, etc., may be adopted [6], [7].

### 1.5. Workplace Health and Safety:

A manufacturing employer is liable for accidents that happen while they are employed by them and has a duty under English law to provide a safe and healthy work environment for them. The fundamental duties an employer owes to their staff regarding an insignia are as follows:

- Establishing respectable working conditions;
- offering a pleasant working atmosphere;
- Offering a secure means of transportation to work.
- Ensuring that employees have the necessary equipment, materials, and tools to do their duties safely.
- The presence of capable colleagues.
- The need to ensure that workers are not subjected to unneeded risks at work.

### 1.6. Building an Effective Health and Safety Management System:

Utilizing this source of strong leadership commitment, resource management that is successful, and high employee engagement (Figure 2).



**Figure 2: Illustrate the effective health and safety management system.**

- Organizational commitment and management leadership are essential components of this company approach. Management must assure leadership and commitment to the effort. To do this, the administration must create a management plan for health and safety that describes the organization's objectives for both. To show the organization's duty, the Senior-General-Manager must keep a representative who may be active in the policy formation process [8].
- Roles and obligations if safety and health responsibilities and tasks are clearly defined and communicated at all levels of the organization employees, subcontractors, and visitors could anticipate an average equal of quality and responsibility.
- Management Commitment for a preventative maintenance program to be successful, managerial practices must show their excitement for a safe and healthy workplace. Several actions may be used to demonstrate this, such as attendance at meetings for administration, safety and health management training, facility evaluation, and incident reporting [9]–[12].
- Employee Involvement in personnel must continue to be involved in the creation of the system that fosters accountability and just improves the present goals.
- The process for identifying and evaluating dangers in the workplace should be followed by firms before any work is done. Data from risk assessments may be utilized to determine the kind of workforce development required as well as to create the material for new employee orientation and on-the-job training. Data from risk calculations may also be used to create inspection protocols. To determine if a software bug was the cause of an event or accident, risk assessment and control data may be used.

Define-Controls are assigned control laws to vulnerabilities that have been found to both addresses and mitigate the threat. The best internal controls may be determined using relevant laws, manufacturer standards, business standards, industry standards, and employee feedback [13]–[15]. Figure 3 illustrates the social cultural and economic effects of health safety in different areas.

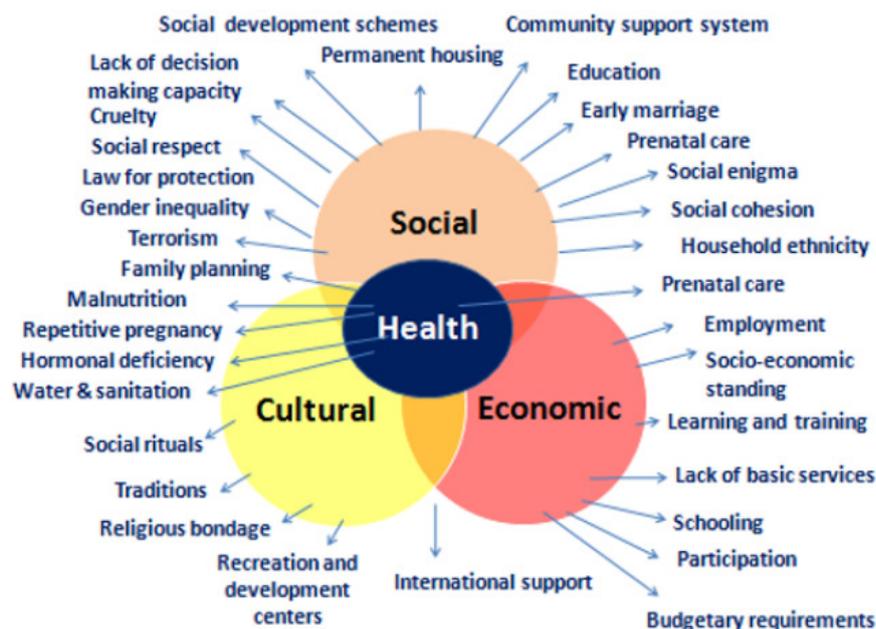


Figure 3: Illustrates the social cultural and economic effects of health safety in different areas [16].

- Hazard Control is following the completion of the hazard assessment, the implementation of control measures targeted at preventing or reducing worker harm will be the next phase in developing a safety and health management system. Companies must take all practical measures to address or manage the situation to ensure their safety.
- Enforcement of controls is the next step in developing a security program will be the deployment of relevant control measures to avoid or limit damage to employees when the vulnerability assessment is finished. Employers will take all necessary actions to get rid of or control recognized dangers so that the worker is secure in this situation.
- Emergency-Response Plan is a national catastrophe that may harm business performance and jeopardize the lives, safety, and livelihoods of many employees. A thorough emergency response plan may considerably reduce the quantity and risk of damage there in the case of any catastrophic or deliberate catastrophe, even if no safety programmer can guarantee protection. Blood and fortune may be saved by knowing what to do and who to call in an emergency.

## 2. LITERATURE REVIEW

Haga et al. in their study embellish the underlying philosophies of community safety education. And on the fundamentals of community-based programming utilizing literary works, a theory is developed. The author applied a methodology in which they stated that the strength of the theories' support from objective research and their application in community-based preventative initiatives are then pushed to the maximum. Basic ideas have been presented that call for incorporating a community perspective into safety education. The results suggest that certain notions may have serious faults. Programming defines geographic or geopolitical divides as communities, therefore these groups might be varied and lack a strong feeling of community. The author concludes that this could be brought on by a lack of program access and address planning. Additionally, in the process of developing software, some of the most apparent concepts are never completely or substantially used. This has the effect of preventing many community-based health and safety programs from operating as effectively as they might, which may be why many of these groups struggle to define their overall performance.

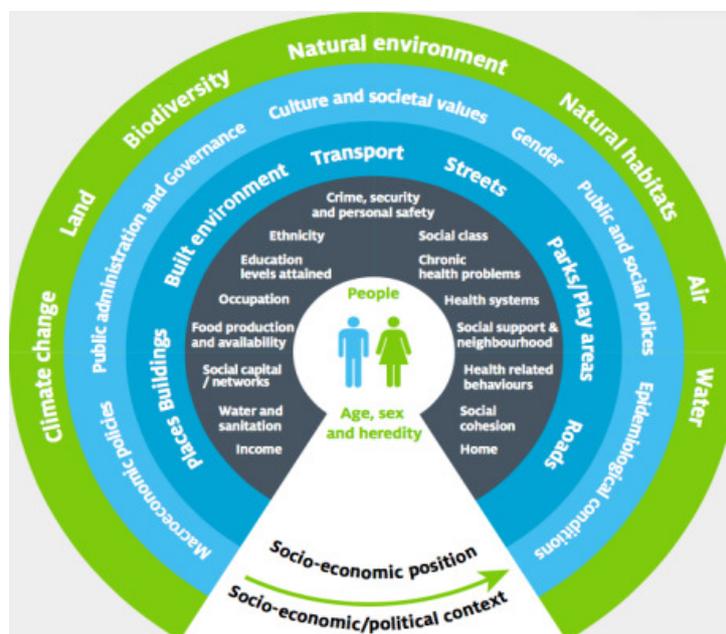
Amin et al. in their study illustrated that Action-oriented maintenance initiatives to improve safety and health are currently becoming more and more crucial in Asia's poor countries. In this part, the outcomes of three action-oriented financing programs the program for small businesses, the Affirmative Sequencing Program for workforces, and organized workers were presented. The author applied a methodology in which they stated that a lot of thought went into how the courses might help residents who were committed to implementing long-term safety and security improvements. The result shows the findings demonstrated significant progress in the area's action-oriented support programs, including significant reform cases, inclusion in governmental regulations, and network support via corporate and activist organizations. The author concludes that the complete integration of the programs required collaborative, action-oriented learning standards, such as intervention, local excellent example pictures, and group work processes. It was notable that other smaller initiatives were launched to improve counseling's accessibility to difficult-to-reach professionals including caregivers, rural laborers, and even minority ethnic groups [17].

Vu et al. in their study embellish that Asians experience poverty at greater rates than White people, and their periods of hardship often endure longer. African Americans and non-porous Asians are also more likely to experience poverty and suffering throughout their life. In this

paper, the author applied a methodology in which he stated that Asians benefit disproportionately from the safety nets that provide financial assistance, health care, and other social services as a consequence of both. The result shows both internal and external investigations of the social safety net have shown that adults and children see a decrease in mental disease symptoms following participation when it comes to outcomes connected to mental health. The author concludes that these developments would significantly improve Asians' mental health if all other variables remained the same. In this paper, the author elaborates that it is important to continually assess the safety net programmers' impact on mental health while examining their economic and social ramifications, as well as their influence on Asian psychiatric diseases. This kind of policy research may assist us in determining if such large-scale initiatives result in societal-wide gains in the mental health of the disproportionately high enrollment of Asians.

### 3. DISCUSSION

The many benefits of maintaining effective wellness and protection procedures and controls are described in the following sections. Employee morale may be raised and workers' trust in the culture of the company can be increased with the help of appropriate organizational health and safety. Workers suffer the most harm since they directly participate in dangerous behaviors, therefore management may improve employee work attitudes and trust in leadership by creating a safe work environment. A platform for employees to contribute to significant company problems may be provided through organizational safety and health planning that permits systems engineering, providing employees a feeling of commitment and belonging. This fact is validated by the fact that participatory leadership in decision-making encourages corporate citizenship (concern), agreeable strategic planning negotiation, and a high level of devotion to job completion. Figure 4 illustrates the social-economic position and social-economic context appropriately.



**Figure 4: Illustrates the social-economic position and social-economic context in an appropriate manner [18].**

The operation of a decent well-being and protection plan, which is a promise made by management, goes a great way toward satisfying workers' basic requirements for existence and motivating them. Since then, the psychological significance of privacy and protection

needs has been underlined by Abraham Maslow's demands hierarchy theory. The occurrence and effect of possible risks, as well as the time and money associated with them, may be significantly reduced by establishing operational wellness and safety-system and plan. Hospital costs and compensation for hospitalized employees would be very low, as would reimbursement to the families of employees hurt in workplace accidents or who have health problems. It's important to keep in mind that accruing a lot of these required costs might place a business in a precarious financial and commercial scenario, limiting its affordable growth in the market [19], [20].

Management's dedication to developing a very strong safety net and protocols demonstrates the employer's concerns about the safety of its employees, assisting them in performing to the best of their abilities within this company. A good health and safety system can help to improve workplace relationships and reduce employee conflict. This setting may assist in lowering union complaints due to the substantial number of employees who are exposed to occupational dangers and hazards. Effective safety and health have a positive impact on the company, which may draw in new investors. By maintaining and attracting experienced workers, a scenario like this helps the institution increase its performance, performance quality, and efficiency.

Health and safety initiatives have been linked to decreased attendance rates, loss of production, employee turnover, productivity, quality, and some other financial gains. An organization with such a strong health and safety culture may see a decrease in tardiness and absenteeism as well as a significant decrease in occupational hazards and accidents. For the business to effectively satisfy customer expectations in terms of time, quantity, and services of the proper quality, enough attention would be made to excellent accomplishment [21]–[23].

#### 4. CONCLUSION

The majority of businesses uphold performance standards. In actuality, it will be the employees' entire responsibility to achieve this goal, which will be watched over by management. Some businesses' management would rather devote more time and energy to maintaining its machinery, materials, and other assets than the financial activities that are required for a company to influence other resources to achieve its objectives. Giving workers access to supportive safety culture is another area that management neglects, particularly in third-world nations. In India, like in almost all other Asian nations, there is essentially no legal administration body in charge of overseeing routine inspections and checks in enterprises to verify compliance with employment and safety regulations and procedures. Over the years, it has led to a significant number of occupational diseases and workplace accidents in organizations. Because the costs of its absence may be greatly avoided, effective health and safety governance has been shown to have a strong correlation with increasing organizational efficiency and success.

#### REFERENCES

- [1] A. M. Abubakar, H. Karadal, S. W. Bayighomog, and E. Merdan, "Workplace injuries, safety climate and behaviors: application of an artificial neural network," *Int. J. Occup. Saf. Ergon.*, vol. 26, no. 4, pp. 651–661, Oct. 2020, doi: 10.1080/10803548.2018.1454635.
- [2] A. K. Ramos, M. McGinley, and G. Carlo, "The relations of workplace safety, perceived occupational stress, and adjustment among Latino/a immigrant cattle feedyard workers in the United States," *Saf. Sci.*, vol. 139, p. 105262, Jul. 2021, doi: 10.1016/j.ssci.2021.105262.
- [3] R. J. Guerin, M. D. Toland, A. H. Okun, L. Rojas-Guyler, D. S. Baker, and A. L. Bernard, "Using a Modified Theory of Planned Behavior to Examine Teachers' Intention to Implement a Work Safety and Health Curriculum," *J. Sch. Health*, vol. 89, no. 7, pp. 549–559, Jul. 2019, doi: 10.1111/josh.12781.

- [4] C. C. Lachance *et al.*, “Compliant flooring to prevent fall-related injuries in older adults: A scoping review of biomechanical efficacy, clinical effectiveness, cost-effectiveness, and workplace safety,” *PLoS One*, vol. 12, no. 2, p. e0171652, Feb. 2017, doi: 10.1371/journal.pone.0171652.
- [5] M. Aburumman, S. Newnam, and B. Fildes, “Evaluating the effectiveness of workplace interventions in improving safety culture: A systematic review,” *Safety Science*. 2019. doi: 10.1016/j.ssci.2019.02.027.
- [6] M. Janson, J. D. Sharkey, and D. A. del Cid, “Predictors of Mental Health Outcomes in Grocery Store Workers amid the COVID-19 Pandemic and Implications for Workplace Safety and Moral Injury,” *Int. J. Environ. Res. Public Health*, vol. 18, no. 16, p. 8675, Aug. 2021, doi: 10.3390/ijerph18168675.
- [7] K. R. Simpson, “Workplace Safety,” *MCN Am. J. Matern. Nurs.*, vol. 46, no. 4, pp. 243–243, Jul. 2021, doi: 10.1097/NMC.0000000000000733.
- [8] D. Fan, C. J. Zhu, A. R. Timming, Y. Su, X. Huang, and Y. Lu, “Using the past to map out the future of occupational health and safety research: where do we go from here?,” *Int. J. Hum. Resour. Manag.*, 2020, doi: 10.1080/09585192.2019.1657167.
- [9] K. J. Awosan, M. T. O. Ibrahim, E. U. Yunusa, B. A. Isah, U. M. Ango, and A. Michael, “Knowledge of Workplace Hazards, Safety Practices and Prevalence of Workplace-related Health Problems among Sawmill Workers in Sokoto, Nigeria,” *Int. J. Contemp. Med. Res. [IJCMR]*, 2018, doi: 10.21276/ijcmr.2018.5.10.6.
- [10] T. Hu, “Toward healing and restoration against medical disturbance (Yinao) in China: Reconsiderations and prospects of responsibility search and malpractice resolution,” *Frontiers of Law in China*. 2021. doi: 10.3868/s050-006-017-0030-6.
- [11] A. M. Roche, J. Chapman, V. Duraisingam, B. Phillips, J. Finnane, and K. Pidd, “Construction workers’ alcohol use, knowledge, perceptions of risk and workplace norms,” *Drug Alcohol Rev.*, 2020, doi: 10.1111/dar.13075.
- [12] F. Havaei, A. Ma, S. Staempfli, and M. Macphee, “Nurses’ workplace conditions impacting their mental health during covid-19: A cross-sectional survey study,” *Healthc.*, 2021, doi: 10.3390/healthcare9010084.
- [13] D. Dinakaran, K. R. Balasubramanian, S. P. Sivapirakasam, and K. Gopanna, “Behaviour-based safety approach to improving workplace safety in heavy equipment manufacturing industry,” *Int. J. Hum. Factors Ergon.*, 2019, doi: 10.1504/ijhfe.2019.104595.
- [14] A. Yulia, M. F. Mohd Salleh, M. A. Noorazman, and U. A. A. Roslan, “Safety culture and its contributing factors in manufacturing workplace in Malaysia,” *Int. J. Appl. Bus. Econ. Res.*, 2015.
- [15] S. Ayim Gyekye and S. Salminen, “Workplace Safety Perceptions and Perceived Organizational Support: Do Supportive Perceptions Influence Safety Perceptions?,” *Int. J. Occup. Saf. Ergon.*, 2007, doi: 10.1080/10803548.2007.11076721.
- [16] D. W. Irawanto, K. R. Novianti, and K. Roz, “Work from home: Measuring satisfaction between work–life balance and work stress during the covid-19 pandemic in indonesia,” *Economies*, 2021, doi: 10.3390/economies9030096.
- [17] M. R. Amin, I. Kim, and S. Lee, “Local religiosity, workplace safety, and firm value,” *J. Corp. Financ.*, vol. 70, p. 102093, Oct. 2021, doi: 10.1016/j.jcorpfin.2021.102093.
- [18] A. Gragnano, S. Simbula, and M. Miglioretti, “Work–life balance: weighing the importance of work–family and work–health balance,” *Int. J. Environ. Res. Public Health*, 2020, doi: 10.3390/ijerph17030907.
- [19] M. Roy, R. Parent, and L. Desmarais, “Knowledge Networking: A Strategy to Improve Workplace Health & Safety Knowledge Transfer,” *Electron. J. Knowl. Manag.*, 2003.
- [20] J. J. Pilcher and D. M. Morris, “Sleep and Organizational Behavior: Implications for Workplace Productivity and Safety,” *Frontiers in Psychology*. 2020. doi: 10.3389/fpsyg.2020.00045.
- [21] R. Lysaght, C. Sparring, H. Ouellette-Kuntz, and C. A. Marshall, “Injury incidence and patterns in workers with intellectual disability: A comparative study,” *J. Intellect. Dev. Disabil.*, 2011, doi: 10.3109/13668250.2011.625927.
- [22] P. M. Smith, J. Oudyk, G. Potter, and C. Mustard, “The Association between the Perceived Adequacy of Workplace Infection Control Procedures and Personal Protective Equipment with Mental Health Symptoms: A Cross-sectional Survey of Canadian Health-care Workers during the COVID-19 Pandemic: L’association en,” *Can. J. Psychiatry*, 2021, doi: 10.1177/0706743720961729.
- [23] A. Sedani, D. Stover, B. Coyle, and R. J. Wani, “Assessing workplace health and safety strategies, trends, and barriers through a statewide worksite survey,” *Int. J. Environ. Res. Public Health*, 2019, doi: 10.3390/ijerph16142475.

## CHAPTER 7

### A COMPARATIVE STUDY ON THE ECONOMIES OF SCALE AND ECONOMIES OF SCOPE FOR IMPROVED EFFICIENCY

Dr. Muddu Vinay, Professor & Pro Vice Chancellor,  
School of Management, Presidency University, Bangalore, India,  
Email Id-muddu.vinay@presidencyuniversity.in

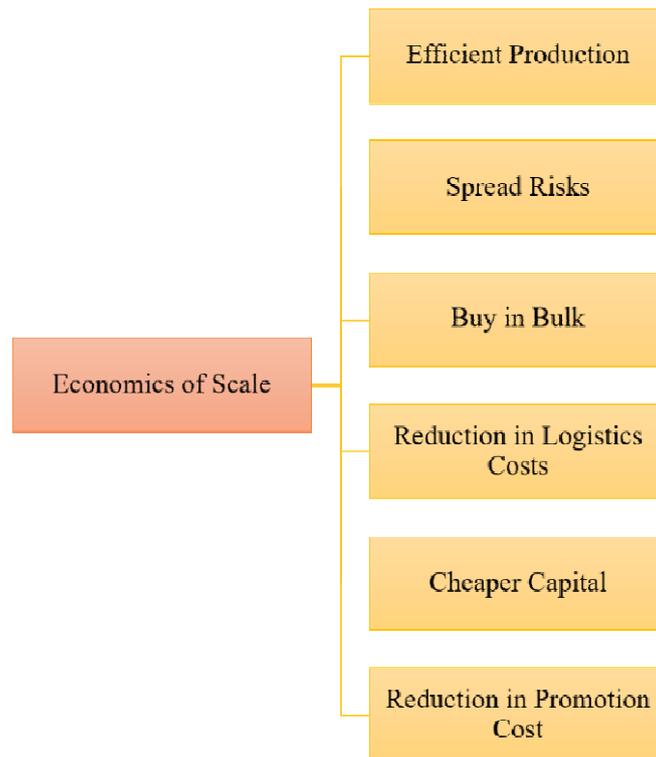
**ABSTRACT:** *A cost-saving strategy called economy of scope encourages the use of comparable processes to produce multiple goods at a time rather than just one, thereby increasing efficiency. As businesses increase production, so do cost savings from economies of scale. More manufacturing units are used to spread fixed costs such as administration. The problem that arises due to the lack of proper use of economic scale and scope in the manufacturing industry are a monopoly, uneven income distribution, severe economic loss, negative effects on workers, and excessive production. The author focuses on the importance of economic scale and scope such as cost savings, higher investment returns, improved corporate efficiency, lower business risks, and higher levels of customer satisfaction. In this paper, the author also discusses how to achieve economies of scope to get benefits to the businesses and types of the economic scale. It concluded that by developing those connected products with economic size and breadth, it would be easier to produce more services and goods at a lower average cost. In the future, a corporation will be able to use economies of scale to continually increase the volume until the cost per unit is at its lowest point.*

**KEYWORDS:** *Businesses, Cost, Economic of Scale, Economies of Scope, Manufacturing.*

#### 1. INTRODUCTION

In addition to operating at the level of an individual company, economies of scale can also work at the level of the industry. Let's say the production of input has economies of scale. Scale economies are seen, for instance, in the manufacturing of storage devices for personal computers. This suggests that greater production of Personal Computers (PCs) will lower the cost of storage devices, which also will lower the cost of PCs owing to economies of scale. Whether one business or some enterprises are in charge of the productivity increases in this situation is irrelevant for economies of scale [1],[2]. Since the economy of scale occurs at the industry level instead of the level of the specific business, this is described as an external scale economy or an industrial economy of scale [3]. The long-term estimated price of a company may therefore remain constant even as the industry in terms of long-term average price continues to decrease [4],[5].

An economy of scale is the cost savings that a company experiences as a result of increasing its output level. Efficiency as well as a fixed price per unit have an inverse relationship that leads to profit. The fixed unit cost decreases as production quantity increases. As output increases, economies of scale lead the median variable expense per unit as well as average non-fixed expenses to decline. Figure 1 displays the increasing size of production as a result of greater operational efficiency and synergies [6],[7]. A company may get economies of scale at any point in the production cycle. This meaning of "production" refers to the economic notion of production, which excludes the final consumer and includes all actions affecting an item. A company may decide to engage a sizable number of marketing specialists to adopt economies of scale across its advertising department. A business may also do it by automating the manual operations that the labor force doing in the resource procurement division.



**Figure 1: Illustrates the concept of economic production and all acts pertaining to the good included in the scale economy [8].**

The phrase "economy of scope" describes how making one item may make making a related good less expensive. When creating a variety of goods or services is much more economical for a firm than producing a lesser quantity of each commodity separately, this is known as an economy of scope [8],[9]. In this scenario, the long-run marginal and average costs of a business, organization, or economy decrease due to the development of complementary commodities and services,[10]. The capacity created by variety characterizes economies of scope, whereas economies of scale are distinguished by quantity. The latter phrase alludes to the marginal cost being lowered by manufacturing more units. For instance, economies of scale facilitated business development through assembly line industrialization during the 20th century. Economies of scope are circumstances when producing two or even more goods together produces a lower marginal cost than making them separately.

$$\text{Economies of scope (S)} = \frac{(C(q_a) + C(q_b)) - C(q_a + q_b)}{C(q_a + q_b)} \cdot \frac{C(q_a) + C(q_b) - C(q_a + q_b)}{C(q_a + q_b)}$$

Where:

$C(q_a)$  = The price of manufacturing quantity  $q_a$  of an item distinct.

$C(q_b)$  = The cost of manufacturing product  $b$  in quantity  $q_b$  incurred separately.

$C(q_a + q_b)$  = The price of manufacturing  $q_a$  and  $q_b$  combined

Economies of scope (S) refer to the percentage cost reductions achieved when the items are created jointly. S would therefore be higher than 0 if there were economies of scope.

Economies of scope are distinct from economies of scale through the former includes simultaneous production of many items to cut costs, whilst the latter entails mass production of a single product to cut costs by improving production efficiency. Products that are co-

products or complements in manufacturing, products with complementary production methods, or products that share components in production can all lead to economies of scope. Workstation economies are economic considerations that allow manufacturing several items simultaneously more affordable than manufacturing each product separately [11],[12]. One train may transport goods and passengers more inexpensively than two separate trains, one for travelers and another for freight, using a train as an example. A single train in this scenario with distinct carriages for each classification would be substantially more economical and might result in financial savings for passengers on capacity or ticket fees. Economies of scope can happen when production methods are complementary, when goods are co-produced through the same process, or when products use the same manufacturing inputs.

The present paper focuses on the economics of scale and economics of scope as well as their comparisons. This study is divided into several sections, the first of which is an introduction, followed by a review of the literature and suggestions based on previous research. The next section is the discussion and the last section is the conclusion of this paper which is declared and gives the outcomes as well as the future scope.

## 2. LITERATURE REVIEW

Lukas Mauler [13] et al. have explained a method for identifying the most cost-effective plant sizes for the production of battery cells based on process-based cost modeling. The devised technique for producing battery cells, according to the author, translates academic expertise in materials, cell design, and other process enhancements into suggestions for the industry's most cost-effective plant scaling decisions. It demonstrated that economies of scale are connected to the capability of roll-to-roll operations in the manufacture of electrodes and may be improved if the corresponding machinery is utilized to its fullest extent. Finally, it should be highlighted that future technical developments like the fabrication of all-solid-state and dry electrode processes have not been taken into consideration.

According to Wenchao Wu [14] et al. using a fixed-effects model, a large household survey panel will be used to determine the impact of household economies of scale on China's domestic power usage. The author has revealed significant household scale efficiencies in power use using nationally representative home survey panels from the prior year. One more member of the family was linked to a reduction in per capita power usage of 17.0–23.6 percent, as the results demonstrated a notable scale impact of this size. In conclusion, it is crucial to include scale impact in forecasts of energy consumption and sustainability analyses.

Anders Akerman [15] conducted an analysis of wholesalers' and other intermediates' roles in an economy with diverse manufacturing businesses and set exporting costs, providing a theoretical basis for their existence. But even though the fixed cost grows with the number of items they manage, the author has discovered that wholesalers can manage more than one thing utilizing their global distribution network whereas manufacturing companies can only export their products. It was determined that wholesalers' presence decreases price indices in the nations with which they do business. Therefore, wholesalers boost competitiveness and well-being in these nations. It concluded that wholesalers lessen the impact of fixed expenses on price levels.

Paula Llanquileo-Melgarejo and María Molinos-Senante [16] stated the employing data envelopment analysis to assess the eco efficacy of Municipal Solid Waste (MSW) services offered by a model of 142 Chilean Municipalities. A procedure that looks at if there are any economies of scale in MSW facilities and combines financial and environmental factors into

a unique performance indicator. Its results indicated that 92.3 percent of municipalities under examination were not environmentally and offered substantial room for improvement because when average eco efficacy grade was 0.58. It was concluded that it would be advantageous for decision-makers to create efficient public policies to increase the cost- and environmentally-effectiveness of the delivery of MSW services.

Kees de Roest [17] et al. discussed the modern advancement in agriculture has been fueled by a modernization paradigm centered on specialization, diversification, and global expansion. The author of that study provides some case studies from Israel and European Union (EU) member states that show how farmers experiment with alternate, diversification-based growth routes. According to these results, farmers who become a part of that kind of economic interdependence are better able to absorb the outside economics generated by any of these networks and enhance their comprehension of production and marketing through a close connection with other farms. In conclusion that the literature in the field of rural social science should empirically expose the shortcomings of models that stress the benefits of economies of scale.

The above study shows a method to identify the most cost-effective plant size for the production of battery cells based on process-based cost modeling as well as a modernization paradigm focused on specialization, diversification, and large-scale expansion, thereby promoting agricultural progress happened has been inspired. In this study, the author discusses the factors of economies of scale as well as their benefits in achieving the scope and objective.

### 3. DISCUSSION

The goods and services produced determine the scale economy that's also employed. It might just be necessary to increase the hours of operation to make greater use of pricey gear. In either case, economies of scale enable a company to produce more products at a cheaper cost per unit. More than only the firm manufacturing the benefits of the item from economies of scale. Customers can receive lower prices. The economy grows due to increased demand sparked by lower prices. An economy of scale occurs when a company's output increases in a way that decreases the cost per unit. Internal economies of scale can result from a variety of factors, including technological development, managerial efficiency, financial capability, monopoly power, or access to extensive networks. Through external scale efficiencies of scale, companies may influence economic interests, usually leading to preferential treatment from government agencies. Scale discrepancies can occur whenever a company increases output past the point of maximum effectiveness and per-unit costs start to rise.

#### 3.1. Economics of Scope:

By merging the production of many items or by combining related services, economies of scope can be achieved in Figure 2. Because the same resources are used to produce several commodities at once, the overall cost of manufacturing is reduced.

##### 3.1.1. Flexible Manufacturing:

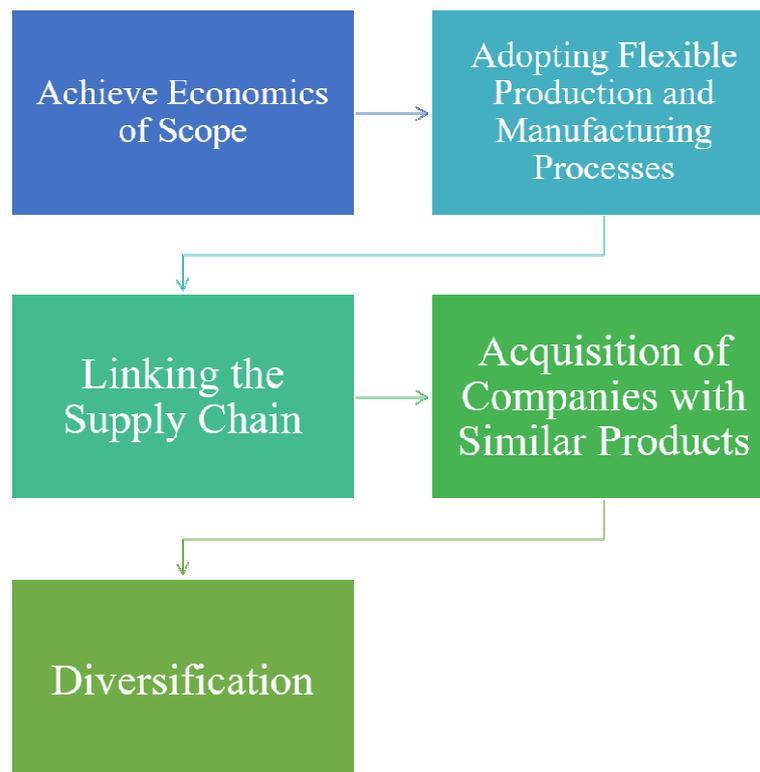
When numerous products may be produced utilizing the same manufacturing processes and inputs, this is known as flexible manufacturing. For instance, when preparing hamburgers and fries, one facility might be used for storage and preparation as opposed to needing two distinct facilities.

### 3.1.2. Linking Supply Chain:

Vertical supply chain integration lowers costs and waste. For instance, conducting several enterprises through a single company or a mix of management is preferable to doing so as distinct entities.

### 3.1.3. Related Diversification:

A business can benefit from the accompanying diversity if it can use its operational knowledge, resources, and organizational skills. For instance, employing marketers and designers who can apply their expertise across many product lines enables the manufacturing of a greater choice of items.



**Figure 2: Illustrates the Different Ways of Achieving Economies of Scope by which Simultaneously Producing different Products [18].**

### 3.1.4. Mergers:

Through mergers, a business may frequently lower costs and broaden its product offering or knowledge by sharing research and development expenditures. For instance, two pharmaceutical businesses may unite to save costs associated with research and advancement and produce new drugs.

### 3.2. Types of Economics Scale:

When a company that produces a lot of things reaches the point where production costs start to decrease rather than increase, economies of scale occur. Increasing output while decreasing the cost per unit of production is the essence of establishing an economy of scale. Due to the ability to increase production while lowering expenses, firms may be able to cut the price of their products for customers. There are two major types of economies of scale:

### 3.2.1. *Internal Economics Scale:*

It relates to a company's particular economics. A business with a patent on a technique for mass production could be able to reduce its typical manufacturing costs in comparison to other businesses in the industry.

### 3.2.2. *External Economic Scale:*

Due to the industry's location, external economies of scale may also be obtained from the aforementioned inputs. As a result, having a competent workforce and a cheaper cost of transportation are advantages that all fast-food businesses in a given area of a city may take advantage of. Supporting industries may also start to emerge at that point, such as specialized fast-food potato or cow breeding farms. If the sector minimizes the weight of expensive inputs, for instance, external economies of scale may also be utilized through sharing technology or management skills. The ripple effect may result in the development of industry standards.

### 3.3. *Economies of Scale Benefits:*

**Cost of Production Decreasing:** The fundamental benefit of establishing a scale economy is indeed the cost of output decline, which happens when production reaches the point wherein costs stabilize rather than rise. **Developing a Competitive Edge:** Businesses may develop a competitive advantage by taking advantage of economies of scale. This is useful since it could persuade customers to choose a company over rivals in the same industry [16]. **Scaling up the business** The Company may grow as a result of economies of scale when output starts to increase. The ability to enhance products is another benefit of economies of scale. When a business focuses on one product, it may generate a high-quality one by dominating its industry.

### 3.4. *Economies of Scope Benefits:*

**Cost of Production Decreasing:** The fundamental benefit of establishing a scale economy is the cost of output decline, which happens when production attains the point at which costs stabilize rather than rise. **Developing a Competitive Edge:** Businesses may develop a competitive advantage by taking advantage of economies of scale. This is advantageous since it could influence clients to pick a firm over rivals in the same sector. **Scale-up of the Business:** As the company starts to grow production, economies of scale may also result in a scale-up of the company. Product improvement is a further advantage of economies of scale. When a company concentrates on producing a single product, it may produce a high-quality product by dominating its sector.

### 3.5. *Diseconomies of Scale:*

Disparities in scale can happen when a company expands beyond a level of output that decreases the long-run average price. The company observes a rise in marginal cost as output grows when there are scale disparities. This can happen when processes lose their equilibria or when another process is unable to produce the same output as the activity in question. When a company grows to such a size that: transportation costs rise enough to cancel out the benefits of scale, inconsistencies of scale can also develop. It becomes too expensive or incomplete to monitor employee productivity. The coordination of the industrial process becomes quite challenging. The outcome of several failures. The expense of maintaining an effective information flow rises dramatically. Workers are becoming less productive as a result of feeling alone. Reduced firm concentration causes inefficiencies and a loss of strategic location.

3.6. *Technical of Economic Scale:*

The efficiency of the production process itself leads to a technological economy of scale. Manufacturing expenses decrease from 72 percent to 92 percent every time a company doubles its output. Larger businesses can benefit from more productive machinery. For instance, data mining software enables the company to focus on lucrative market segments. Super-tankers help big transport corporations minimize expenses. Larger businesses eventually obtain technical economies of scale while they experiment more. In terms of a learning curve, they are much ahead of their lesser competitors.

3.7. *Economic Scale versus Economic Scope:*

Since both of these strategies provide proportionate reductions in production costs, people sometimes mistake the two. However, scale economies and scope economies may be compared in Table 1.

**Table 1: Illustrates the Comparison of Economic Scale versus Economic Scope based on different properties [19].**

Sl.	Basis for Comparison	Economies of Scope	Economies of Scale
1.	Meaning	A company's production expenses might be decreased if it produces a variety of products.	Saves money on production costs after a certain point.
2.	It's about	A procedure that generates a range of products.	Massive production of a single kind of product.
3.	Strategy Behind	Diversification of products.	Standardization of product.
4.	Reduction due to	Varieties in production.	Bulk production.
5.	Old/new	The concept is somewhat more current and has lately been adopted by corporations.	The concept is widely used and is relatively older.
6.	Uses	Since several items are produced in a single process, fewer resources are required.	A huge quantity of resources since mass production is used.
7.	Example	The same resources are used to manufacture a variety of food items.	Mass manufacturing of a specific type of smartphone.

3.8. *Example of Economic Scope:*

By-products: By-products are unique goods created during the entire manufacturing process. In this situation, one thing is created from another thing. A great example is the beer business. Brewers sell the yeast extracts they make as a by-product of beer making to producers of popular spreads such as Marmite Vegetables and other foods. It is the primary component of those goods. Shared inputs in production: Economies of scale are more often present in the exchange of manufacturing inputs. When this happens, the material used to make one product can also be used to make another product. Take into account factors such as labor, equipment, and supplies. When many goods or services are provided together, it is called complementary production. Additionally, by doing so, you increase the efficiency of

each production. An example of this is when businesses partner with educational institutions. Students work in businesses to gain practical experience and training. Businesses benefit from cheap labor, while universities and schools increase their student services as a result.

### 3.9. The key Differences Between the Economies of Scale and Scope:

While increasing the number of units produced is the goal of economies of scale, expanding the variety of products is what economies of scope are all about. With the use of economies of scale, a business can analyze the average cost per unit and continually increase quantity until the cost is brought down. The use of facilities to reduce the average unit cost is known as the economy of the area. Economies of scale focus on a single product category. Workstation economies place special emphasis on a range of goods. The manufacturing capacity of a product has a greater impact on the economics of scale. A business's ability to produce a variety of goods from a single item will have a greater impact on the economics of the area. Economies of scale are a relatively ancient idea. The economy of the region is a relatively recent idea.

## 4. CONCLUSION

The savings that can be achieved by producing goods in large quantities are known as economies of scope. It can use part of the same resources for each line so that it can produce more than one. As a result, your overall unit cost is reduced. Discovering economies of scope can be a wise strategy. If anyone can search for complementary items, it can reduce production costs. Additionally, you can simultaneously increase your customer retention rate. On the other hand, consumers often choose firms that can provide them with more than just one product. Businesses can extract more value from the supply chain when they use the same raw material to make a variety of goods. Because of this, companies with optimized manufacturing processes often create new goods that they can manufacture using the same components, production processes, and management personnel. It is simple to generate more services and products at a lower average price by creating these linked products. This suggested that economies of scale are far more prominent than economies of scope. The two ideas are comparable but not identical. Savings are achieved through economies of scale by obtaining or manufacturing goods in large quantities. The term scope refers to the production or offering of a large range of goods. The frugality of the workspace is more beneficial in many cases. For example, by diversifying, you can increase your sales and reduce your production expenses. A fixed cost is a piece of equipment needed to make goods produced using scale. In addition, improvements in productivity and manufacturing techniques may ultimately result in reductions in total fixed costs. Therefore, economies of scale will help in reducing the cost no matter how much production is increased.

## REFERENCES

- [1] P. V. Derkachev, K. V. Zinkovsky, I. A. Kravchenko, and K. A. Semenova, "«Economy of Scale» or «Economy of Scope»: What Universities Should Rely on in the Competitive Struggle?," *Univ. Manag. Pract. Anal.*, vol. 25, no. 1, pp. 131–141, May 2021, doi: 10.15826/umpa.2021.01.010.
- [2] Steven Nickolas, "Understanding Economies of Scope vs. Economies of Scale," *Investopedia*, 2021.
- [3] L. Kelly and C. Booth, "Economies of Scope," in *Dictionary of Strategy: Strategic Management A-Z*, 2013. doi: 10.4135/9781452229805.n235.
- [4] T. Suwanthawornkul, N. Praditsitthikorn, W. Kulpeng, M. A. Haasis, A. M. Guerrero, and Y. Teerawattananon, "Incorporating economies of scale in the cost estimation in economic evaluation of PCV and HPV vaccination programmes in the Philippines: a game changer?," *Cost Eff. Resour. Alloc.*, vol. 16, no. 1, p. 7, Dec. 2018, doi: 10.1186/s12962-018-0087-x.

- [5] S. Li and M. Marinč, “Economies of scale and scope in financial market infrastructures,” *J. Int. Financ. Mark. Institutions Money*, vol. 53, pp. 17–49, Mar. 2018, doi: 10.1016/j.intfin.2017.09.010.
- [6] L. Spierdijka and M. Zaourasa, “Measuring banks’ market power in the presence of economies of scale: A scale-corrected Lerner index,” *J. Bank. Financ.*, vol. 87, pp. 40–48, Feb. 2018, doi: 10.1016/j.jbankfin.2017.09.022.
- [7] J. Zetterholm, K. Pettersson, S. Leduc, S. Mesfun, J. Lundgren, and E. Wetterlund, “Resource efficiency or economy of scale: Biorefinery supply chain configurations for co-gasification of black liquor and pyrolysis liquids,” *Appl. Energy*, vol. 230, pp. 912–924, Nov. 2018, doi: 10.1016/j.apenergy.2018.09.018.
- [8] L. Raskin and A. Williams, “Economies of scale,” *Archit. Rec.*, vol. 205, no. 11, pp. 86–91, 2017, doi: 10.4135/9781412939591.n327.
- [9] R. C. de A. Lima and R. da M. Silveira Neto, “Secession of municipalities and economies of scale: Evidence from Brazil,” *J. Reg. Sci.*, vol. 58, no. 1, pp. 159–180, Jan. 2018, doi: 10.1111/jors.12348.
- [10] C.-D. T. T. Tran, “Cost efficiency – one size fits all? A university-level analysis of economies of scale and scope in Vietnamese higher education,” *Asia Pacific J. Educ.*, vol. 41, no. 2, pp. 336–355, Apr. 2021, doi: 10.1080/02188791.2020.1735996.
- [11] U. Klotzki, A. Bohnert, N. Gatzert, and U. Vogelgesang, “Economies of scale in European life insurance,” *J. Risk Financ.*, vol. 19, no. 2, pp. 190–207, Mar. 2018, doi: 10.1108/JRF-03-2017-0055.
- [12] D. Zhang, R. Eglese, and S. Li, “Optimal location and size of logistics parks in a regional logistics network with economies of scale and Co2 emission taxes,” *Transport*, vol. 33, no. 1, pp. 52–68, Jan. 2018, doi: 10.3846/16484142.2015.1004644.
- [13] L. Mauler, F. Duffner, and J. Leker, “Economies of scale in battery cell manufacturing: The impact of material and process innovations,” *Appl. Energy*, vol. 286, p. 116499, 2021, doi: 10.1016/j.apenergy.2021.116499.
- [14] W. Wu, Y. Kanamori, R. Zhang, Q. Zhou, K. Takahashi, and T. Masui, “Implications of declining household economies of scale on electricity consumption and sustainability in China,” *Ecol. Econ.*, vol. 184, p. 106981, 2021, doi: 10.1016/j.ecolecon.2021.106981.
- [15] A. Akerman, “A theory on the role of wholesalers in international trade based on economies of scope,” *Can. J. Econ.*, vol. 51, no. 1, pp. 156–185, 2018, doi: 10.1111/caje.12319.
- [16] P. Llanquileo-Melgarejo and M. Molinos-Senante, “Evaluation of economies of scale in eco-efficiency of municipal waste management: an empirical approach for Chile,” *Environ. Sci. Pollut. Res.*, vol. 28, no. 22, pp. 28337–28348, 2021, doi: 10.1007/s11356-021-12529-1.
- [17] K. de Roest, P. Ferrari, and K. Knickel, “Specialisation and economies of scale or diversification and economies of scope? Assessing different agricultural development pathways,” *J. Rural Stud.*, vol. 59, pp. 222–231, 2018, doi: 10.1016/j.jrurstud.2017.04.013.
- [18] B. Warf, “Economies of Scope,” in *Encyclopedia of Human Geography*, 2012. doi: 10.4135/9781412952422.n80.
- [19] S. S., “Economies of Scale and Economies of Scope,” in *SpringerReference*, 2011. doi: 10.1007/springerreference\_1360.

## CHAPTER 8

### ANALYSIS ON THE ROLE OF PLANNING CAPACITY IN CORPORATE LIFE

---

Dr. Virupaksha Goud, Associate Professor,  
School of Management, Presidency University, Bangalore, India,  
Email Id-virupaksha.goud@presidencyuniversity.in

**ABSTRACT:** *Corporations use capacity planning to determine how much work they can do given their overall personnel numbers and time restrictions. In more detail, capacity refers to the amount of work that can be completed in a specified period. Lack of capacity planning in corporate life leads to problems such as lack of resources, staff burnout, deterioration in team spirit, and poor quality of deliverables as a result of ineffective capacity planning. Hence the author focuses on the importance of planning ability in corporate life such as making decisions about your employees. And also projects based on facts, budgeting better, preventing burnout, understanding the skill set of your employees, time for training draw and skill. In this paper, the author discussed the various factor of capacity planning in corporate life such as equipment capacity planning, product capacity planning, and the workforce of capacity planning. It concluded that planning for capacity helps firms determine the best level of operations through budgeting and scaling up. In the future, the ultimate goal of capacity planning is to determine whether an organization has enough employees to meet its current initiatives.*

**KEYWORDS:** *Business, Capacity Planning, Corporate Life, Company, Market.*

#### 1. INTRODUCTION

Determine the workforce and production capacity required to ensure that their supply chain is ready to meet demand. Capacity planning is a type of production planning. Businesses planning their potential can better understand how and when they should grow, detect bottlenecks, improve their design capabilities, and reduce the risk [1],[2]. Capacity planning seeks to identify resource constraints, gaps, and dependencies, to optimize the impact of your investment choices [3],[4]. To maximize efficiency and value delivery, the objective is to employ appropriate teams, resources, and resource types at the appropriate level and for the appropriate task [5],[6]. Additionally, by considering resource availability when selecting and prioritizing tasks, your business has the information it needs to change workforce numbers as needed [7],[8]. Unlike more traditional jobs, such as building projects, work primarily on individuals or groups engaged in knowledge work [9],[10]. While knowledge-related jobs often present a more dynamic set of issues where estimates are less accurate and needs/requirements fluctuate, the latter are well-defined but reproducible. Consequently, capacity plans should be regularly monitored and revised to suit the underlying objective. Naturally, when trying to strike a balance between demand and capacity, the scope of work can also change, adding a new dimension.

Phraseological resources in the framework of capacity planning can also include assets such as hardware, buildings, and equipment, even if the knowledge task is heavily dependent on individuals and teams. Capacity quantitatively affects service companies. Capacity planning is more than just a tool for manufacturers as it also decides how many items or people you can provide. This can help your service business stand out from the crowd [11],[12]. Your company needs to understand that if it wants to remain competitive, grow, and guarantee a very pleasant brand customer experience, how many services can provide the workforce?

Since services can be invented, successful capacity planning requires matching long-term supply with anticipated long-term demand levels. This plan helps you match the pricing or rates to prevent you from charging more or less capacity to your customers [13]. The process of comparing future resource use for our downstream activities with the capacity already available on their production lines is known as resource efficiency planning. The amount of work to be done is not dependent on the amount of standard working time available to produce the material. Among other things, it includes all the projects that need to be completed and the resources required for a project within a given time frame.

### *1.1. History of Capacity Planning:*

Each department has a unique function in the success of a company organization, each department has a different role, and no single department can be said to form a significant part of the company. All departments must work together for any firm to be successful. Most organizations in this century or age give high priority to marketing, sales, human resource management, information technology, transportation, research and development, and customer support. None of these statements can claim that the corporation or organization is the department responsible for its success. Each department has been assigned specific duties and specific qualities which help it to become more important. However, a department works with the entire department or, according to research, it acts as the launch pad of the department. This department is called Operations. Whatever the role of the department, there will be policy and structure to ensure that it operates effectively. The operation of any company is its foundation. Regardless of the business they choose, operations are critical to its effectiveness and success. Operations management not only enhances efficiency but also promotes smooth operation and links all the organizational departments together. The ability of any business to succeed is mostly a function of its operations and strategic planning. Company objectives must be met through efficient and productive operations management. It is now clear that operations management is critical to the success of every firm and guarantees its continued existence. Tesco's Operation Management Mechanism is a client of this activity.

The present paper is a study to ensure that the supply chain is ready to meet demand, capacity planning, and a type of production schedule to determine production capacity and manpower requirements. Capacity planning allows businesses to expand or contract as needed, remove bottlenecks, promote design efficiencies, and reduce risk. This paper is divided into several sections where the first is an introduction and the second section is a literature review and suggestions from previous studies. The next section is the discussion and the last section is the conclusion of this paper which is declared and gives the outcome as well as the future of the study.

## **2. LITERATURE REVIEW**

Mohsin Shahzad [14] et al. have explained the impact of Knowledge Absorption Capacity (KAC) of workers on Corporate Social Responsibility (CSR) processes of businesses to achieve Corporate Sustainability Performance (CSP) objectives by adhering to absorption efficiency and the green principle. This was investigated using qualitative comparative studies of fuzzy sets and partial least squares modeling of structural equations. Findings indicated that KAC has a strong effect on CSP and is associated favorably with CSR efforts. Second, it was found that CSR had a significant mediating effect. Finally, KAC is an invaluable resource that helps businesses harness CSR activities for a competitive edge, sustainability, as well as long-term environmental needs. Ahsan Habib and Mostafa Monzur Hasan [15] have Explained that the corporate life cycle has attracted a lot of attention in the

literature on accounting, economics, and corporate governance. According to the author's analysis of accounting and finance literature on factors affecting the life cycle of a firm, venture capital participation, organizational capital, managerial techniques, corporate structure, adaptability, and exit patterns are largely explained by these factors. The results indicate how important it is to invest in intangible assets to provide a long-lasting competitive advantage that can propel businesses through profitable life cycle stages. It concluded that up to this point, life cycle research in accounting, finance, and corporate governance has offered interesting perspectives on the factors that influence and influence a company's life cycle.

F. B. Oliveira and J. R. Fontes Filho [16] have explained how to make a new contribution to the examination of corporate governance processes based on long-term research, using the ownership transition on the responsibilities of the Board of Directors and the participation of partners in its outcomes as context. Revisions in Transportadora Brasileira Gasoduto (TBG) were subject to longitudinal examination by the author. It was determined that there was a relationship between company stages and investment characteristics, from the early years when business was centered around energy companies with specialized knowledge when investments attracted capital peers interested in financial performance. Finally, corporate governance takes into account the long-term modifications and adjustments that will be necessary, as well as the objectives of the corporate structure and governance actors.

G.F.G. Teixeira and O. Canciglieri Junior [17] explained that a similar set of evaluation criteria, including strategy, organization, motivation, performance, and partnership, should be used to assess continuous integration. The author's method for strategy development seeks to guide, facilitate and accelerate the inclusion of sustainable practices for sustainability interconnection in the product development process, as well as implementing changes with the aid of strategic planning in the company's management. Also does a continuous improvement process. In this process. Through a clear explanation of the relationship between strategy and operational activities, the result has increased the efficiency of resource use by approximately 50% water and 60% energy consumption. Finally, the time spent in manufacturing processes is used to acquire new skills and information. Zixin Wang [18] et al. have explained the influence of management of working capital including working capital strategy on a company's financial performance at various phases of its corporate life cycle. The author claims that companies at different points of their life cycles have varied capital requirements and that this affects how well they can raise money from outside sources. Life cycle results reveal that the profitability of introductions, growth and declining businesses is adversely related to a conservative strategy, indicating that a warehouse control system (WCS) is conservative and harms company performance. To conclude, enterprises need tailored Web Content Management (WCM) policies and WCS at each stage of the firm life cycle to achieve sustainable financial success.

The above study shows that corporate life cycles have drawn a lot of attention in the literature on accounting, economics, and corporate governance as well as the influence of management of working capital including working capital strategy on a company's financial performance at various phases of its corporate life cycle. In this paper, the author discussed the importance of capacity planning in corporate life and the marketplace.

### 3. DISCUSSION

In most cases, capacity refers to the most you can take in and do within the constraints of an average workday. On the other hand, capacity planning is a process that determines if you have the tools and expertise necessary to complete the task at hand or enough supply to fulfill

demand. In contrast to resource planning, capacity planning forecasts and confirms that organizations can satisfy consumer demands at the organizational level.

### *3.1. Importance Of Capacity Planning:*

Honesty decides that without it a business cannot run properly. It's so awful. Users cannot be sure that if users cannot see those projects and the people working on them, then the project is going to end as soon as possible. Even if they regularly check in with the team to see how things are going, they may not be aware of a more effective method or the need for capacity planning. No, this will allow you to determine whether there are too many people working on the job, in which case they are overpaid, or whether there are not enough people working on it, in which case they are not. Capacity planning is essential to ensure that everyone is operating to their maximum potential. Where this is likely to happen in the future. This is important because business owners may underestimate their actual workload and cut employees. After all, it feels like they have too much pay to pay and not enough revenue is coming from customer orders. The issue with this strategy is that it often results in a quick decision that will ultimately cost the company money. When extra work eventually gets in the way, they may not be able to tackle it with a smaller team, capacity planning can help you with this.

### *3.2. Types of Capacity Planning:*

Users should be familiar with the three primary categories of capacity planning before getting started. A strategy will guarantee that the company has a fair amount of everything needed to manufacture your goods and expand your firm.

#### *3.2.1. Workforce capacity planning:*

Planning your workforce capacity is ensuring that you have a sufficient number of team members working to generate the items you need. It is worthwhile to invest in a solution that can offer this perspective of their shop's activities as it makes workforce planning much easier.

#### *3.2.2. Equipment capacity planning:*

The process of ensuring that you have the appropriate equipment available to create and execute orders is known as equipment capacity planning. This can include anything from drilling tools to assembly line components, depending on the product they are making.

#### *3.2.3. Product capacity planning:*

Planning your product capacity guarantees that people always have access to the raw materials and finished goods needed to fulfill an order. Product capacity planning requires effective raw management of materials, and a multi-level bill of materials (BOM) is important if their goods require a lot of product variations and subassemblies.

### *3.3. Capacity Planning Best Practices:*

In the process of aggregation or aggregation, the intermediary horizon involves finding the best approach to provide all the requirements and capacity needed to meet the system's requirements each time, a process known as overall planning. It is also known as capacity planning. also known. The goals of capacity planning are exploring what makes and feasibility, where optimality means finding the least costly approach to meet the demands of capacity, while feasibility means meeting internal requirements within the capabilities of the operating process.

### *3.3.1. Prioritize work based on strategy:*

Aligning work with company plans, in the beginning, can help your teams focus on what matters most to accomplish strategy delivery. Start with broad goals, targets, and strategies, then move on to more specific levels of related programs and strategies. Strategic disciplines provide a method for coordinating corporate strategy to function within an agile framework.

### *3.3.2. Understand overall demand:*

Understanding the overall demand for our teams is essential for capacity planning to prevent over-commitment. The work can be broadly classified into two categories: maintaining the business and expanding the business. It's easy to get caught up in the thrill of development when doing capacity planning, but to be precise, people need to understand the maintenance side of the equation as well. Recognizing the degree of ambiguity and adapting accordingly, which can be done using alternative approaches if teams prefer to do one type of work or another, is part of the art of understanding demand. Agile technologies specifically acknowledge that estimating the amount of effort involved in just certain types of tasks, such as software development, can be difficult, especially in large organizations. Individual resources, or role-based estimation, proceed at the team level to handle this uncertainty. To enable quick estimates, the task is sometimes broken down into smaller deliverables, using descriptive points. Waterfall methods, on the other hand, are excellent when the requirements are known in advance and there is less ambiguity in the job. For example, the waterfall (or classical) process is perfect for creating something that has already been completed, such as a new redesign employing a pattern previously used.

### *3.3.3. Analyze your current capacity:*

Simply having a real understanding of your team's capabilities is a routine difficulty. Although there are some differences between traditional and agile techniques in this field, determining how much work can be completed in a given amount of time is always the main objective. On the traditional side, this capability can be understood by subtracting business hours and looking at unexpected work, whether it is a general interruption or administrative duty that we all have to perform. By examining Velocity, in which a team constantly works into story points, the agile side tries to simplify this a bit. This naturally takes into account all daily pauses and absenteeism, but management and teams also need to be mindful of seasonal activities that may affect velocity, such as seasonal holidays and longer periods of vacation. They should be better able to plan and determine how to meet current and future needs using these methods to understand the potential in the long, medium, and short term.

### *3.3.4. Consider your options with scenario planning:*

Balancing our priorities with our available resources requires both an art and a science. Considering so many possible combinations, some of which will require substantial workforce change, it is important to understand and correctly evaluate the possibilities through scenario planning. Beyond purely capacity planning, there are advantages to better understanding the tradeoffs of multiple solutions as there is rarely one best solution. The game has objective and subjective elements, which explains why. In light of this, scenario planning can be incorporated into capacity management to examine a range of investment possibilities and their compatibility with current or projected potential. Balancing demand and capacity is an important step, but metrics that are important to your company can also be captured and analyzed to determine the value of each scenario. These metrics include risk tolerance, strategy implementation, financial expense and profit, and financial gain and cost.

Finding the most beneficial mix of investment and work that supports the company's strategic goals and can be achieved is the ultimate objective of scenario planning.

#### *3.3.5. Watch for distractions:*

Large projects often go through a formal admissions process, but it is possible for smaller initiatives as well. They divert your team's attention from high-value, organizational strategic work because these tend toward the lower effort stack, often in the shape of minor adjustments here or there. By being aware of this pitfall and just keeping track of it, the team can focus on doing the right thing.

#### *3.3.6. Expect change:*

It should be used for changing priorities, as well as for incorrect calculations, which are inevitable when starting a new, original task. Since you know the start and end dates, it can be a little easier to plan resources for waterfall projects. However, because everything is in order, even a slight adjustment can screw up the plan, making the waterfall approach less conducive and agile than the agile approach. To balance the workload and prevent bottlenecks, you may need to redistribute resources regularly. Agile techniques reduce this requirement for rescheduling by changing the field, although meeting the minimum viable product (MVP) for a facility or object can undoubtedly lead to delays and comparable difficulties.

#### *3.3.7. Capacity planning is an ongoing process:*

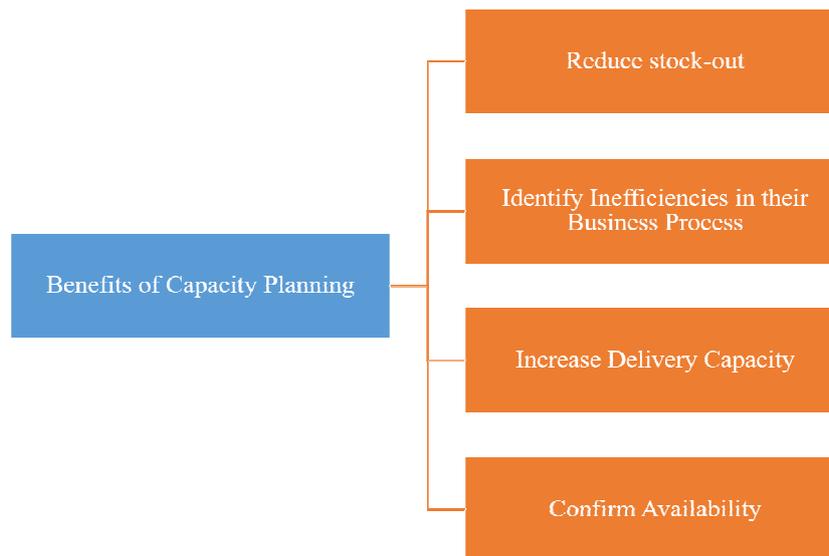
As already indicated, it must be prepared for change, but you also need to think of capacity planning as an ongoing process. A formal capacity planning effort was previously something that businesses did annually. With the amount of unpredictability in the current environment, innovation brought by the digital revolution, and being agile at the forefront, it is beneficial to use a continuous planning approach that enables you to take proactive measures to change priorities and strategies. , they will be able to identify weaknesses and interrelationships in your team using a proactive approach. It may also be found that you do not have the time or the necessary capacity to meet important deliverables.

#### *3.3.8. Look beyond capacity and demand:*

While this has focused on capacity and demand, it is important to remember the resource workload. To be clear, resource burden also includes indirect tasks that can hinder productivity, such as heavy multitasking, an excessive number of handoffs or approval steps, and general diversions. Reducing multitasking, eliminating distractions, and streamlining processes can increase productivity to better meet those strategic goals, yet there is no direct advice because it is a very complex subject.

### *3.4. Capacity Planning Benefits:*

There are certainly quite a few key advantages to capacity planning whether they're looking for them. Businesses that use capacity planning techniques to boost productivity and fulfill demand may discover that they benefit. Several types of benefits of capacity planning are in Figure 1:



**Figure 1: Illustrates the Benefits of Capacity Planning in which to Increase Efficiency and Meet Business Demand.**

#### 3.4.1. *Reduce stock-out:*

Stock-out occurs when you are unable to meet customer demand, customers don't like to wait, and if people are out of a service or product they want, they will move on to the next company that can meet their needs. Fortunately, one benefit of capacity planning is that you can reduce stock-outs or perhaps even prevent them altogether. As the company progresses through the planning process, it will track how markets and demand develop, helping you to more accurately predict changes in supply and demand.

#### 3.4.2. *Identify inefficiencies in their business process:*

Understanding the minimum and maximum capabilities of their resources is another advantage of capacity planning. They will be aware of the elements that can limit capacity and knowledge to ensure that students always have what they need, whether they are searching for goods, people, resources, or other resources.

#### 3.4.3. *Increase Delivery Capacity:*

Today's customers expect their goods immediately. Business success depends on a quick turnaround time for delivery, whereas failure depends on a long turnaround time. Capacity planning is a wonderful technique for evaluating overall delivery capability to learn whether businesses have employees ready to transport their goods as soon as they are received by the company and to differentiate them from competitors in the market.

#### 3.4.4. *Confirm Availability:*

Capacity planning has the added benefit of ensuring future availability, capacity planning enables us to ensure that they have the necessary staff and resources to serve your new clients, projects, and more before signing another contract or sending any other proposals to a potential client.

#### 3.5. *Capacity Planning Approach:*

The four main approaches to capacity planning are as follows. Each approach is focused on anticipating or responding to changes in the market and demand levels.

### 3.5.1. Match:

Matching involves regularly scanning the market for rises and falls in demand. After that, the capacity is adjusted to meet the demand. Probability matching is regarded as a trivial method that requires almost continuous, gradual modification. It may take a lot of work, but it is a low-risk approach that many firms enjoy.

### 3.5.2. Lag:

The lag method, as its name implies, waits until there is actual demand before adding more capacity. The most cautious technique is lag, as recruitment begins only when demand is at its peak. With this approach, the minimum employment cost is almost guaranteed. However, if there is not enough skill to provide goods or services, it may result in the loss of potential customers.

### 3.5.3. Lead:

Lead capacity planning, the most extreme capacity planning approach, involves adjusting capacity before market demand. Planning for lead potential helps prepare firms for expanding or rapidly changing markets because recruitment can be a lengthy process. Businesses that successfully use lead capacity planning will be better equipped to meet customer demands when demand increases. On the other hand, false or unfounded assumptions can lead to over-employed groups and have a significantly detrimental effect on the bottom line.

### 3.5.4. Adjustment:

Using your firm's historical data can help them plan adjustments anticipating changes in their capacity requirements. If the primary goal of a nonprofit business is to provide summer programming to disadvantaged children, demand will increase outside of the academic year. One can determine when it's time to hire more workers to operate such programs and hire more workers by looking at past data. Without getting rid of a large number of people, they can also determine how much money you'll need to lose after the summer. This past data must be documented and accessible for the adjustment technique to be used. So using tools like timesheet technology or applicant tracking systems can give them the types of data you need to understand how your potential varies throughout the year.

## 4. CONCLUSION

While capacity planning will never be simple or comprehensive, it is essential to ensure that your company is getting the most out of its teams and employees. The decision-making process benefits from this iterative planning approach. An effort is made to balance capacity and supply in the face of ongoing change, regardless of technology. Keep in mind that capacity planning is an ongoing activity that involves regularly assessing your current potential and comparing it with your future needs. They will be able to organize and manage responsibilities so that you can achieve your strategic goals if they are with better visibility into activities as well as resources and teams. Businesses that do not use capacity planning are at a significant disadvantage. In addition to knowing whether they can meet demand, they also have a limited perspective on their ability to increase efficiency. Poor capacity planning can lead to over-booking of employees, a surplus of ad-hoc jobs, competing priorities, and dissatisfied customers. There is undoubtedly another side to the story, as evidenced by the fact that often underutilized teams or bench staff in consulting firms produce subpar results. It has been suggested that the purpose of capacity planning is to ensure that our supply chain is consistently prepared and equipped to meet demand. They can meet deadlines, grow their

firm successfully, and increase their bottom line by incorporating this type of strategic strategy into their workflow.

## REFERENCES

- [1] E. W. K. See-To and E. W. T. Ngai, "Customer reviews for demand distribution and sales nowcasting: a big data approach," *Ann. Oper. Res.*, 2018, doi: 10.1007/s10479-016-2296-z.vol. 270, pp. 415-431.
- [2] J. A. Ramirez, R. Brown, and T. J. Rainey, "Techno-economic analysis of the thermal liquefaction of sugarcane bagasse in ethanol to produce liquid fuels," *Appl. Energy*, 2018, doi: 10.1016/j.apenergy.2018.04.127. vol. 224, pp. 1184-193.
- [3] S. M. S. Rana, M. A. Halim, and M. H. Kabir, "Design and implementation of a security improvement framework of Zigbee network for intelligent monitoring in IoT Platform," *Appl. Sci.*, 2018, doi: 10.3390/app8112305. vol. 8, pp. 2305.
- [4] G. Hastings, "Remembering who owns the river," *Scand. J. Public Health*, 2018, doi: 10.1177/1403494818765688 vol. 46, pp. 5-9.
- [5] P. Christmann, "Towards a More Equitable Use of Mineral Resources," *Nat. Resour. Res.*, vol. 27, no. 2, pp. 159–177, Apr. 2018, doi: 10.1007/s11053-017-9343-6.
- [6] J. J. A. Shaw, "From Beethoven to Bowie: Identity Framing, Social Justice and the Sound of Law," *Int. J. Semiot. Law*, 2018, doi: 10.1007/s11196-017-9533-x. vol. 31, pp. 301-324.
- [7] K. BI and Y. ZENG, "Research on Manufacturing Business Model Based on Internet of Thing-Take the Shipbuilding Industry as an Example," in *2018 International Conference on Management Science and Engineering (ICMSE)*, Aug. 2018, pp. 11–17. doi: 10.1109/ICMSE.2018.8744773.
- [8] O. P. Kolomiets, "From the history of the development of ethnography in Chukotka," *Emografia*, 2018, doi: 10.31250/2618-8600-2018-2-188-196. vol. 58, pp. 188-196.
- [9] A. Jones and C. Navarro, "Events and the blue economy," *Int. J. Event Festiv. Manag.*, vol. 9, no. 2, pp. 204–222, Jun. 2018, doi: 10.1108/IJEFM-09-2017-0055.
- [10] M. Humphrey, "The political lives of the 'disappeared' in the transition from conflict to peace in Colombia," *Polit. Relig. Ideol.*, 2018, doi: 10.1080/21567689.2018.1538671. vol. 19, pp. 452-470.
- [11] V. N. Roop and R. Revathy, "Smart Bus Rerouting," 2018. doi: 10.1109/ICCCSP.2018.8452822. vol. 15, pp. 152.
- [12] L. M. Sidek *et al.*, "Application of Interactive Dam Safety Decision Support System (INSPIRE) for Flood Emergency Response Plan (ERP) of Sultan Abu Bakar Dam Malaysia," in *Community, Environment and Disaster Risk Management*, 2018, pp. 13–17. doi: 10.1108/S2040-72622018000020010.
- [13] A. Rasche, M. Morsing, and J. Moon, "The Changing Role of Business in Global Society: CSR and Beyond," in *Corporate Social Responsibility*, 2018. doi: 10.1017/9781316335529.003. vol. 15, pp. 152.
- [14] M. Shahzad, Y. Qu, S. Ur Rehman, A. U. Zafar, X. Ding, and J. Abbas, "Impact of knowledge absorptive capacity on corporate sustainability with mediating role of CSR: analysis from the Asian context," *J. Environ. Plan. Manag.*, vol. 63, no. 2, pp. 148–174, 2020, doi: 10.1080/09640568.2019.1575799.
- [15] A. Habib and M. M. Hasan, "Corporate life cycle research in accounting, finance and corporate governance: A survey, and directions for future research," *Int. Rev. Financ. Anal.*, vol. 61, pp. 188–201, 2019, doi: 10.1016/j.irfa.2018.12.004.
- [16] F. B. Oliveira and J. R. Fontes Filho, "Changes in the configurations of corporate governance and agency relationship: a longitudinal analysis in a privately held company," *Cad. EBAPE.BR*, vol. 19, no. 3, pp. 510–523, 2021, doi: 10.1590/1679-395120200107.
- [17] G. F. G. Teixeira and O. Canciglieri Junior, "How to make strategic planning for corporate sustainability?," *J. Clean. Prod.*, vol. 230, pp. 1421–1431, 2019, doi: 10.1016/j.jclepro.2019.05.063.
- [18] Z. Wang, M. Akbar, and A. Akbar, "The interplay between working capital management and a firm's financial performance across the corporate life cycle," *Sustain.*, vol. 12, no. 4, 2020, doi: 10.3390/su12041661.

## CHAPTER 9

### AN ANALYSIS OF IMPORTANCE OF TEAMWORK AND SPECULAR IMPACT ON ANY ORGANIZATION

---

Dr. Jayakrishna Udupa, Associate Professor,  
School of Management, Presidency University, Bangalore, India,  
Email Id-jayakrishna.udupa@presidencyuniversity.in

***ABSTRACT:** Collaboration can be characterized as how fundamental it is to any firm, no matter how big or small. This can be done by gathering a group of people and collaborating to accomplish any objective. When group members put their best efforts into every situation, even difficult tasks can be successful and this is called teamwork. It is important to find technologies that supply differing capabilities to build a strong collaboration in the contemporary world. This is something that many companies now consider important. When assembling a strong team, it is important to take into account the characteristics, working style, and position of each team member. This paper suggests that it is possible to develop collaboration capabilities gradually, becoming stronger as time progresses. When working on systems engineering in the classroom, students should have a high degree of autonomy and independence in their decision-making. When the professor switches to acting as the principal source of information and a political appointee as the process facilitator, group members have the right to decide for themselves the overall division of work within the group. Opportunity happens. The assessment of teamwork is an important component of the alternative education assessment. Future researchers will benefit from this paper's emphasis on teamwork qualities, and it will provide a platform for undergraduates and others to present their research in as positive a light as possible.*

***KEYWORDS:** Employees, Group Work, Organization, Team Work, Team.*

#### 1. INTRODUCTION

Humans have historically been motivated to establish communities and collaborate in an attempt to, among other things, accomplish their goals, address issues, improve upon ideas, develop skills, and survive [1]. One of the most obvious and significant work configurations of the twenty-first millennium is teamwork. One of the most effective working styles is regarded to be teamwork. Since the beginning of time, people have been driven to establish organizations and collaborate to accomplish specific, solve issues, produce extra ideas, acquire skills, and survive, amongst many other things [2]. The twentieth century has brought about lots of changes. One of the more obvious and important work arrangements of the twenty-first decade is teamwork. The structure of organizations and the working environment have both undergone significant changes in the twenty-first century. The author further states that despite the long and rich history of cooperation in the industry, recent years have indicated a reformation in how organizations see teamwork. Numerous investigations on the efficacy of teams have been performed in recent years.

However, because of their ongoing evolution, organizations confront multiple difficulties in today's competitive and competitive market. There are still several unanswered problems concerning how employees operate and how organizations may successfully form productive

and productive teams. In light of the 21st century's entire global economy, there is also a lot to be learned about culturally diverse teams. In addition, there is also a lot to learn about the maintenance of this work configuration's assistance programs [3]. To fulfill their various objectives while also remaining competitive, the workforces of many organizations use several sorts of organizations, including production companies, program managers, service teams, and action teams. The body of the study is cooperation indicates several implications for both people and businesses. The efficacy of collaboration in enhancing employee relations, workers' professional and interpersonal skills, quality of work life, better performers, and effectiveness, as well as effective performance expansion and flexibility, are only a few positives [4].

Furthermore, teamwork develops social support, improves coordination, and makes work more enjoyable and demanding. The author claims that executives and supervisors are becoming less acutely aware of the fact that teams do better than individuals achieve when it comes to delivering results. This has been one of the factors that contributed to the increase in the usage of work teams and theories claiming collaboration is taking on growing importance inside businesses.

Work teams are being utilized by many firms as the key strategies for maintaining competence as part of several transformation objectives. The findings further showed that work teams are also used to accomplish goals in 85% of firms with 100 or more individuals because there is a lot of appreciation for this functional organizational structure. Employers who are comfortable in their capacity can find team-oriented candidates [5].

Despite the plethora of benefits of collaboration, nurturing them is not always simple. Employers, nevertheless, believe that via counseling and training, they can help their group members achieve this dexterity. The study's findings about just how coworkers acquire knowledge, talents, and skills revealed that companies that received mentorship and instruction had better levels of collective skills than teams that received not [6]. This study was done to determine the knowledge, skills, and abilities (KSA) essential for cooperation while also attempting to think about the consequences of these KSAs for human resource administration.

After conducting a thorough investigation of the literature, it was determined that to hire able people, human resource management must be aware of both the job needs and the KSAs needed for teamwork. Further, it was concluded that HR needed to be aware of their responsibilities and responsibilities, necessary pieces of training, job assessments, and appraisal, as well as other elements that may have an impact on how collaborative initiatives are conducted.

### *1.1.Attributes of Effective Teamwork:*

A cooperative process known as cooperation enables regular humans to produce great historic. This research explains that somehow a team has a specific mission or reason for functioning, resulting in the formation of strong, mutual benefit connections among group members. Workers must cooperate in a team context to achieve common objectives by utilizing each other's gifts and abilities [7]. The literature process of communication that one of a team's essential aspects is its concentration on a specific objective and collective aim. Teams ought to be included in the delivery of translation directly because they are an integral ingredient of many companies. To develop and cultivate a healthy, effective team situation, good cooperation depends on the presence of synergistic effect amongst all team members, resulting in a culture where they are all inspired to contribute and participate. Group members need to be adaptable enough already to function in cooperation settings where they achieve

their goals via cooperation and social interconnectedness rather than by seeking individualized, conflicting priorities [8]. This report has examined several qualities essential for productive cooperation. Numerous of these qualities have been extensively noted in the comments below:

*i. Commitment to Team Success and Shared Goals:*

Team members are committed to the success of the team and their shared goals for the project. Successful teams are motivated, engaged, and aim to achieve at the highest level.

*ii. Interdependence:*

Group members must create an environment where their collective accomplishments will be far greater than their respective individual ones. The team can execute its objectives on a significantly higher level when it has a positive, significant part of the total atmosphere. People encourage and empower their teammates to succeed, collaborate, and learn [9].

*iii. Interdependence:*

It refers to the ability to have open discussions concerning problems with team members and to be predictable, supportive, and considerate of the team and its members as personalities. Creating an empathetic workplace is crucial, and an element of that is having leadership skills [10].

*iv. Open Communication and Positive Feedback:*

It helps to build a constructive work atmosphere that should actively listen to team members' concerns and concerns, value their accomplishments, and convey this admiration. The members of the group should be open to giving and receiving constructive comments as well as delivering constructive answers [11].

*v. Appropriate Team Composition:*

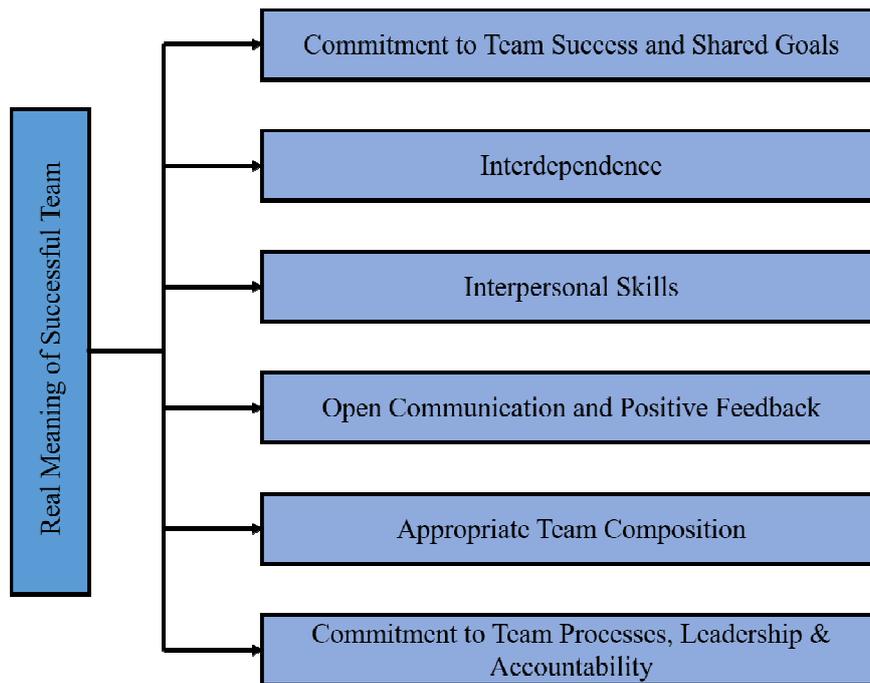
It is fundamental to forming a strong team. The members of the group must be completely conscious of their development commitment and comprehend what is demanded of them in regards to their contributions to the project and the group.

*vi. Commitment to Team Processes, Leadership & Accountability:*

Accountability for team members' contributions to the team and indeed the project is important. They must be acquainted with team operations, best practices, and fresh approaches. The performance of a team, involving participatory decision and problem-solving, is dependent on effective leadership [12].

*1.2. Real Meaning of Successful Team:*

This group of kids did an exceptional job of collaborating to produce a high-quality product. At no point during the semester did they have a request or obligation to transfer marks from one team member to another, and their handwritten notes consistently offered complimentary remarks about other group members.



**Figure 1: Illustrate Some Important Factors to Make a Successful Teamwork.**

Team meetings were almost always relaxed, and team difficulties were never openly discussed as a source of contention. The team was hyper-focused on the initiative and how the game's development might be enhanced by evaluating the requirements of the client, tutor, and end users [13]. These results demonstrated the qualities required for productive communication, according to an evaluation of the information that was collected from them. It was clear from practically all of their reactions during focus interviews and group discussions that this team followed a portion of the characteristics listed in Figure 1.

*i. Commitment to Team Success and Shared Goals:*

The crew was concentrated on delivering a high quality product and was not disturbed by any personal things that would have compromised this goal. They developed and fostered productive and successful relationships to achieve a top-notch outcome that would amaze their client's tutors, coworkers, and customers. So this whole team was driven to achieve beyond other organizations and worked together to develop an item that would increase their possibilities of finding employment well after the course. Almost all of their statements emphasized this [14].

*ii. Interdependence:*

The team members considered that they had a duty to their fellow team members and understood that each member's input was necessary to the project's success. When their comrades were having trouble, group members were always honored to help them. The team should proactively examine difficulties individual members of the team were having as well as give aid if warranted.

*iii. Interpersonal Skills:*

The team acknowledged that each participant had a different identity and dealt with difficulties in their way. They were courteous to one another, respected each other though, and stood beside each other during trying times.

*iv. Open Communication and Positive Feedback:*

The group agreed that speaking about concerns or dealing with challenges and attempting to provide constructive advice or feedback to find remedies was a good thing. They placed a high emphasis on openness and honesty that allowed team members to discuss their opinions in a non-defensive way. Addressing every facet of the assignment, they were forthcoming and truthful.

v. *Appropriate Team Composition:*

This team was cautious in choosing its individuals for this unit much farther in advance. They had granted greater thought to both the personality characteristics and the abilities that are necessary for each team member. Four months in advance of the unit's start date, two of the teammates extensively discussed and considered this.

1.3. *Types Of Teams:*

There are six main groups of teams: informal, institutional, managerial, self-directed, problem-solving, and electronic. Some of the qualities of these six different types of teams are listed in Table 1.

**Table 1: Illustrates the Types of Teams and Their Characteristics.**

Sr. No.	Type of Teams	Ability
1.	Informal	<ul style="list-style-type: none"> <li>• Social in attitude</li> <li>• Leaders may not be the same as those the organization nominated</li> </ul>
2.	Traditional	<ul style="list-style-type: none"> <li>• Departments or administrative divisions</li> <li>• The organization's authorized, managers or administrators</li> </ul>
3.	Problem-Solving	<ul style="list-style-type: none"> <li>• Interim teams</li> <li>• Frequently interdepartmental</li> <li>• Concentrated on a certain project</li> </ul>
4.	Leadership	<ul style="list-style-type: none"> <li>• Steering groups</li> <li>• Advisory boards</li> </ul>
5.	Self-Directed	<ul style="list-style-type: none"> <li>• Little teams</li> <li>• There are not many status disparities among team members.</li> <li>• Have the ability to select how to do the project.</li> </ul>
6.	Virtual	<ul style="list-style-type: none"> <li>• Geographically dispersed</li> <li>• Meetings and events depend on the technology provided.</li> </ul>

i. *Informal-Teams:*

Usually, informal teams are assembled for cultural purposes. They may assist workers in accomplishing similar goals, such as enhancing employment conditions. But quite often, these teams come together to discuss a set of shared issues and emotions that may or might not be shared by the corporations. These teams generally elect their managers, who are not chosen by anyone else who works within the corporation [15].

ii. *Traditional-Teams:*

The types of organizations generally conceptualized as departments or functional departments are traditional teams. These organizations' managers or leaders are appointed by the organization, and they are assigned official authority from the inside of the group. The team is necessary by the organization to create a good, provide us with a service, or carry out even a task.

iii. *Problem-Solving-Teams:*

When an issue happens that cannot be handled within the preexisting organizational system, real concern teams or task groups are created. These organizations are often cross-functional, suggesting that members come from many different departments within the company, while also being tasked with resolving the matter [16].

iv. *Leadership-Teams:*

Management is commonly included in leadership teams to bridge the gaps between diverse organizational roles. The heads of administration, development, and marketing must communicate to develop a shared plan for something like the product before it can be released to the general public. Teams are implemented at the most senior levels of management to develop objectives and a corporate strategy for the company across the board [17].

v. *Self-Directed-Team:*

Self-directed teams are granted discretion over how a particular task will be carried out. The organization gives these teams a mission, and they then decide how to attain it. There are generally no designated leaders or leaders and little, if any, distinctions in position among the group members.

These teams generally have the authority option of choosing new team members, determining work responsibilities, and may even be responsible for team member evaluations. They have a tremendous deal of discretion in deciding what the players perform, but they must adhere to performance standards and interface including both consumers and suppliers. A leader emerges for a certain initiative when teams coalesce around that one. The team is in charge of executing the task, selecting staff members, and reviewing them.

vi. *Virtual-Teams:*

Team meetings and procedures are being changed by technology. Employees could now conduct business, communicate papers, and make decisions without anyone ever being present in the same place thanks to collaborative applications and conferencing technologies. The management and psychology of team members can be significantly different, even if the fundamental mechanics of other forms of collaboration may still be applicable. Lack of either visual or audible cues might create difficulties, thus even when using conferencing facilities, participants must also be accepted in their words.

The digitalization of a team has a consequence on accountability. Each team member, typically with so little supervision, is accountable for their tasks and to the company as a whole. Effective collaborative creation, member trust, and participation, including great communication are essential for the accomplishment of a collaborative environment.

## 2. LITERATURE REVIEW

O. Obiekwe et al. illustrated that the performance of corporate wealth generation, development, and attainment of the predefined and emergent objectives and visions of any firm depends entirely on the performance of the teams inside such businesses. This essay investigates the importance of collaboration and teambuilding in businesses and how it affects workers and managers. The study has found that employee engagement boosts operational effectiveness and growth while also increasing service quality, favorable general performance, and organizational commitment. Additionally, it is noted that team building fosters employees of an association's ability for leadership, open and candid communication, and constant progress. However, it made mentioned the great difficulties that team building faces attributable to employee dissatisfaction with trust, the virtual workplace, and globalization. The paper concluded that team building supports effective teamwork between all team members and also benefits workplace environments. Additionally, the quality of performance management, the team members' engagement, and the caliber of the project manager determine how long the advantage of team bonding will last [18].

D. Baker et al. embellish that Organizations are getting more dynamic and unsteady. This progression has led to a growing dependency on teams as well as an increase in the complexity of team makeup, required qualifications, and risk level. Organizations with strong dependability are the ones that operate in risky situations where errors might well have serious effects but seem to be exceedingly rare. In this paper, the author makes the case that effective teamwork, especially in health care institutions, is essential for achieving high dependability. The author discusses the basic traits of teams, team-building techniques, the necessity of collaboration, and eventually, particular issues the medical industry has to solve to increase teamwork as well as raise dependability [19].

M. Mirbabaie stated that Software solutions are introduced by businesses to assist employees with work-related duties. The virtual assistant may improve teamwork performance, making them a crucial element of day-to-day operations. The impact of a virtual assistant on virtual teams is still understood, though. The idea of the external reality relates to the integration of goods into one's sense of individuality, whereas social identity theory discusses how employees recognize group members and the permanence of group identity, and the strategy should be followed when using automated systems as teammates is now in discussion. This research advances our knowledge of just how social identity and extended self-influence work with virtual assistants. Organizations' multicultural teams can benefit from virtual assistants' improved communication and teamwork, thus according to the practitioners [20].

### 3. DISCUSSION

The most efficient method for achievement at work or inside an organization is teamwork. It assists in improving the performance of the organization as well as work productivity, profitability, and efficiency. Organizations are willing a team-based approach to executing their tasks and attaining their aims and objectives. Gaining a competitive advantage in the marketplace by giving customers better services, increasing employee but instead, individual productivity, inspiring confidence and a collaborative spirit among members, eradicating tribalism within and between employers and employees, and improving partnerships are a few of these operations, goals, and priorities i.e. Enhancing innovative thinking in dealing and managing disputes, promoting sound decision-making and application among members, especially fostering positive interpersonal connections between management and staff employees and other laborers, employees and the general public. Based on the findings of this survey, it is clear that collaboration does have an impact on organizational performance, just as recent studies had hypothesized. However, this study's findings demonstrate that this

correlation is positive rather than neutral. Yet again, this study intends to educate businesses about just the importance of collaboration as a key tool for improving the performance of the organization and motivate them to begin prioritizing it as their top tool.

#### 4. CONCLUSION

In this study, the performance of two teams was assessed by contrasting the qualities that have been linked to effective collaboration. It is clear from the findings that these attributes were critical in assessing the performance of these teams. The findings demonstrate a significant correlation between the teams' adoption of these six traits and their efficiency in working together to create significant work. The results of this research suggest that when cooperation practices are suggested, tutors and participants should carefully take these significant factors into account. A template with clearly defined implications for best practice when creating and executing learner-centered designs that incorporate collaboration tools must be considered in further research to ensure teaching assistants and students acknowledge and recognize the importance of how to incorporate each element.

#### REFERENCES

- [1] S. A. Nancarrow, A. Booth, S. Ariss, T. Smith, P. Enderby, and A. Roots, "Ten principles of good interdisciplinary team work," *Hum. Resour. Health*, 2013, doi: 10.1186/1478-4491-11-19.
- [2] P. L. Costa, A. M. Passos, and A. B. Bakker, "Team work engagement: A model of emergence," *J. Occup. Organ. Psychol.*, 2014, doi: 10.1111/joop.12057.
- [3] P. Costa, A. M. Passos, and A. Bakker, "Empirical validation of the team work engagement construct," *J. Pers. Psychol.*, 2014, doi: 10.1027/1866-5888/a000102.
- [4] N. Savela, M. Kaakinen, N. Ellonen, and A. Oksanen, "Sharing a work team with robots: The negative effect of robot co-workers on in-group identification with the work team," *Comput. Human Behav.*, 2021, doi: 10.1016/j.chb.2020.106585.
- [5] P. L. Costa, A. M. Passos, A. B. Bakker, R. Romana, and C. Ferrão, "Interactions in engaged work teams: a qualitative study," *Team Perform. Manag.*, 2017, doi: 10.1108/TPM-12-2016-0054.
- [6] S. Polis, M. Higgs, V. Manning, G. Netto, and R. Fernandez, "Factors contributing to nursing team work in an acute care tertiary hospital," *Collegian*, 2017, doi: 10.1016/j.colegn.2015.09.002.
- [7] S. Ryan, "Promoting effective teamwork in the healthcare setting," *Nurs. Stand.*, 2017, doi: 10.7748/ns.2017.e10726.
- [8] L. J. Sisk and J. M. Stevens, "Teamwork in surgical specialties: An evaluation," *Br. J. Heal. Care Manag.*, 2021, doi: 10.12968/bjhc.2021.0031.
- [9] G. S. Van Der Vegt, B. J. M. Emans, and E. Van De Vliert, "Patterns of interdependence in work teams: A two-level investigation of the relations with job and team satisfaction," *Pers. Psychol.*, 2001, doi: 10.1111/j.1744-6570.2001.tb00085.x.
- [10] P. M. Le Blanc, V. González-Romá, and H. Wang, "Charismatic Leadership and Work Team Innovative Behavior: the Role of Team Task Interdependence and Team Potency," *J. Bus. Psychol.*, 2021, doi: 10.1007/s10869-019-09663-6.
- [11] F. T. L. D. S. Moreira, R. C. M. Callou, G. A. Albuquerque, and R. M. Oliveira, "Effective communication strategies for managing disruptive behaviors and promoting patient safety," *Rev. Gauch. Enferm.*, 2019, doi: 10.1590/1983-1447.2019.20180308.
- [12] S. Cleary, A. Du Toit, V. Scott, and L. Gilson, "Enabling relational leadership in primary healthcare settings: Lessons from the DIALHS collaboration," *Health Policy Plan.*, 2018, doi: 10.1093/heapol/czx135.
- [13] R. Fenton, C. Jones, S. Moss, and K. Cooke, "The challenges of developing and implementing a bystander intervention for the prevention of domestic violence and abuse in UK communities," *J. Gender-Based Violence*, 2019, doi: 10.1332/239868019X15593020989580.
- [14] N. Yusof *et al.*, "Teamwork Effectiveness in Student's Final Year Project," *Int. J. Emerg. Technol. Learn.*, 2021, doi: 10.3991/ijet.v16i15.23705.

- [15] J. R. Katzenbach and D. K. Smith, "The discipline of teams," *Harvard Business Review*. 2005.
- [16] D. Grayson, "The Discipline of Teams: A Summary," *Harv. Bus. Rev.*, 2005.
- [17] M. E. Burke, "Knowledge sharing in emerging economies," *Libr. Rev.*, 2011, doi: 10.1108/00242531111100531.
- [18] O. Obiekwe, G. O. Mobolade, and M. E. Akinade, "TEAM BUILDING AND TEAMWORK IN ORGANIZATIONS: IMPLICATIONS TO MANAGERS AND EMPLOYEES IN WORK PLACES," *Int. J. Manag. Soc. Sci. PEACE Confl. Stud.*, 2021.
- [19] D. P. Baker, R. Day, and E. Salas, "Teamwork as an essential component of high-reliability organizations," *Health Services Research*. 2006. doi: 10.1111/j.1475-6773.2006.00566.x.
- [20] M. Mirbabaie, S. Stieglitz, F. Brünker, L. Hofeditz, B. Ross, and N. R. J. Frick, "Understanding Collaboration with Virtual Assistants – The Role of Social Identity and the Extended Self," *Bus. Inf. Syst. Eng.*, 2021, doi: 10.1007/s12599-020-00672-x.

## CHAPTER 10

### AN EXAMINATION OF STRENGTH, WEAKNESS OPPORTUNITY AND THREAT (SWOT) ANALYSIS

---

Dr. Shaik Fakruddin Ali Ahmed, Associate Professor,  
School of Management, Presidency University, Bangalore, India,  
Email Id-shaik.fakruddin@presidencyuniversity.in

**ABSTRACT:** *Using SWOT analysis, an individual or organization can determine its strengths, weaknesses, opportunities, and threats concerning project planning or an over-competitive environment. Environmental scanning and situational assessment are other nicknames. This study provides a way to mitigate both drawbacks by using importance-performance-analysis (IPA) to identify SWOTs based on customer satisfaction surveys, which produce priority SWOTs consistent with buyers' perceptions. . Most of the analyzing part in the SWOT analysis only aims to address these shortcomings separately. It is anticipated that a firm will be able to strategically plan effectively with the help of an IPA-based SWOT analysis, clearly demonstrating which SWOT aspects are to be preserved or upgraded depending on the target audience's perspective needed. The results of the assessment demonstrated the validity of the research by showing that the SWOT analysis performed on the case study appropriately portrayed organizational settings. In addition, this article will close research gaps in the area of strategic planning for the near future and outline the important implications for administrators that can enhance their policy choices.*

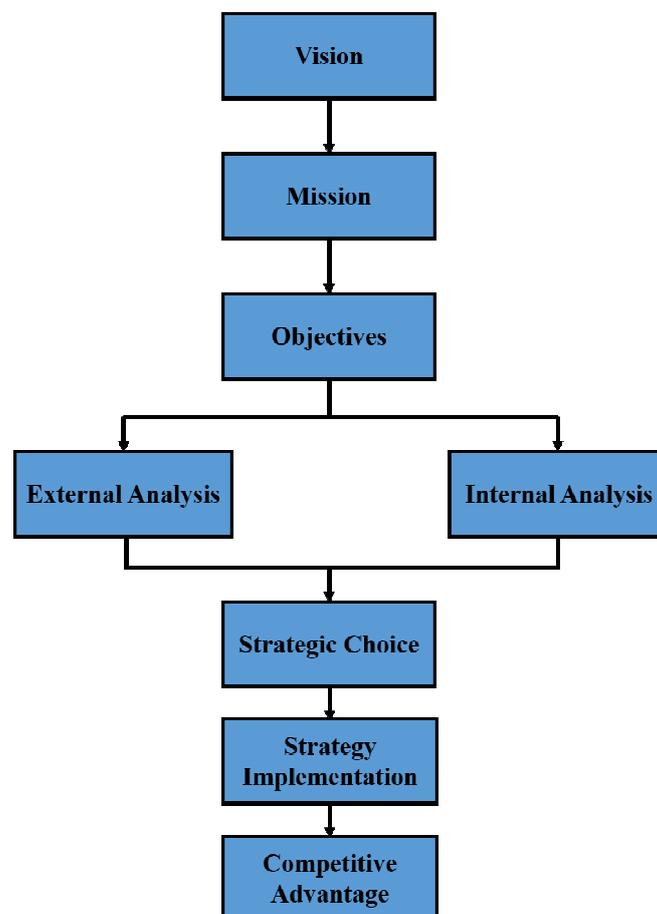
**KEYWORDS:** *Customer Satisfaction, Management, SWOT Analysis, SWOT Factors, SWOT Technique.*

#### 1. INTRODUCTION

Today, most corporations use strategic planning and an organization can increase its productivity by using succession direction to help guide resource allocation to meet objectives. The abbreviation SWOT stands for Strengths, Weaknesses, Opportunities, and Threats [1]. It is a Strategic Treatment Method (SWOT) too rephrase it in another way, it comes down to corporate strategy. The strategic planning process depends on strategic planning. Strategic management is the continuous process of developing, implementing, and reviewing options that help a business meet its goals [2]. Performance thinking enables the company to exert control over its history by enabling the company to be more reactive than proactive in determining its development. It helps an organization to generate and influence activities, not just react to them [3]. The analysis, options, and actions taken by a business to establish and maintain comparative advantage are simultaneously considered as strategy implementation. The sequential combination of studies and findings that make up a strategic management method can improve the likelihood that a business will choose a "good strategy" or one that creates a comparative advantage. Vision is the initial stage and it outlines the ideal future position of the organization [4]. The mission is the second stage of the strategic management process. A firm's mission statement outlines its long-term goals. Mission and vision statements outline the company's objectives, both long-term and short-term. The third step of the strategic management process is setting objectives. The objectives of an organization are the specific ambitions that it wants to realize [5].

SWOT analysis, also known simply as external and internal analysis, is the next element of the strategic management process. A company can identify significant threats and prospects in its fierce competition by performing an external analysis. It also looks at the idea that competition is great throughout this environment and how this expansion will affect the

threats and benefits that an organization will face [6]. Company analysis helps an organization identify the state of an organization while external analysis focuses on environmental hazards and opportunities to which a company is susceptible. In addition, it helps to understand which resources and competencies of an organization are most likely to be sources of profit and which are least likely to be [7]. Organizations can choose the most appropriate strategy based on the SWOT analysis. Figure 1 shows how a strategic choice is somehow linked to an organization's vision, objectives, and goals, as well as to both its internal and external analysis [8]. An organization is capable of making a strategic choice. In other words, a company has the option to choose the "principle of achieving a competitive edge". Implementing the approach is the next step in the strategic management process. If a plan is not started, it is of no use [9]. The final component of this process is to gain market advantage. Strategy implementation occurs when a business develops organizational norms and regulations that are compatible with some of its strategies (Figure 1).

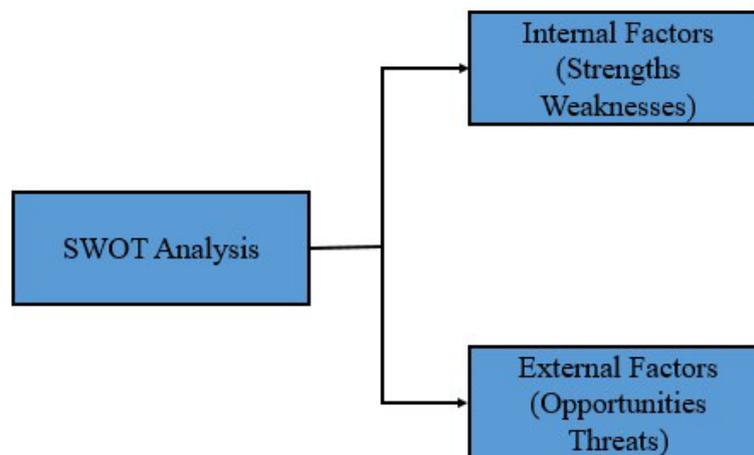


**Figure 1: Illustrated the Strategic Management Process.**

### *1.1.Introduction of SWOT Analysis:*

SWOT analysis is a process used by businesses for planning and management purposes. The formulation of organizational and competitive strategies using it is productive. As shown in Figure 2, organizations are a sophisticated whole made up of so many sub-systems that interact with each other as well as with their surroundings [10]. According to this concept, an organization has different environments, one inside it, and the other outside. Analyzing these environments is essential for strategic management styles. SWOT analysis is a phrase used to describe the ability to analyze a company and its environment [11].

An organization's resource capabilities and deficiencies, market prospects, and external attacks for its future can be assessed using the simple yet effective SWOT analysis method. Strengths, Weaknesses, Opportunities, and Threats are abbreviated as SWOT [12]. TOWS-Analysis, also described as "TOWS-Matrix", can be used to develop SWOT-Analysis. Similar to Turkish, the abbreviation may be written as "GZFT-Analysis/Matrix" or "FÜTZ-Analysis or Matrix", depending on how proper nouns are changed. An enterprise, a strategy, a project, or a commercial activity can be examined using the SWOT-analysis strategic planning framework [13]. Therefore, SWOT assessment is an important technique for scenario analysis that helps to determine internal and external environmental aspects for managers. Both internal and external factors are included in the SWOT analysis. Managerial variables, along with weaknesses and strengths, are included in the internal dimension [14]. Potential effects, along with opportunities and threats, lie in the external component.



**Figure 2: Illustrated the Dimension of SWOT Analysis.**

Table 1 summarizes such identities for all SWOT factors and their Project Management Institute. It is discussed below. Each SWOT component is also assigned a weighting according to its need and effectiveness [15]. The strength and opportunity variables are given a favorable value of performance, with the means of performance appraisal being higher or equal to their performance. On the other hand, the Threat and Weakness variables are given a negative performance rating because the respective performance is below the parameters of overall performance [14]. This weighting program enables the prioritization of components in each SWOT aspect according to the weight loss magnitude, with a higher magnitude factor having a lower amplitude and a higher priority for protection or advancement than phase one.

**Table 1: Illustrated the SWOT Identification Table.**

Sr. No.	Strength	Weakness	SWOT aspect	Implication
	Organization	Competitor		
1.	S	S	S	Head-to-head competition
		W	O	Competitive advantage
2.	W	S	T	Competitive disadvantage
		W	W	Neglected opportunities

*i. Strength (S):*

Since the trait is regarded as a strength both within the organization and its rival, it is referred to within the organization's strengths. This shows that both the target company and its rivals are also doing a good job of offering this quality. To prevent assets from becoming a threat if a competitor underperforms, the company must enforce the competitiveness of the attribute [16].

*ii. Weakness (W):*

Since the trait is recognized as a vulnerability of both the corporation and its competitor, it is called a disadvantage of the organization. This indicates that neither a target company nor a competitor is doing a good job of supplying this quality. To obtain a competitive advantage over competitors in the target market, the enterprise must increase the effectiveness of this asset [17].

*iii. Opportunity (O):*

Since an attribute is a quality of an organization but lacks a competitor, it is known as an organization's capability. This means that the organization has a competitive edge over the opponent as it shows that this competitor is not doing as well in providing this facility as the former. While remaining competitive, the Company will enhance or retain the capacity of this asset [18].

*iv. Threat (T):*

Since the trait is perceived as a competitor's strength rather than an organization's weakness, it is classified as little more than a threat to the company. This implies that the company has a major disadvantage over the competition as it is not doing as effectively as its competitors in delivering this feature. To guard against a potential decrease in sales, a company must be aware of this information and take the right steps at once to improve the quality of this product [19].

*1.2. Main Components of SWOT Analysis:*

The four sections are divided into two different dimensions as part of the SWOT analysis process. It consists of four parts: "strengths," "weaknesses," "opportunities," and "threats." Opportunities and threats are external aspects and characteristics of the environment, while advantages and disadvantages are internal strategic factors and attributes of the company. The traditional structure for SWOT analysis is a four-quadrant box, which enables an ordered summary based on the names of the four sections. The four dimensions of the SWOT analysis are arranged in a 2x2 matrix in the following Table 1.

**Table 1: Illustrated the Main Components of SWOT Analysis.**

Sr. No.	Main Components	Characteristics
1.	Organizational Strengths	Characteristics that give an advantage over others in the industry.
2.	Organizational Weaknesses	Characteristics that place at a disadvantage relative to others.
3.	Environmental	External elements in the environment that give benefit

	Opportunities	the organizations.
4.	Environmental Threats	External elements in the environment could cause trouble for the organizations.

1.3. SWOT Applications:

Without a question, a SWOT analysis is a useful tool for trading strategy. It has been used in a variety of social fields. However, these disciplines and settings can be divided into five broad categories, namely general managerial, academic and academic, social media marketing and advertising, health, and health care, and agricultural land, according to the literature assessed. The following is a summary of each of these topics.

i. General Management:

Enterprises should utilize every opportunity to maximize the expansion of their company in a competitive environment. Much more often than any other effective management, a SWOT analysis is done. It helps managers develop marketing benefits for their commercial and industrial applications. Businesses can use SWOT analysis to identify strengths, weaknesses, opportunities, and threats associated with a project because there is a lot of ambiguity. Volkswagen was the starting point for the first real-world use of SWOT analysis in company management and strategy formulation. In many different situations, a SWOT analysis has been developed as an aid to strategic decision-making. To evaluate firms and their operational decision-making processes, several alternative methods have been created. These methods can integrate the information derived from these analyzes into useful decision-making systems. Strategic planning tools and strategies have been provided together in many strategy studies. The use of corporate strategy planning techniques supplied many strategy implementation tools [20].

ii. Education Sector:

Significant technological, demographic, and socioeconomic changes have taken place in higher education during the last ten years. Globalization, breakthroughs in IT and learning technologies, and access to government funding were found to be driving factors behind these changes that are changing the way institutions function in today's society. This change has a variety of negative effects. To address these challenges and advance the direction of success in the higher education market, many academics have adopted SWOT analyses. The authors noted that despite the problems posed by economic, political, and social challenges, many educational institutions have been able to effectively incorporate e-learning systems. The model examines the current status of e-learning implementation in several Libyan universities to provide recommendations for improvement and guide the implementation team toward key strategies for e-learning in Libyan higher education institutions. To elucidate the patterns of development of information and communication technologies (ICTs) within six institutions located in India, the author conducted a comparative SWOT analysis. He said that the use of technology for communication and information has a great impact on raising the standard of higher education. Additionally, the current state of the humanities in education was identified and examined using internal and external analysis, inferential analysis, and the SWOT model. In addition, the various instructional examples released advised students to apply SWOT analysis to come up with new ideas for their projects. Data gathered from the literature suggest that the market for higher education will continue to expand. This will require

institutions around the world to expand and innovate, especially in continents such as Asia, South America, and Africa [21].

*iii. Social Media and Marketing:*

Businesses operate in a competitive environment where maintaining a business position in the market requires regular access to accurate information relating to both their operations and those of competing competitors. Many corporations employ strategic management extensively to avoid market competition. Corporations analyze their internal assets and weaknesses before looking at the external environment to uncover any threats and investment opportunities that create value. One of the most robust tools for creating a business plan that can yield maximum growth and revenue is a SWOT analysis. Analysis of external opportunities and risks can be used to establish whether a corporation can avoid threats and take advantage of opportunities. From another perspective, an internal analysis of flaws and strengths evaluates how an approach envisions its internal working. A SWOT analysis is a middle ground between consumer research and strategic planning which can also help in choosing the most effective strategy from a selection of alternatives [22].

*iv. Healthcare:*

The SWOT model was used in healthcare since 1991 to assess home health agencies, emergency doctors, and public health. The SWOT model is mostly seen as an effective tool in the healthcare industry as it has been implemented there to improve performance and quality of service. The author conducted a SWOT analysis for the first time in India to measure health risks in terms of positive and pessimistic factors. Six factors were used in a SWOT analysis to improve Ngalyan-health-performance. The 6M of the center, which represents market, money, equipment, men, machine, and method, are the factors in question. The Patient Safety Program of the World Health Organization (WHO) was included in the undergraduate medical schools of Pakistan using SWOT analysis. Last but not least, the SWOT model has been demonstrated by numerous studies to be a useful tool in the healthcare industry, allowing healthcare professionals to engage in the study of economic growth [23].

## 2. LITERATURE REVIEW

B. Phadermrod et al. illustrated that traditional brainstorming techniques are used to create SWOT analysis, a frequently used strategic planning tool. Since the SWOT components are not ranked according to their importance, it has been argued that it is likely to contain the subjective opinions of those who engage in brainstorming sessions. This can lead to a wrong strategic move. This study provides a way to mitigate both drawbacks by using importance-performance-analysis (IPA) to identify SWOTs based on customer satisfaction surveys, which produce prioritized SWOTs consistent with customer perception. Most studies of SWOT analysis have focused only on resolving these shortcomings separately. It is anticipated that a firm will be able to develop strategic planning effectively with the use of IPA-based SWOT analysis as it will make it clear whether SWOT aspects should be preserved or enhanced based on the opinion of the target audience. A case study of higher education institutions was used to explain and evaluate how the IPA-based SWOT analysis was used. [24].

J. Wang and Z. Wang illustrated his study used to conduct a systematic evaluation of COVID pandemic prevention and containment strategies S, W, O, and T, followed by a further analysis of a strategic foundation, and to determine a critical and relative strategy, we used the SWOT analysis method. On our experience with the 2003 SARS epidemic, data from the

2019 China Health Statistics School newspaper, and the response to changes in China's policy environment. For the prevention and management of COVID-19 outbreaks, the author evaluated and developed strength-opportunity, weakness-opportunity, strength-threat, and weakness-threat techniques. The author thoroughly investigated and determined which policies should be implemented first. These include restructuring the emergency system, establishing health emergency departments in universities and other institutions, changing the economic structure and strengthening links between domestic and international economies, and increasing public participation in emergency response to public health situations. [25].

L. Quezada et al. stated that A process of integrating strength-weakness-opportunity-threats analysis with an analytical network process to evaluate company performance. One strategic measurement method that has evolved into a strategic management system is the Balanced Scorecard (BSc). A BSc covers strategic goals and performance measures that complement the organization's objective and strategy. There is a wealth of information available on BSc modeling using multi-criteria decision-making (MCDM). Techniques such as the analytical hierarchy process have been used for various goals. On the other hand, a corporation can be examined from both an internal and external point of view using the capabilities and threats analysis process to come up with plans for the business. Quantitative modeling has also been done for strategy formulation. This study outlines a technique for evaluating a corporation that quantitatively blends BSc and SWOT analysis. The suggested approach was put into practice in a business that operates in the food sector. The managers were questioned on the post-application approach and implementation process. He found that the technique was efficient but time-consuming [26].

### 3. DISCUSSION

SWOT analysis uncovers the current state of a business and enables the development of a long-term planning process for the company. When used successfully, this method can serve as a solid cornerstone for developing strategies. Even though it is a straightforward administrative tool with a lot of benefits to the plan, it also has drawbacks and limitations. The SWOT analysis only gives a list of essential variables that affect the micro and macro ecosystems in which an industry operates; Furthermore, it is challenging to employ qualitatively described characteristics in decision-making. At the planning stage, a qualitative assessment of the internal and external components can be the first step toward a more in-depth analysis. A growing body of evidence on the SWOT approach indicates that using SWOT alone is insufficient for strategy implementation. Academic research studies on this topic indicate that a combination of qualitative and statistical methods can increase the efficiency of SWOT. Several academics have suggested new scientific methods to integrate with SWOT, while others have suggested alternative approaches. There has been a lot of academic research on SWOT, but nothing has been done to understand its early history, benefits, and drawbacks. By going over the background of SWOT, its principles, benefits, problems, and limitations, this paper, which also details recent methodological improvements in the technique, seeks to provide a clear understanding of the term.

### 4. CONCLUSION

To systematically formulate SWOT characteristics, this study suggests an IPA-based SWOT analysis that uses importance-performance analysis, a method of estimating customer happiness from survey responses from customers. In line with the literature review process, this study fills a gap in existing SWOT methodologies by offering quantitative and vendor SWOT elements, reinforcing the shortcomings of traditional SWOT analysis. IPA-based SWOT analysis uses data from the organization's standard customer satisfaction survey most

effectively. The development of an IPA matrix, which analyzes customer satisfaction surveys to determine the value and efficacy of properties, and the identification of SWOT elements based on the IPA matrix are two key components of an IPA-based SWOT analysis. Specifically, a company's IPA matrix is used to identify shortcomings and strengths. Opportunities and threats can be identified by comparing a company's IPA metrics with that of its competitors. The case study of HEI in Thailand was developed to show how an IPA-based questionnaire survey can be used. The findings of the case study regarding the only SWOT analysis of the target firm indicated the practical applicability of the suggested approach. Additionally, the answers from the IPA-based SWOT analysis adequately represent the state of the business unit, according to the examination of results based on employee collaboration using a one-sample t-test. Since they are selected based on consumer perspective, the SWOT components constructed from IPA-based SWOT analysis are not only important but also quantifiable in terms of relevance and performance. While a customer-oriented SWOT component ensures that characteristics observed by a business are accepted and appreciated by consumers, a quantitative SWOT factor helps a company evaluate SWOT factors in creating an action plan helps. This makes it easier for an organization to develop strategic plans to maintain or enhance customer satisfaction, giving it an edge over its competitors.

#### REFERENCES

- [1] R. Chambers, G. Wakley, and A. Blenkinsopp, "Strengths, weaknesses, opportunities and threats (SWOT) analysis," in *Supporting Self Care in Primary Care*, 2019. doi: 10.1201/9781315383408-19.
- [2] E. GÜREL, "SWOT ANALYSIS: A THEORETICAL REVIEW," *J. Int. Soc. Res.*, 2017, doi: 10.17719/jisr.2017.1832.
- [3] K. Zima, E. Plebankiewicz, and D. Wiczorek, "A SWOT analysis of the use of BIM technology in the polish construction industry," *Buildings*, 2020, doi: 10.3390/buildings10010016.
- [4] J. D. H. Van Wijngaarden, G. R. M. Scholten, and K. P. Van Wijk, "Strategic analysis for health care organizations: The suitability of the SWOT-analysis," *Int. J. Health Plann. Manage.*, 2012, doi: 10.1002/hpm.1032.
- [5] M. M. Helms and J. Nixon, "Exploring SWOT analysis – where are we now?: A review of academic research from the last decade," *J. Strateg. Manag.*, 2010, doi: 10.1108/17554251011064837.
- [6] E. B. Ali, E. B. Agyekum, and P. Adadi, "Agriculture for sustainable development: A SWOT-AHP assessment of ghana's planting for food and jobs initiative," *Sustain.*, 2021, doi: 10.3390/su13020628.
- [7] D. Stefan *et al.*, "Women entrepreneurship and sustainable business development: Key findings from a swot-ahp analysis," *Sustain.*, 2021, doi: 10.3390/su13095298.
- [8] N. Sahani, "Application of hybrid SWOT-AHP-FuzzyAHP model for formulation and prioritization of ecotourism strategies in Western Himalaya, India," *Int. J. Geoheritage Park.*, 2021, doi: 10.1016/j.ijgeop.2021.08.001.
- [9] M. S. Ab Talib and A. B. A. Hamid, "Halal logistics in Malaysia: A SWOT analysis," *J. Islam. Mark.*, 2014, doi: 10.1108/JIMA-03-2013-0018.
- [10] G. Büyüközkan, E. Mukul, and E. Kongar, "Health tourism strategy selection via SWOT analysis and integrated hesitant fuzzy linguistic AHP-MABAC approach," *Socioecon. Plann. Sci.*, 2021, doi: 10.1016/j.seps.2020.100929.
- [11] H. Shevchenko, Shevchenko, Y. Zhdanova, S. Spasiteleva, and O. Negodenko, "Information security risk analysis SWOT," 2021.
- [12] P. C. Carrión-Mero, F. E. Morante-Carballo, G. A. Herrera-Franco, A. Maldonado-Zamora, and N. Paz-Salas, "The context of Ecuador's world heritage, for sustainable development strategies," *Int. J. Des. Nat. Ecodynamics*, 2020, doi: 10.18280/ijdne.150106.
- [13] P. Nowotarski, J. Paślowski, and A. Kadler, "Quality Management Systems as a key element for company strategy selection-case study," 2018. doi: 10.1051/mateconf/201822201012.
- [14] E. W. Wright, Y. C. Hillon, M. Garrido-Lopez, and D. Fowler, "A new scorecard for strategic planning," *J. Bus. Strategy*, 2019, doi: 10.1108/JBS-08-2017-0107.

- [15] G. Yenimahalleli Yasar, "Health transformation programme in Turkey: an assessment," *Int. J. Health Plann. Manage.*, 2011.
- [16] W. Kenton, "Strength, Weakness, Opportunity, and Threat (SWOT) Analysis," *Investopedia.com*, 2021.
- [17] A. Coman and B. Ronen, "Focused SWOT: Diagnosing critical strengths and weaknesses," *Int. J. Prod. Res.*, 2009, doi: 10.1080/00207540802146130.
- [18] M. A. Benzaghta, A. Elwalda, M. Mousa, I. Erkan, and M. Rahman, "SWOT analysis applications: An integrative literature review," *J. Glob. Bus. Insights*, 2021, doi: 10.5038/2640-6489.6.1.1148.
- [19] A. Samuels, "The future of Jungian analysis: strengths, weaknesses, opportunities, threats ('SWOT')," *J. Anal. Psychol.*, 2017, doi: 10.1111/1468-5922.12351.
- [20] A. S. Humphrey, "SWOT Analysis for Management Consulting," *SRI Alumni Assoc. Newsl.*, 2005.
- [21] F. Pucciarelli and A. Kaplan, "Competition and strategy in higher education: Managing complexity and uncertainty," *Bus. Horiz.*, 2016, doi: 10.1016/j.bushor.2016.01.003.
- [22] P. S. Wardani and I. G. Sanica, "STRATEGY TO RAISE BRAND AWARENESS USING SOSIAL MEDIA TO THE MILENIALS," *J. Bisnis Terap.*, 2020, doi: 10.24123/jbt.v4i2.2961.
- [23] A. A. Daemrich, "Using the SWOT Framework in the Healthcare Sector," *Harvard Bus. Sch. Publ.*, 2016.
- [24] B. Phadermrod, R. M. Crowder, and G. B. Wills, "Importance-Performance Analysis based SWOT analysis," *Int. J. Inf. Manage.*, 2019, doi: 10.1016/j.ijinfomgt.2016.03.009.
- [25] J. Wang and Z. Wang, "Strengths, weaknesses, opportunities and threats (Swot) analysis of china's prevention and control strategy for the covid-19 epidemic," *International Journal of Environmental Research and Public Health*. 2020. doi: 10.3390/ijerph17072235.
- [26] L. E. Quezada, E. A. Reinao, P. I. Palominos, and A. M. Oddershede, "Measuring performance using SWOT analysis and balanced scorecard," 2019. doi: 10.1016/j.promfg.2020.01.430.

## CHAPTER 11

### THE ENVIRONMENTAL FORCES AFFECT BUSINESS ON A LARGE SCALE

---

Dr. Mohammed Imorzuddin, Associate Professor,  
School of Management, Presidency University, Bangalore, India,  
Email Id-mohamad.imrozuddin@presidencyuniversity.in

**ABSTRACT:** *All external elements that have a substantial impact on a performance of the company, strategies, and decision-making are referred to as the macro environment. The management of these external factors, which have a considerable influence on business success, is difficult for the organization. The macro-environment can be affected by Gross domestic product (GDP), consumer purchasing power, inflation, employment levels, fiscal policy, and monetary policy. Hence in this paper author focusses on the environmental forces affect business decisions on things such as spending, borrowing, and investing. In this paper author discuss the macro environment factor such as economic factor, political forces, technological factor, demographic and cultural forces. It concluded that changes in the business environment are an important factor that might genuinely affect or have a negative or positive impact on the way a company is structured. In the future, Poor macroeconomic policies cause a variety of situations that make it difficult for some firms to operate effectively, including excessive interest rates, shifting currencies, and others. Environmental scanning will encourage sound judgment.*

**KEYWORDS:** *Business, Corporate, Economic, Macro Environment, Market, Technology.*

#### 1. INTRODUCTION

The human ecology and the corporate ecology are quite similar (or any ecology for that matter) [1],[2]. The survival and achievement of a business firm depend here on innate strength resource base at its instruction, including physical resources, financial capacity, human resource management, the inter-linkages and synergies, skill and organizational capabilities, just as the survival and accomplishment of any ordinary person change based on his innate functionality, such as the both physiological and psychological considerations to copes with the surroundings, and the extensiveness with which the environment has been conducive to the growth of the individual [3],[4]. Thus, two sets of elements internal factors and external forces are necessary for a company to succeed and survive [5],[6]. The two primary components of the external environment are business risks and economic possibilities. Comparatively, the organization's assets and liabilities make up the company's environment [7],[8]. Thus, correctly balancing the organizational elements (the internal environment) against by the possibilities and risks in the external environment constitutes strategy formulation [9],[10].

Business is the activity of making, obtaining, and retailing things in order to support oneself or generate income (such as goods and services). To put it simply, it is any endeavor or action that is undertaken for financial gain [11], [12]. A business is a company or entrepreneurial entity that engages in commercial or industrial activities. Businesses can be for-profit enterprises or corporations that work to further social causes or fulfill charitable purposes [13],[14]. The term "business" also describes coordinated individual actions and goals of successful product and service creation and delivery. Businesses can be as small as a one-

person enterprise or as large as a multinational behemoth. Today's economic environment is one where competition is the standard.

The transactional, cross-cultural, and cross-border factors that have an effect on an organization's business are all included in the international or global environment. While environmental scanning became complicated, which can be dated to the post-second global war era, it was considered to be primarily political in nature and to have little in accordance with the concerns of industry and commerce. After this time, the general environment was divided into sectors, which shed more light and exposed the majority of business owners to the actual business environment. These then assist the majority of organizations in coping with their complexity and competing with the numerous different factors that have an impact on how businesses are run in a certain industry. The restrictions of the aspects that make up the system's environment must be met by the market structure of a firm; the primary environmental pressures are independent factors that are challenging for corporate leaders to control or influence. To guarantee that the business climate is favorable and prepared to provide the corporation the greatest position in the marketplace, careful preparation must be put in place. Any company that doesn't understand its surroundings will undoubtedly have problems as a result of the environment it operates in becoming more complicated.

Participants in negotiations are all too aware of the importance of business in developing and implementing new international environmental governance systems. It is commonly known that DuPont is conceited about the US government's position on ozone-depleting chemicals and that the fossil fuel business has influence over negotiations to put a curb on greenhouse gas emissions. Chemicals in food, linked trade difficulties, and environmental management techniques have all been criticized for the trend toward privatizing government. Theoretical frameworks for understanding how commerce connects with global environmental governance, however, are still in their infancy. Despite the fact that a lot of people are worried about the growing power of multinational corporations (MNCs) and the lack of democratic responsibility in world governance.

The mechanics and efficacy of corporate political initiatives aimed towards international environmental regulations, as well as the underlying mechanisms through which corporate conceptions of their interests arise, have received little scholarly attention. A business that is independently controlled and operated and that isn't the dominant market in its sector is sometimes referred to as a small-scale firm. Any business that is owned, maintained, and controlled by a solo owner or a small partnerships, with total assets under 4 million dollars, a modest market share, and less than 50 employees is considered a small scale organization. An organization with only an initial capital of somewhere between N50,000 and N500,000 that is owned, managed, as well as controlled by one or two people and has a staff of between 5 and 20 employees is considered small scale. Only by taking into account the dominant dynamics in the business environment could small business operations be effective.

The present paper about the competition among companies that compete with theirs and offer comparable goods or services is the environment wherein your business operates. This paper is divided into several sections where the first is an introduction and the second section is a literature review and suggestions from previous studies. The next section is the discussion and the last section is the conclusion of this paper which is declared and gives the result as well as the future scope.

## 2. LITERATURE REVIEW

Raza Mir [15] et al. has explained the numerous factors that contribute to religion's emergence as a strong macrosocial impact on commercial relationships. The role of religions

in balancing the fiduciary responsibility of businesses to organisational members is taken into consideration in developing countries where governments lack the means or motivation to carry out their social obligations. The author's preferred model of governance increases the corporate board's democratization primarily by involving a variety of occasionally weakly spoken stakeholders with the decision process. It indicates that religious institutionalists' power is scalar rather than vector, and that it may be used to promote socio-organizational practices that may be unjust, imperialist, exploitation, and inhumane. In conclusion, of the various macro societal forces that may have an impact on business and notions of ethical corporate conduct, religion is one.

Yefei Yang [16] et al. have explained that in order to accomplish strategic environmental management (EM) and support sustainable development, the Chinese government urges businesses to include operational-level EM within their organization's goals and strategy. The major goal is to examine how two ideas from institutional theory—*isomorphic restrictions* and *decoupling behavior*—can be used to examine the effects of various institutional issues resulting from Chinese macro-level challenges on the effectiveness of EM approaches. In order to assess the proposed hypotheses, the researchers have gathered multi-informant questionnaire survey covering 183 manufacturing enterprises from a variety of industries. Thus, it can be shown that while structural-level government participation promotes strategic EM, market pressure, business instability, and legal loopholes reduce its efficacy. It concluded that the Chinese government, its manufacturers, or others working within a similar institutional structure, may widen the focus of their EM initiatives from operational to strategic EM.

Petra Molthan-Hill [17] et al. explained that a relationship with other organizations, a business school has looked into the effects of working within and throughout these many layers and how they all work together to combat carbon emissions. To help understand the linkages between macro, mezzo, and micro-level effects, the author used a single comprehensive case study technique.

It demonstrates because when scaled up, micro-level activity may have a major influence at the macro-level can benefit participants at all levels, from individuals to all involved organizations. In conclusion, level assessment is not often used to the examination of education programs and hasn't been expressly taken into account in terms of RME in business education in colleges and universities. Kristian Möller [18] et al. has described how the study of entrepreneurship has been cut off from important real-world events as a result of economics-driven education, giving students a limited awareness of the modern environment that influences marketing and company strategy. Because it regards commercial settings as niche markets and places a lot of emphasis on triadic brand communication with related administration, mainstream study, particularly that on business advertising and marketing, was losing relevance with vitality, according to the author's theory. Using the frameworks developed to create a research agenda for business marketing.

These frameworks serve as the foundation for an early theory of complicated business settings. It was found that major corporate breakthroughs are almost universally systemic and include several knowledge bases and technologies. Their effective creation thus necessitates the mobilization of cooperative alliances. As a conclusion, corporate strategy emphasizes the process of developing strategies rather than the results of this effort, i.e., the strategies.

Tamara Keszey [19] has their meta-framework explains the supply chain of how an environmental perspective impacts company-level environmental advertisement, sustainability more broadly at the firm-market connection, and firm performance. The primary goal of the author is to conduct current empirical studies on the impact of corporate environmental responsibility on environmental marketing. Statistics from 296 Hungary-based businesses' cross-sectional surveys were used to create a structural equation model. This model showed that the company's environmental standpoint is now a key motivator for environmentally friendly advertising, which in turn has a modestly good impact on company performance. Finally, environmental marketing and sales financial success is aided by stringent environmental legislation and competitors' dedication to the environment.

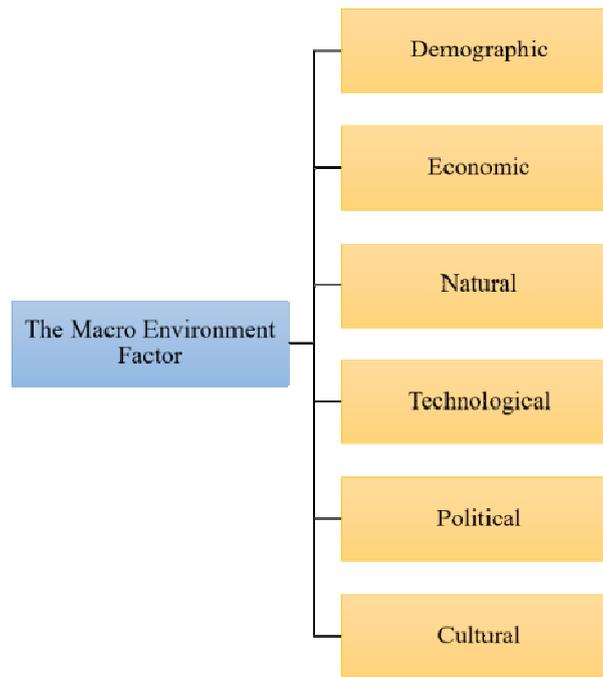
The above study shows the economics-driven entrepreneurship education has separated the topic from significant real-world events, leaving it with a limited understanding of the contemporary environmental backdrop of marketing and firm strategy. Additionally, it was made clear that the Chinese government really wants firms to incorporate operational-level EM within their organizations' goals and strategies in order to construct strategic EM to promote sustainable growth. In this study, the author discusses the several factor of macro environmental forces factor.

### 3. DISCUSSION

A large scale climate is by all accounts a gathering of variables that affect the economy in general as opposed to just one area or district. Varieties in Gross domestic product, flattening, joblessness, spending, and money related and financial strategy are a couple of instances of large scale ecological variables. The progress of the economy all in all is firmly corresponded with both the microenvironment, rather than the viability of a solitary financial area. Contrary to specialty showcases, the large scale climate alludes to a country's financial generally speaking wellbeing. Factors including Gross domestic product, monetary guideline, the financial and money related arrangement approach, expansion, business information, and individual spending might have an effect here on large scale - ecological variables. Corporate activities like speculation, acquiring, and buying are influenced by the macroeconomic climate. The macroeconomic climate inside which a partnership or association works impacts its presentation, as made sense of by the microenvironment. Macroeconomics puts a greater amount of an accentuation on an economy's general result, spending, and exchange than it does on specific business sectors and areas. How much an organization's tasks are dependent on the condition of the more extensive economy decides what the large scale climate will mean for that firm. Repetitive undertakings are more influenced by large scale ecological powers than center staple organizations are. Loan fee changes and the condition of the worldwide monetary business sectors affect enterprises that rely vigorously upon credit to make up for buying conduct and company costs.

#### 3.1. *Macro Environment Factor:*

The fundamental outside, controllable variables that impact how this kind of association settles on choices are alluded to as the large scale climate. An organization's tasks happen inside a bigger setting than simply the neighborhood market. Comprised of components give the organization the two potential open doors and challenges. There six components of macro environment factor categorized are in Figure 1:



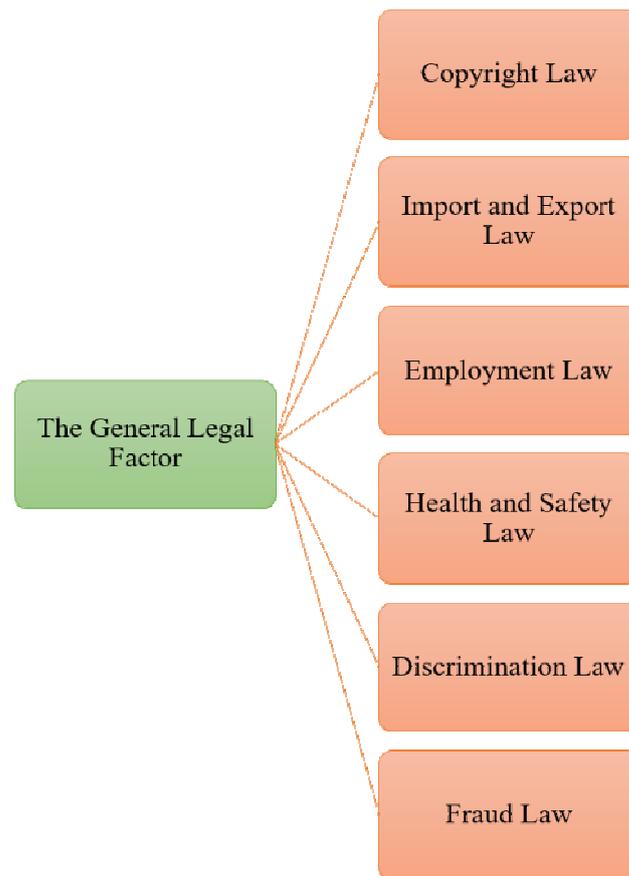
**Figure 1: Illustrates the Macro environmental factors including forces that provide opportunities for businesses.**

### *3.1.1. Demographic:*

Population pressures ultimately have an impact on groups of individuals who are consumers and contribute to the economy. Some of the demographic statistics that should be looked at are age, gender, stature, employment, and need. In the end, companies exist to meet the needs of every demographic, and this is what ultimately ensures their long-term success. Ultimately, demographics will have an impact on business choices and the growth of bigger markets. Every company must comprehend population increase and the demographic shifts it causes. A company has to understand exactly who is utilizing its services in order to provide excellent customer service and turn a profit. Any company that wants to be successful in marketing must closely monitor demographic changes. Understanding how to communicate with emerging or new communities is essential. Changes should also be conveyed to operations and manufacturing to guarantee that the company continues to meet customer requests.

### *3.1.2. Political and Legal:*

The political environment wherein they work consistently restricts organizations' capacity to develop. Legislatures and guidelines as often as possible impact a business' ability to work and, surprisingly, on the business sectors it might look for. Political factors are extremely important when a business wants to enter a new market, particularly a market that is located in a different country. The company needs to be aware of the legislation in Figure 2, the regulations that apply to the industry it operates in, and any other constraints that could apply. It could affect whether the business ought to attempt to join the new market. It's likewise significant to attempt to remain current with any new regulation that is drafted or introduced to a vote. A business may find it easier to reposition itself when political variables change in order to avoid undesirable consequences if new regulations or laws are implemented.



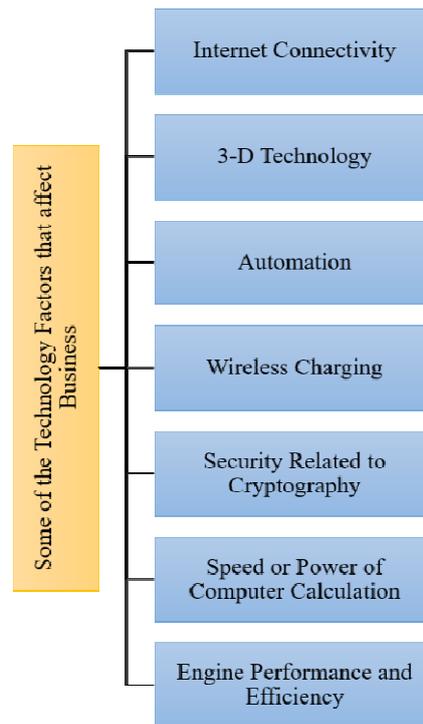
**Figure 2: Illustrates the General Legal factor that for any business to be capable of making the best decisions, it is necessary to stay current with such global factors.**

### 3.1.3. Economic:

Consumer expenditure and purchasing power are two examples of economic factors that have an effect on the macro environmental factors. It is essential to comprehend different metrics and data. It's crucial to assess how the economy impacts your company. The Consumer Price Index CPI, which measures the inflation rate the levels of interest rates, stock market fluctuations, and the degree of unemployment throughout the United States at that time, tax legislation, and federal public budgetary policies should all be considered. Other factors include the GDP and also the growth rate trade barriers, consumer sentiment, and the different currencies rate.

### 3.1.4. Technological:

In Figure 3, the advancement of emerging technologies, their effects on product design and manufacturing, in addition to the availability of brand-new market possibilities, are all topics of concern in the technology world. Wireless communication is the finest illustration of a substantial technology impact on modern society. A phone and a computer that can be rapidly and readily linked to the internet are almost universally available. It has a big influence on people, cultures, and their capacity to decide which businesses to support. The creation of new technical innovations and the restoration of antiquated ones are both impacted by mobile technology. To function at its peak and be mindful of how cutting-edge technologies might better serve clients, a business must constantly adopt the newer technologies.



**Figure 3: Illustrates the some of the Technology factors that affect Business.**

- Demand

Consumers' lifestyles and shopping habits can alter as a result of technology. Personal computer advancements have greatly increased the possible client base and opened up countless chances for enterprises to do online commerce. Personal computers are frequently employed by smaller businesses and people for purposes that were previously unimaginable, since computers were usually solely used by large corporations to address data processing demands. Similar to how price reductions brought forth by new technological advancements increased the size of the market for computers. Since the early market for computers was made up of commercial, scientific, and professional users, lower prices make it possible to offer computers to the general public. As a result of technology, some goods could be taken off the market. The availability of mesothelioma as a resource for heat-sensitive items like hair dryers has been severely constrained by asbestos-related diseases. Further, due to the chemicals' presence in the food chain, a number of substances that farmers have historically used to manage insects and plants are now illegal to use or call for licenses.

- Production Process

The introduction of goods based on new technology frequently necessitates new manufacturing procedures, and new production technology may also affect production processes. One of the most obvious threats to current industrial techniques is robotics. Machines may be used in jobs that involve repetitive, minute tasks or are deemed dangerous for humans. The effects on other employment that people now hold are unclear. Although some people were laid off when production was initially mechanized, new occupations were established to build and maintain the machinery. Robotics' effects on employment are mostly influenced by how the technology is used and how eager employees are to pick up new skills.

- Evaluating Technological Changes

With regard to existing products, there is little question that technology brings both potential dangers and possibilities. It can be challenging for businesses to determine their market potential when products with highly sophisticated or novel technology are frequently offered whereas the technology is still being developed. Ballpoint pens used to leak, skip, and leave big blotches of ink mostly on writing surface whenever they were initially introduced. The producers of fountain pens did not start making ballpoint pens until a significant amount of market share had already been lost because they did not see the modern technology as a threat to their goods.

### 3.1.5. *Cultural:*

In addition to religious systems and practices, cultural influences on people's actions and decisions also include conventions, traditions, and behaviors, fashion trends, including market activity. An essential factor to take into account is the socio-cultural perspective, which includes the traditions, way of life, and values that define a culture. Communication technology, human creativity, lifestyle, involvement in cultural events, well-known actors, popular music genres, modern fashion design trends, and social media impact are a few cultural variables to take into account. Every aspect of modern society is influenced by the cultural environment, which is an amalgam of several subcultures with different religious and philosophical tenets. Over the past several years, you have witnessed directly how dynamic our culture is. Instead, it is always developing and changing. Old demands soon go as new ones emerge. Culture changes, for example, as a consequence of travel or globalization, or whenever anything fresh like trains or smartphones gives new chances for living. Successful business owners always keep an eye on new developments and are prepared to make adjustments to assist their companies satisfy consumer demand in their market niche.

### 3.1.6. *Natural:*

Natural resources which are required by marketers as inputs or that have been influenced by marketing strategy are included in its physical surroundings. The ecological situation has grown to be an important factor to consider as environmental challenges have become more pressing in recent years. Examples include water and air pollutants, droughts, flooding, and more. Because natural resources are needed by enterprises as production inputs, forces of nature have a significant role in the macro environment. Natural non-renewable resources like oil, coal, gemstones, etc. are another factor that might affect an organization's output. Businesses must take into account the U.S. government's evolving environmental policies. For instance, it's important to monitor and follow the trends with regards to air and water pollution.

## 4. CONCLUSION

According to survey data, a straightforward model of the real business cycle that includes extra stock price expectations may generate genuine business cycle dynamics and levels of stock price volatility. Organizations need to adapt to their current rules and practices as well as invest in the capacity to scan their changes in the environment as marketplaces and sectors grow more dynamic. An organization's performance and effectiveness in dynamic settings are anticipated to be improved by aligning organizational structures with both the external environment, which itself is viewed as a key phase in the process. Nevertheless, despite the above ability to contribute, small-scale businesses continue to perform below expectations because their owners lack the marketing expertise required for accurate and sufficient monitoring of business demographic, economic, social, and sociocultural factors. They also lack awareness of the need to adopt new technologies. Small company owners bring about changes, legislative and political pressures, and competitive forces for better and more

successful business operations. People are indeed the market, thus the marketing planner must have a fundamental grasp of the shape, structure, and configuration of trends. After the financial crisis, it was believed that these variables had changed how company purchases were made by the firms. For businesses' ongoing purchases and upcoming buying plans, it is crucial to understand the importance of these factors and the extent to which they might influence consumer behavior. Governments all around the world changed many economic and political elements following the crisis to sustain and improve the stability of the nation's economic growth. Governments have the power to modify the economy through influencing crucial parameters such as GNP, inflation, interest rates, taxes, imported and exported laws, and other parameters.

## REFERENCES

- [1] S. Rasheed, F. Yaqub, C. F. Wang, S. Memon, and B. R. D. De Lucena, "Risk Leveling - an organised risk management approach," *Int. J. Risk Assess. Manag.*, vol. 21, no. 1/2, p. 135, 2018, doi: 10.1504/IJRAM.2018.090266.
- [2] R. M. Soecipto and K. Verhoest, "Contract stability in European road infrastructure PPPs: how does governmental PPP support contribute to preventing contract renegotiation?," *Public Manag. Rev.*, vol. 20, no. 8, pp. 1145–1164, Aug. 2018, doi: 10.1080/14719037.2018.1428414.
- [3] A. Laylo, "Macro-level enabling conditions for the formation of social business enterprises in the Philippines," *Asia Pacific J. Innov. Entrep.*, vol. 12, no. 1, pp. 5–13, Apr. 2018, doi: 10.1108/APJIE-12-2017-0044.
- [4] J. Dvorský, M. Čepel, G. Sopková, and A. Kotásková, "The Quality of Macro-Environment and Business Environment and University Student Entrepreneurship - Comparison of the Czech and the Slovak Republic," *Int. J. Entrep. Knowl.*, vol. 5, no. 2, pp. 89–100, Dec. 2017, doi: 10.1515/ijek-2017-0014.
- [5] T. C. Fischer, "Technology in its Context," *Int. J. Bus. Intell. Data Min.*, vol. 1, no. 1, p. 1, 2017, doi: 10.1504/IJBIDM.2017.10008076.
- [6] T. C. Fischer, "Technology in its context - a literature review of the macro and micro levels of business intelligence," *Int. J. Bus. Intell. Data Min.*, vol. 13, no. 1/2/3, p. 347, 2018, doi: 10.1504/IJBIDM.2018.088439.
- [7] G. F. Watson, S. Weaven, H. Perkins, D. Sardana, and R. W. Palmatier, "International Market Entry Strategies: Relational, Digital, and Hybrid Approaches," *J. Int. Mark.*, vol. 26, no. 1, pp. 30–60, Mar. 2018, doi: 10.1509/jim.17.0034.
- [8] M. V. Ciasullo, G. Fenza, V. Loia, F. Orciuoli, O. Troisi, and E. Herrera-Viedma, "Business process outsourcing enhanced by fuzzy linguistic consensus model," *Appl. Soft Comput.*, vol. 64, pp. 436–444, Mar. 2018, doi: 10.1016/j.asoc.2017.12.020.
- [9] C. Dierksmeier and P. Seele, "Cryptocurrencies and Business Ethics," *J. Bus. Ethics*, vol. 152, no. 1, pp. 1–14, Sep. 2018, doi: 10.1007/s10551-016-3298-0.
- [10] L. P. Krüger, "Macro-environments of South Africa: time to stop the rot, deterioration, distrust and dysfunctionality," *Probl. Perspect. Manag.*, vol. 16, no. 1, pp. 361–380, Mar. 2018, doi: 10.21511/ppm.16(1).2018.35.
- [11] N. Bosma, J. Content, M. Sanders, and E. Stam, "Institutions, entrepreneurship, and economic growth in Europe," *Small Bus. Econ.*, vol. 51, no. 2, pp. 483–499, Aug. 2018, doi: 10.1007/s11187-018-0012-x.
- [12] W. Yang *et al.*, "Economic Costs of Diabetes in the U.S. in 2017," *Diabetes Care*, vol. 41, no. 5, pp. 917–928, May 2018, doi: 10.2337/dci18-0007.
- [13] Z. J. Acs, S. Estrin, T. Mickiewicz, and L. Szerb, "Entrepreneurship, institutional economics, and economic growth: an ecosystem perspective," *Small Bus. Econ.*, vol. 51, no. 2, pp. 501–514, Aug. 2018, doi: 10.1007/s11187-018-0013-9.
- [14] P. Shrestha *et al.*, "Enumerating the economic cost of antimicrobial resistance per antibiotic consumed to inform the evaluation of interventions affecting their use," *Antimicrob. Resist. Infect. Control*, vol. 7, no. 1, p. 98, Dec. 2018, doi: 10.1186/s13756-018-0384-3.
- [15] H. J. Van Buren, J. Syed, and R. Mir, "Religion as a Macro Social Force Affecting Business: Concepts, Questions, and Future Research," *Bus. Soc.*, vol. 59, no. 5, pp. 799–822, 2020, doi: 10.1177/0007650319845097.

- [16] Y. Yang, A. K. W. Lau, P. K. C. Lee, A. C. L. Yeung, and T. C. E. Cheng, "Efficacy of China's strategic environmental management in its institutional environment," *Int. J. Oper. Prod. Manag.*, vol. 39, no. 1, pp. 138–163, 2019, doi: 10.1108/IJOPM-11-2017-0695.
- [17] P. Molthan-Hill, Z. P. Robinson, A. Hope, A. Dharmasmita, and E. McManus, "Reducing carbon emissions in business through Responsible Management Education: Influence at the micro-, meso- and macro-levels," *Int. J. Manag. Educ.*, vol. 18, no. 1, p. 100328, 2020, doi: 10.1016/j.ijme.2019.100328.
- [18] K. Möller, S. Nenonen, and K. Storbacka, "Networks, ecosystems, fields, market systems? Making sense of the business environment," *Ind. Mark. Manag.*, vol. 90, no. July, pp. 380–399, 2020, doi: 10.1016/j.indmarman.2020.07.013.
- [19] T. Keszey, "Environmental orientation, sustainable behaviour at the firm-market interface and performance," *J. Clean. Prod.*, vol. 243, 2020, doi: 10.1016/j.jclepro.2019.118524.

## CHAPTER 12

# SYSTEM ANALYSIS AND DESIGN OF DATABASE OF THE MEDICAL CHECKUP SYSTEMS

---

Vibhor Jain, Associate Professor,  
Department of Teerthanker Mahaveer Institute of Management & Technology, Teerthanker Mahaveer  
University, Moradabad, Uttar Pradesh, India  
Email Id- vibhorjain7@gmail.com

**ABSTRACT:** *The paper describe about the system analysis and design of the Database Scheme Rational Design of a hospital checkup. The primary objective of systems analysis and design is to enhance hospital systems, often by implementing software that enables staff to carry out patient details more quickly and effectively. This study focuses on collecting the details about the patient regarding their problem and referred the patient to the consultant regarding the problem of the patient. In this study the discussed that many hospitals use the system analysis and design process to assess specific hospital challenges and create solutions using more effective techniques and approach to restructure their operations or achieve their profitability and growth goals. As a result, the goal of this study was to offer information system solutions for the design and analysis of a computerized medical checkup system as well as staff health monitoring capabilities. These systems' development resulted in a computerized medical examination procedure and made use of an integrated database.*

**KEYWORDS:** *Data, Database, Design, Systems, System analysis.*

### 1. INTRODUCTION

Systems analysis is the procedure by which a person study a system in order to assess, model, and select a logical alternative for an information system. Three factors problems, opportunities, and directives are the driving forces behind the start of systems analysis initiatives. It is a procedure for gathering and analyzing data, determining the issues, and breaking down a system into its constituent parts. System analysis is done to investigate a system or its components in order to pinpoint its goals. It is a technique for solving problems that makes the system better and makes sure that all of its parts function effectively to serve their intended purposes.

System Management and Analysis oversees and manages the entire process of system design. This process determines the work that needs to be done and creates the effort's timetables and cost estimates. All operations are coordinated, and it ensures that everyone is working using the same set of specifications, commitments, and design iterations. This is where system maintenance for the entire process of systems engineering is centralized [1].

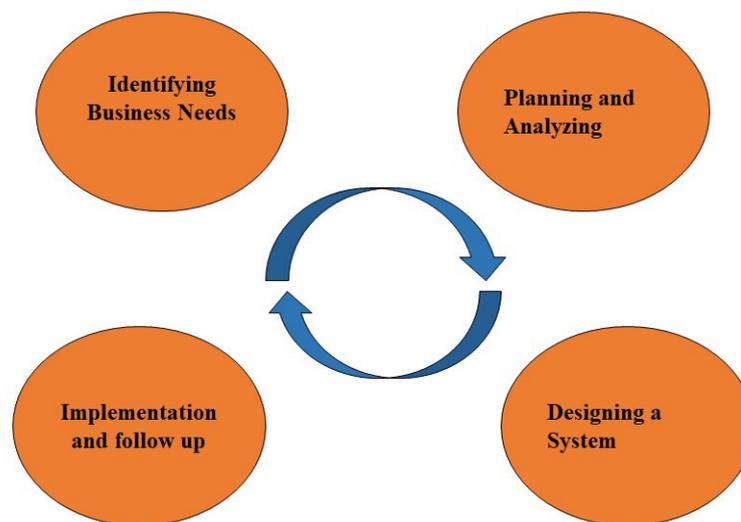
Many businesses usage the system analysis and design procedure to assess specific company challenges and create solutions using more effective techniques. This procedure can be used by businesses to restructure their operations or to achieve their growth and profitability targets. Additionally, system design and system analysis frequently focus on how systems perform, their connections to further subsystems, and their capacity to achieve a certain objective. This frequently entails examining a scheme's performance and output quality.

System analysis is the procedure of acquiring data, analyzing it, spotting problems, and applying the conclusions to suggest or create potential system upgrades. Corporations may also assess how enhancements might address future company requirements during this phase. System design refers to the process through which an organization creates a newer system or

strategy to enhance or replace an old one when the circumstances are right. Design, maintenance, implementation Planning and analysis are all included in this development cycle and design.

The process of observing a mechanism for the aim of investigation or improvement is known as system analysis. It is used in information systems, where desktop systems must be described for inspection according to their structure and design. Experts in system analysis are frequently requested to examine systems carefully and recommend necessary adjustments or redesigns. Systems analysis can be used both within and without the corporate world to determine if a system is practical or effective given the parameters of its design layout and to identify the options open to the employment company or the other party [2].

Most notably, it aids in understanding complex architectures and planning processes whose components may have conflicting goals. Additionally, system analysis helps to achieve subsystem unity and similarity (Figure 1). System analysis offers a helpful perspective for understanding and comparing the capabilities of the modules and the entire system.



**Figure 1: Illustration of System Analysis & Design.**

### *1.1. Identifying Business Needs*

When determining your company's needs, make a note of each issue, objective, or situation that must be resolved for the organization. It's crucial for organizational to consider the benefits and drawbacks of altering its current processes. For this procedure to be successful, it is crucial to determine the importance of the new systems. Make absolutely sure it's an upgrade over current place, just like when you create your ideal.

### *1.2. Planning and analyzing*

Through the information you will gather, the purposes for which you will utilize it, and the analysis methods by creating an analysis plan. Making an analysis strategy is a crucial step in ensuring that you get and utilize all of the information you want. Analysis planning might be a worthwhile time investment.

### *1.3. Designing a system*

System design refers to the process of designing a system's constituent parts, including its architecture, subsystems, and components, as well as the many interfaces at which those

components communicate with one another and the content that flows through it. Systems design is the method of defining a system's components, including modules, architecture, components, their interfaces, and data, depending on the requirements that have been given.

#### *1.4.Implementation and follow up*

Image for system design and analysis execution and follow-up The process of specifying how an information system should be developed, verifying that the system is working properly and used, and verifying that the technology complies with quality standards is known as systems implementation.. The assessment of a project's or plan's effects for management of, and discussion regarding, the latter's performance. Providing reaction and supporting good presentation to organization regarding the work.

## **2. LITRATURE VIEW**

Wulan Andang Purnomo et al. [3] discussed through the supply of data about diseases that arise in the local environment, this investigation can expand the function of health-care facilities and supply the public with quick service knowledge. The author's approach to system design uses the prototype technique, a development strategy that has a number of benefits.The system's growth has contributed to its ability to assist the Public Health Center in managing current health services, particularly in aiding the public in obtaining crucial information regarding health services.

Avinash N Bhute and B B Meshram [4] video retrieval method allows a human operator find the desired video sequence from a possibly sizable database. There is a need to effectively store, index, retrieve the visual data from multimedia databases due to the massive quantities of processing and storage that visual media demands. The development of methods that enable the storage and retrieval of images created on their satisfied is the aim of copy indexing. This video retrieval research started by locating a text, such as an associated tag or text. This method's drawbacks were manual annotation and excessive storage. Therefore, a cutting-edge method of retrieving videos based on their graphic content is a hot topic of research. The literature contains many proposals for such systems. Consumer needs are defined by the scheme analysis model, which also creates the framework for system design and specifies a set of authentication supplies for testing advanced systems. Numerous algorithms with roots in these domains have been developed to handle different video retrieval challenges. By incorporating numerous aspects of the query video frame, we have created a retrieval mechanism in our suggested system. According to experimental findings, integrating derived attributes enhances video classification and search.

Ike Mgbeifulike and Igwe Chidinma Nelly [5] researched this project is to boost medical services and improve logistical efficiency by computerizing the prescription and diagnosis systems in medicine. The goal is to establish a method using meticulously written, designed, and integrated computer programs and files from a patient application package that accepts both physical states of patients. The goal of this project, which was to identify the issue with the current system, analyze issues, and provide solutions, was crystal clear throughout. The diagnosis and treatment of infectious diseases were demonstrated and illustrated in the following chapters. Both the necessity and the nature of computerizing infectious illness diagnosis were made explicit. Lastly, the dissemination of pertinent data for the efficient diagnosis and treatment of infectious diseases was provided.

Omid M. Arani and Nadiye O. Erdil [6] researched in this study focuses on measurement-driven process variation and offers recommendations for implementing attribute measurement system analysis (MSA) in the healthcare industry. It may be challenging to

distinguish between measurement-related variation and actual process variation, which may result in poor decision-making. The methodology used by the author were Measurement System Analysis, Sources of Attribute Data in Healthcare, Medical Errors. In this paper, the author analyze the pros and downsides of applying attribute MSA in healthcare, outline crucial components for implementation success, and demonstrate the value of the effort. Then offer recommendations for using attribute MSA in a healthcare setting.

E. Ammenwerth et al. [7] discussed thorough system assessments in medicine run the danger to become exceedingly complex and challenging to handle because of the high level of processes and structures. Therefore, by creating a thorough framework that displays and explains prospective areas of investigation, we sought to enable systematic information systems in medical services. In a medical environment, a methodology for program management in medical services was created. The framework covers the possible views and stages of systems analysis in a context of health care to offer a clear structure. The comprehensive model that has been provided intends to organize the perspectives and stages of information systems in the challenging environment of health care. Our initial findings confirm the value of such a strategy.

Previous paper describe only extensive systems analysis can determine the level of data management. Such an assessment' main objective is to evaluate the present condition and flaws in organizational structures and procedures in a particular field. All actions aimed at enhancing structures and processes in healthcare, such as organizational change management, quality assurance, or the implementation of new data processing tools, must first undergo a thorough systems analysis in the healthcare institution. The more accurate the study, the easier it will be to reform, enhance, or support the institution's structures and operations.

### 3. METHODOLOGY

Constraints that system entities must abide by are specified by system business requirements. Business rules define how an organization conducts its daily activities, and they must be followed by the data modelling. Business operations will manipulate the data according to business rules in order to accomplish the design goals (Figure 2). The following is a list of the database design's business rules:

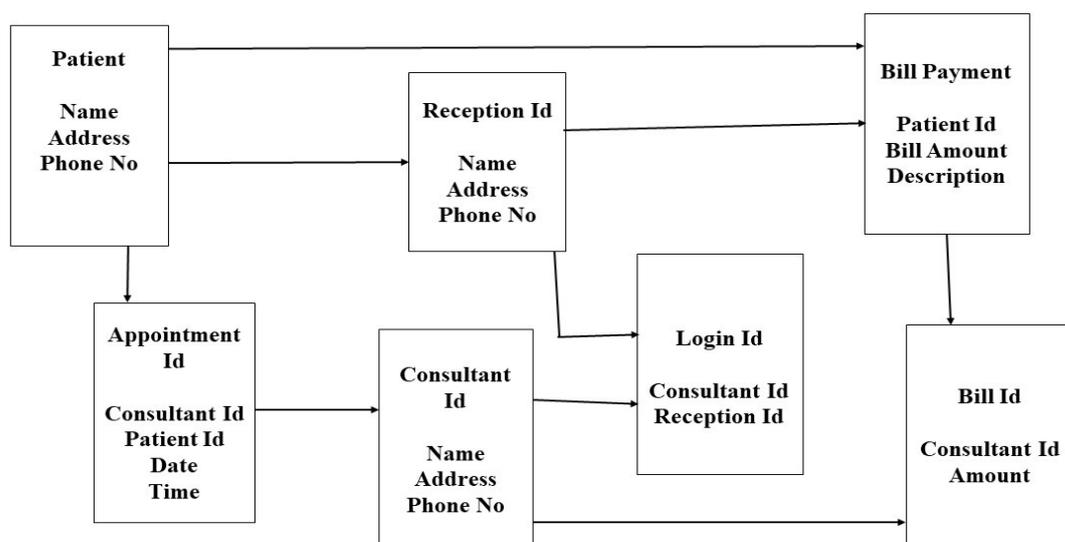


Figure 2: Database Scheme Rational Design[7]

- Before a patient may be scheduled for an appointment, they must first register.
- Prior to billing, a patient must have attended a consultation.
- A patient's bill payments may be zero, one, or numerous.
- A patient may have 0 appointments, 1 appointments, or more.
- A receptionist may be assigned to one or many patients.
- A reception can receive 0 bills, 1 bills, or several bills.
- A reception may only have one login.
- A consultant can show up for one or several meetings.
- One or more bills can be prepared by a consultant.
- A consultant may only have one login.
- A bill payment may cover one or several bills.
- One and only one patient may be a part of an appointment [8].

3.1.Data collection

Data and details about the elements in the concept design are gathered in a data model. Additional business rules are defined in the data base for the database design. The facts and details in the data dictionary aid in the establishment of the requirements that the database must meet while recording data during the implementation phase (Table 1-5).

**Table 1: Login Table**

Column Name	Description	Data Type	Length	Allow Null
Login Id	User's unique system identification	Alphanumeric	15	No
Consultant Id	Consultant unique identification number	Number	19	No
Reception Id	Reception unique identification number	Number	19	No

**Table 2: Patient Table**

Column Name	Description	Data Type	Length	Allow Null
Patient Id	Patient unique identification number	Number	14	No
Name	First Name and Last Name	Alphanumeric	16	No
Address	Patient Address	Alphanumeric	35	No
Phone No	Patient Phone No	Number	10	Yes

Column Name	Description	Data Type	Length	Allow Null
Reception Id	Reception unique identification number	Number	19	No
Name	Reception first and last name	Alphanumeric	16	No
Address	Reception home address	Alphanumeric	35	No
Phone No	Reception phone number	Number	10	No

**Table 3: Reception Table**

Column Name	Description	Data Type	Length	Allow Null
Patient Id	Patient unique identification number	Number	14	No
Consultant Id	Consultant unique identification number	Number	19	No
Date	Appointment date	Number	10	No
Time	Appointment time	Number	10	No

**Table 3: Appointment Table**

Column Name	Description	Data Type	Length	Allow Null
Consultant Id	Consultant unique identification number	Number	19	No
Name	First Name and Last Name	Alphanumeric	20	No
Address	Consultant Address	Alphanumeric	30	No
Phone No	Consultant Phone No	Number	10	No

**Table 4: Consultant Table**

Column Name	Description	Data Type	Length	Allow Null
Bill Payment Id	Bill unique identification number	Number	15	No
Patient Id	Patient unique identification number	Number	15	No
Bill Amount	Bill amount	Number	10	No
Description	Details of the bill payment amount	Alphanumeric	50	No

**Table 5: Bill Payment Table**

Column Name	Description	Data type	Length	Allow Null
Bill Id	Bill unique identification number	Number	15	No
Consultant Id	Consultant unique identification number	Number	19	No
Amount	Bill amount	Number	20	No

The objectives achieved so far in the creation of the relational database are the significant successes noted thus far. The following are the signs:

- The system requirements were finished, the proposal was properly scoped, and it was approved by management;
- Sponsors were correctly identified and their needs were adequately documented, which was used to develop the communication plan.
- The database schema was finished and it captured all of the features and functionality for the suggested database system; a use case was used to demonstrate the functionality.

Successes in the hardware implementation include the 6GB hard disc requirement being met. The internet browser criterion of web browsers 7 or later was satisfied; the one being used right now is IE9. The version of Net Framework that was loaded was 4.0, which exceeds the bare minimum of 3.5.

### 3.2. Data Analysis

#### *Benefits of system analysis and design*

The most typical advantage of system design and system analysis is the enhancement of an existing system and greater operational effectiveness.

- Facilitating understanding of complex structures
- Enabling better organization of any modifications to the business
- Organization's situation and planned aims being in alignment
- Minimizing its problems and lightening the strain of its staff
- Lowering expenses in some areas, exchangeable the company money and allowing it to employ those properties in other sections
- The early detection of potential threats and dangers to the procedures
- Enhancing the system's general quality
- Increasing the system's usability for staff
- Both efficiency and consumer happiness are rising

## 4. RESULT AND DISCUSSION

A few changes to the design were made to make it work with the project's work in order to keep the task on schedule within the particularly robust, budget, and timeline. Although the improvements were not incorporated in the current design, they are in the main layout and are suggested for adoption in the future. The initial strategy was to link the payment system to the database system. However, there were two significant obstacles that prevented the payment system from being incorporated into the project.

- The organization is not prepared to accommodate the financing approval that will be needed for the present funding year operations since the increased hardware requirements weren't included in the proposed budget.
- A qualified security assessor (QSA) will need to evaluate and certify that the complete information system complies with PCIDSS. It will really require extra financial permission because the business will need to hire a QSA organization and pay for the QSA's advisory services.

The health insurance company is a crucial component of a database system for healthcare delivery. The health insurance company was originally supposed to be a part of the current design. However, it is impossible to have sufficient required documentation for incorporation in the final version because it was impossible to properly involve this stakeholder group during requirement scoping. The plan was altered to omit the health insurance company.

## 5. CONCLUSION

The data base evaluation will be created depending on the workload operations of the hospital. A task plan will be created based on an analysis of the current demand. The test data will be created using an online database testing data generator and uploaded onto the database management system. The database system project's installation requirements are communicated in the implementation plan. In the group's information system infrastructure, the plan outlines how the database will be made operational. The plan's goal is to ensure that project stakeholders are aware of the needs and duties involved in effectively implementing the database system. Every single implementation will be done via approved change requests. All adjustments that are not entirely covered by the plan will be made using a different organizational change request.

## REFERENCES

- [1] P. Turek *et al.*, "An analysis of the casting polymer mold wear manufactured using polyjet method based on the measurement of the surface topography," *Polymers (Basel)*, vol. 12, no. 12, pp. 1–18, 2020, doi: 10.3390/polym12123029.
- [2] R. S., "System Analysis and Design," *J. Inf. Technol. Softw. Eng.*, vol. 02, no. 05, 2012, doi: 10.4172/2165-7866.s8-e001.
- [3] W. A. Purnomo, W. Prima, Yusran, R. Efendi, and Suryadimal, "Analysis and Design of Web-Based Health Service Information Systems (E-Health), in the Industrial Revolution Era 4.0," *J. Phys. Conf. Ser.*, vol. 1764, no. 1, pp. 0–10, 2021, doi: 10.1088/1742-6596/1764/1/012067.
- [4] A. N Bhute and M. B B, "System Analysis and Design for Multimedia Retrieval Systems," *Int. J. Multimed. Its Appl.*, vol. 5, no. 6, pp. 25–44, 2013, doi: 10.5121/ijma.2013.5603.
- [5] Ike Mgbeafulike and Igwe Chidinma Nelly, "Design and implementation of a medical expert system for diagnosis and prescription," *World J. Adv. Eng. Technol. Sci.*, vol. 2, no. 2, pp. 058–065, 2021, doi: 10.30574/wjaets.2021.2.2.0039.
- [6] N. O. Erdil and O. M. Arani, "Quality function deployment: more than a design tool," *Int. J. Qual. Serv. Sci.*, vol. 11, no. 2, pp. 142–166, 2019, doi: 10.1108/IJQSS-02-2018-0008.
- [7] E. Ammenwerth, F. Ehlers, R. Eichstädter, R. Haux, U. Pohl, and F. Resch, "Systems analysis in health care: Framework and example," *Methods Inf. Med.*, vol. 41, no. 2, pp. 134–140, 2002, doi: 10.1055/s-0038-1634297.
- [8] S. Adeshina, "Design and Implementation of Database for Healthcare Information System A project work for master of science degree in Information Technology Southern New Hampshire University Design and Implementation of Database for A project work for master of science ," no. July, pp. 0–67, 2019.

## CHAPTER 13

# REVIEW OF EFFECTIVE MARKETING TECHNIQUES TO MEET CUSTOMERS' NEEDS

Aditya Sharma, Professor,

Department of Teerthanker Mahaveer Institute of Management & Technology, Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, India  
Email Id- adityahr2018@gmail.com

**ABSTRACT:** *Marketing strategy is a lifelong plan to achieve business objectives through understanding of consumer needs and development of a specific and long-lasting competitive advantage. Describes marketing strategies and all the methods that are helpful in meeting the needs of the customers and being able to satisfy their needs. Marketing strategy is important to boost revenue and sell more goods and services to satisfy consumer needs and wants. The study aims to describe the best marketing strategies and plans that are helpful in persuading the customers to buy the product and the seven P's which help the company to be successful in the market. With the help of these strategies, the company creates a place in the hearts of the customers and convinces them to buy their products. Future marketing strategy includes selling, promoting and transporting the product to customers and producing goods or services that attract customers and meet their needs.*

**KEYWORDS:** *Business, Company, Customer, Goods Services, Marketing, Market, Marketing Strategy.*

### 1. INTRODUCTION

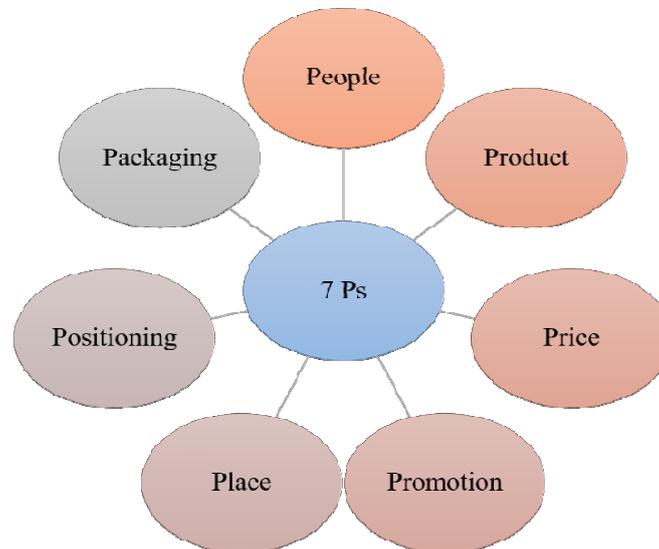
A marketing strategy also referred to as an occupational model, is a course of action that a corporation uses to rise sales, build a trademark, or showcase the value of an item. A market strategy informs consumers and aims to stimulate their interest in the company or its products. To request to its targeted market, the corporation is required to understand both how customers behave and what they are likely to choose. By caring them in mind, organizations can develop a marketing strategy to accomplish specific objectives. Typically, developing a marketing plan involves a set of steps to get here[1].

To attach with clients and develop its brand, a firm groups objectives established on what it hopes to compete with each market plan. When deciding the goals, consider the value of the business and the ideal client. Establishing timelines and measuring marketing strategies' efficacy to determine their input comeback can determine whether they are repeated. The Strategic targets process aids in defining the approach and defining the objective [2], [3]. The goals of a corporation are encapsulated in a marketing plan, and the marketing plan consists of the plan's basic parts and executes them.

Marketing plans include timelines for when various marketing techniques will be implemented, a description of the logistics of marketing strategies, and particular strategies to achieve the company's goals. Because they feature product offerings and company attributes that don't vary much over time, marketing strategies often have longer lifespans and serve as an advisor to the marketing plan. Strategies outline how a firm might convert that person into a customer and cover a variety of platforms and locations where it might discover the people it appeals to [4], [5]. Before planning and producing a product or service for potential clients, Marketing Concepts emphasize the necessity of understanding them. Selling and profit objectives would be simply attained if the consumer's desires and requirements were taken into account through the item's production and design. The organization's success depends on the satisfaction of its customers, making it crucial to fully comprehend them.

### 1.1. Seven P's of Marketing:

When talking about selling policy, there is a 7 Ps formula that helps plan market strategy these are position product, packaging, price, place, promotion, and people. Now discuss about the 7 Ps that are given below and shown in the Figure 1.



**Figure 1: Illustrating the Seven P's of the Marketing.**

#### 1.1.1. Product:

This mentions the production of the commercial that is produced to satisfy the essential requirements of the customers, or it is an item, a source, or a combo together. The customer looked at these aspects of the products that are quality, brand, features, availability, warranties, and customer service of the product [6].

#### 1.1.2. Price:

To convince the customer to take product, have to decide how alter the price structure. Sales terms and strategies may be needed to be adjusted from time to time. Sometimes extending the price finished several years or months enables to sell considerably more than now doing, and the level can gather more than makes up for the amount of time must wait before collecting money. There are times when can mix items and facilities with special proposals and advertising. Users occasionally offer complimentary extras at no additional expense, which will make the rates appear much more appealing to consumers [7].

#### 1.1.3. Promotion:

The company can tell about the products and services to the customer in many ways. A small change in the promotion of the product can change the result of the selling product price in the marketplace. Every sector of the economy, including small and big companies, is continuously testing different methods to the marketplace, communicate, brand, and sell its items and facilities [7].

#### 1.1.4. Place:

The place stage is the part of the marketing mix that makes sure that the item is supplied and available for the consumer in the right place at the right period of the customer. Ensuring that clients may access goods and services in the proper settings and at the proper times. Place

strategy, a strategic component of the marketing mix, is concerned with how a company should market and sell its products and services [7].

#### *1.1.5. Packaging:*

Small adjustments to the packing of the product or exterior presence of the items or facilities can frequently result in totally different reactions from goal market. The packing of the product of the company, or facility, should take into account all that the consumer looks at from the moment of the first interaction with the corporation all the methods through the buying procedure [7].

#### *1.1.6. Positioning:*

Develop the thinking about the positioning in the customer's heart. A positioning plan is a group of steps taken to improve the reputation and visibility of a company, brand, or product. Product managers should anticipate how the market will perceive their products because, in reality, only the customer's perceptions matter. After all, an item has a life of its own. Product isn't there if a customer isn't looking at it. Effective promotional strategies focus on the product's potential development in the area of ideal future state as well as its existing state [7].

#### *1.1.7. People:*

People include staff, consumer service, salespeople, and anyone involved in the marketing process or sales processes. They are referred to as customer service personnel. They are crucial for the success of marketing since the quality of their service impacts client happiness and loyalty. The seven Ps of marketing provide a foundation for marketing planning and a vital approach to successfully advertise to target audience. The 7Ps assist businesses in reviewing and outlining important factors that influence how they sell their goods and services. A well-known marketing strategy, is also known as the 7Ps framework for digital marketing strategy.

The paper describes the marketing strategies and seven P's that helps to satisfy the customer requirement and need. The literature from the previous study is discussed in the literature review section, and in discussion section discuss about the marketing strategies, the ways of satisfying consumer requirements, and the advantages of marketing strategies are shows and finally, the study findings are discussed in the conclusion.

## **2. LITERATURE REVIEW**

Waqar Badshah [2] discussed the significance of customer satisfaction and the variables that influence consumer preferences to consider the key features of customer value relative to the furniture supplied by a Romanian company. The methodology used by the authors was an interpretation of the results, with the conclusion of their study being that an area is undergoing a transformation as a result of new technologies, as clients are remodeling their homes by embracing the most recent interiors design trends need to prepare from and want to make better use of the available space.

According to the Adegbuyi Omotayo [5] et al. Nigerian experience in terms of application of the company's marketing objectives and achievement of the intended customers' requirements. The goals of that study was to determining the impact of product quality on competitors' market strategies and examining the relationship between marketing concepts and meeting customer needs. The methodology used by the author is hypothesis and interpretation. The results showed that, among other things, there is a high correlation

between the application of marketing concepts and consumer pleasure, and that a company's quality of product can have an impact on the business practices of its competitors.

Lena Elliman [8] conducted a researched on the role of selling combination in structuring consumer satisfaction and reliability about key instruments intended to achieve business goals by creating strategic benefits that are utilized to service the national market, designers must have a detailed marketing strategy while promoting their goods to build client faithfulness. Established on theoretic studied and information from earlier experiential exploration that study explored how the marketing mix contributes to increasing consumer happiness and loyalty. The findings of their study revealed that providing a variety of items to meet consumer wants is a marketing strategy that must be taken into account. By featuring company items on social media sites, online marketing may be used to learn more about consumer preferences and needs.

Mons F. S. [9] et al. conducted a researched on how company's marketing plan affects and how customers are involved in the creation of new products. Three aspects of a marketing plan require special attention these are product distinctiveness, competition direction, and brand analysis focus. To better understand the used methodology for the interactions between Norwegian providers and foreign buyers, a survey using quantitative inquiries was employed. After researched author findings that Customer involvement is positively impacted by two aspects of marketing strategy are product distinctiveness and competitive orientation. Customer participation also has a good association with specific investments made for the relationship, and customer involvement boosts customer profitability.

Sahar J. Al Q. and Bushra A. Z. [10] identified strategic initiatives that the University of Baghdad Distance Learning Education Center could use to outmaneuver its immediate rivals. The author finds that favorable speech advertising from students to the general community may help the University of Baghdad further sustain its strong place in the distance learning industry. The University of Baghdad is advised to foster trust and demonstrate a commitment to the well-being of students.

Nastaran M. and Dr. Nor H. Z. [11] stated customer relationship management as a strategic policy that combined persons, corporate, and knowledge to know consumer requirements and rising consumer happiness. Each company and corporation depends on its consumers to assist it to develop. The findings of their study revealed that assists managers and businesses in understanding and recognizing the aspects and advantages of Customer Relationship Management (CRM) that are more important to their customers. By paying closer attention to these advantages, they can raise client happiness and retention.

Apuke Destiny Oberiri [12] conducted a research on the effect of marketing policies on Consumers Satisfaction in Nigeria's Bottling Companies. The author included the 117 employees and customers for sample sizes, which were determined by casual sampling. The author's research indicated that 84.6% of consumers buy the business's products because they offer consumer happiness, a customer connection organization strategy, and strong marketing competence. To ensure long-term economic success, consumer loyalty, and retention, the organization should prioritize improving its commercial capabilities, enhance its CRM strategy to better serve its consumers, and continue to be creative in predicting and solving consumer requirements.

Monika Grabowska and Susanne Schwarzl [13] conducted a research on the significance of online marketing and examines the state of the art by examining data from different polls. In that paper, author discussed online marketing, customer behavior, and online marketing strategy. Online marketing provides businesses with a plethora of opportunities. Since the

world is constantly changing, it is essential to constantly design new methods. Because accessing another website requires so little effort, clients may find alternatives from other businesses much more easily online.

The previous paper describe the modalities of different participants in terms of marketing and the various factors in the marketing process and how it helps an organization to convince its customers. The above study discuss the seven P's of the marketing strategies and describe the ways of convincing the customer to purchase the items.

### 3. DISCUSSION

Client satisfaction is simply the measurement of customer's contentment with items or service, when they are pleased, they usually continue to subscribe to company and turn into a devoted client. And when they are overly satisfied, they can become brand evangelists. Each and every brand strives to achieve that. Businesses can determine how well their items are selling by gauging customer satisfaction. It also serves as a predictor of a brand's capacity for expansion. Because a business can predict how it will be perceived by a wider audience based on how existing consumers react.

#### *3.1. Satisfying Customer's Needs.*

Gratifying clients since brand is represented by personnel, and interactions with customers have an impact on business as a whole. Given this, it makes obvious that would want to learn how to encourage client loyalty by meeting their demands.

##### *3.1.1. Understanding the customer's needs:*

Every successful business is based on understanding and meeting the demands of the customer, whether it sells items to customers directly or through other businesses. Once consumers become aware of this, they may use it to persuade both current and potential customers that working with a business is in their best interests. A customer's needs are what direct their decision-making process. The consumer's desire is what drives them to choose one product over another when making a purchase. Businesses study consumer needs to create better products, marketing strategies, and customer service.

##### *3.1.2. Understand Customer Needs and Qualities:*

The customers' needs motivate them to purchase the products and are the eventual factor that regulates which resolution the customer purchases. The company has to understand the needs of the customers to make their product according to the desire of customer requirements.

##### *3.1.3. Understand the Strategy of Competitors:*

To understand the customers' requirements, need to understand the strategies of competitors that are selling the same product by checking their online reviews, and talking to their customers. Manufacturing the items, facilities, and advertising in a different way from the opposition can be assisted by being aware of who and what competitors are presenting and setting inexpensive prices, and using struggles to counter challenging marketing promotions.

##### *3.1.4. Always Take the Customer's Feedback:*

Feedback from customers is the information, thoughts, concerns, and recommendations that fellows of company have shown regarding their communications with corporate, services. This client comment helps businesses enhance customer satisfaction and can spur beneficial change, even when it's unfavorable.

3.1.5. *Be Honest when Talking to the Customer about the Product:*

Customer contact is the same as other forms of communication and must be honest and sympathetic if want it to last. If want to earn customer's trust, must be open and truthful. They must be fully informed on what to expect. By exhibiting comprehension of their issues and acting where it is practicable, may establish a strong connection with them.

3.1.6. *Make it Easy to the Customers to Give their Complaints:*

Receiving criticism, looking into the reason for the problem, and fixing it all while interacting with the client in a manner that makes them sense heard is the process of customer complaint resolution. Encouragement of customer complaints will assist businesses to improve their management and resolution of them as well as urge their clients to submit better and more insightful feedback.

3.2. *Marketing Strategies:*

A marketing strategy is a company policy to achieve its targets for connecting with potential consumers and influencing them to buy the items and services. A marketing strategy contains the rating scheme of the business, significant brand mail, details on the client's objective demographic, and many crucial features. Marketing strategy is used by the company to convince the consumer to purchase their product. It includes everything, from choosing which channels to utilize to contact customers to figuring out who they are. To specify how business positions itself in the market, the kinds of items manufacture, the strategic partners choose, and the kinds of advertising and promotion engage in with a marketing strategy. There are some marketing strategies are described below which are shown in Figure 2.



**Figure 2: Illustrating the Marketing Strategy for Understanding Consumer Desires in Order to Achieve a Company's Objects.**

3.2.1. *Understand Customers and Identify Potential Customer:*

The first step in locating and comprehending potential consumer base is to differentiate current customer base. Customer differentiation is the process of dividing up clientele into several categories based on their geographic, demographic, behavioral characteristics, and

psychographics. A person who may be concerned about the goods and services provided by the company takes products from the company.

### *3.2.2. Analyze Market:*

The evaluation of a marketplace within a particular industry is known as market analysis. For making the company successful analyze the market and find out the need of the customer at present, what they would like to purchase, what are the qualities of the product, and the requirement of the product?

### *3.2.3. Analyze Competition:*

Identify the competitor regarding the product which are going to sell in the market. Create a competitor matrix and gathered information about the competitor of the product. Focuses on the 4 P's of marketing strategies and find out the strength and weaknesses of the company to make product and company successful.

### *3.2.4. Define Market Mix:*

A marketing mix includes numerous areas of attention as part of an all-encompassing marketing strategy. The seven Ps, which originally stood for product, process, pricing, people, place, and promotion, are widely referenced in this expression. Successful marketing speaks on several issues rather than concentrating on just one message.

### *3.2.5. Determine Market Position:*

Determine corporation individuality by associating with participants. Comparison and contrast differences between business and participants to classify chances for making company successful in the market, analyze the competitor position, and develop positioning strategy.

### *3.2.6. Marketing Budget:*

A marketing budget is a tool can use to further company's objectives. If objects are uncertain, take one step back and cooperate with team members to create a current corporate plan. It ought to include aims for the upcoming weeks, years, and months, along with a plan for reaching aims.

### *3.2.7. Execution Plan:*

An official business record known as a marketing strategy serves as a roadmap or instruction manual for how a business will accomplish its marketing objectives. A marketing plan is distinct from a business plan since it places a greater emphasis on market research, client attraction, and marketing methods.

## *3.3. Benefits of Marketing Strategies:*

Various benefits of marketing strategies as shown below:

- The right marketing plan advertises the goods or services to the intended market.
- It aids in the company's comprehension of its clients.
- Marketing tactics make sure that the right message reaches its target audience.
- A successful marketing strategy can boost sales and business.
- Increases both brand and client loyalty.
- A strong marketing plan boosts market share and provides a competitive edge.

#### 4. CONCLUSION

Marketing strategy is important to complete all the needs and demands of the customer from the company, it is important to grow the company growth. Having a variety of items to meet consumer wants is a marketing strategy that must be taken into account. By featuring company items on social networking sites, internet marketing may be used to learn more about consumer preferences and needs. The marketing mix plan that needs to be used in order to boost sales. Mix, promotion, place, and product are likely the four components of the marketing mix that have the biggest impact. Promotion can be added through word-of-mouth, advertising, and brochures in addition to Instagram, Facebook, and WhatsApp. Since this can extend too many consumers and product elements, it is important to understand target market (consumers) in order to determine what they desire. There are a number of short-term and long-term goals to be accomplished in marketing research and actions. It is typically employed to draw customers in the short term, especially In the long run, it is done to preserve existing products to ensure their survival through the development of client pleasure and loyalty. Today, marketing must play a part in the operations of all organizations, whether they are for-profit or nonprofit. The focus of marketing strategy is on a concerted attempt to meet customers' demands and desires while also making money for the business. It holds that multiple market segments can be created based on the needs of consumers. Consumer in any market segment would be more drawn to the goods and services provided by businesses that are most likely to meet their individual needs.

#### REFERENCES

- [1] Indeed, "Marketing Strategies."
- [2] N. Isac, "Marketing Strategy - Tool To Increase Customer Satisfaction Case Study of Romanian Company in Furniture Products," *Rom. Econ. Bus. Rev.*, vol. 14, no. 1, pp. 27–37, 2019.
- [3] M. Alruthia, "ASB- 4006 Marketing Strategy Student name: MUSAB SULAIMAN H ALRUTHIA Student ID number: 500534915," no. April 2020, 2021.
- [4] W. Potter, "Marketing Strategies," *Arguing a Gen. Framew. Mass Media Scholarsh.*, no. May, pp. 72–81, 2014, doi: 10.4135/9781483329864.n5.
- [5] O. J. A. O. A. M. B. T. Kehinde, "Marketing Concept And The Satisfaction Of Consumer Needs: The Nigerian Consumers' Experience," *Res. J. Mark.*, vol. 4, no. 1, pp. 1–15, 2016.
- [6] Oxford, "The Marketing Mix."
- [7] Healthcaresuccess, "the 7 P's of marketing."
- [8] Isoriate, "the Role of Marketing Mix in Building Customer Satisfaction and Loyalty: a Theoretical Study," *Int. J. Res.*, vol. 8, no. December, pp. 118–129, 2021.
- [9] M. F. Svendsen, S. A. Haugland, K. Grønhaug, and T. Hammervoll, "Marketing strategy and customer involvement in product development," *Eur. J. Mark.*, vol. 45, no. 4, pp. 513–530, 2011, doi: 10.1108/03090561111111316.
- [10] B. Ali, "The impact of Marketing Strategy on Customer Satisfaction for E-learning: A Marketing strategies Model Approach," *Int. J. Comput. Sci. Inf. Secur.*, vol. 16, no. March, pp. 95–102, 2018.
- [11] N. Mohammadhossein and H. Zakaria, "CRM Benefits for Customers: Literature Review (2005-2012)," *Int. J. Eng. Res. Appl.*, vol. 2, no. 6, pp. 1578–1586, 2012.
- [12] O. D. Apuke, "The impact of Marketing Strategies on Customers' Satisfaction- A study of Nigeria Bottling Company (NBC) Yola Depot, Nigeria," *Int. J. Acad. Res. Psychol.*, vol. 3, no. 2, 2016, doi: 10.6007/ijarp/v3-i2/2494.
- [13] S. Schwarzl and M. Grabowska, "Online marketing strategies: The future is here," *J. Int. Stud.*, vol. 8, no. 2, pp. 187–196, 2015, doi: 10.14254/2071-8330.2015/8-2/16.

## CHAPTER 14

# PROJECT SYSTEM THAT AIDS DECISION MAKING IN PROJECT MANAGEMENT RESOURCES

---

Satyendra Arya, Associate Professor,  
Department of Teerthanker Mahaveer Institute of Management & Technology, Teerthanker Mahaveer  
University, Moradabad, Uttar Pradesh, India  
Email Id- satyendra\_arya17@rediffmail.com

**ABSTRACT:**Implementation of a decision-support system with decision-making are crucial for the achievement of a project's goal. The information from the inside and outside of a project, and the experience of project managers and specialists, are crucial resources that may help you make a better choice. The problem due lack of decision making in project management such as decreased performance level, lack of communication, poor team work, poor of time management, and absence of structure. Hence the author focusses on significant role of decision making in management such as visualize ideas and analytics, the sum of all individual contributions to ideas, diversity in thoughts, positive and understanding members. In this paper author discuss the challenges of decision making in project management and how to overcome these challenges with different strategies. It concluded that systems for supporting decision making have now been created that enable concurrent simulation in production contexts while integrating real-time control and decision-making. Decision support systems (DSS) in organizations evaluate and synthesize a lot of data to help in decision-making. It produces reports using this information that might anticipate sales and inventory control.

**KEYWORDS:**Decision Support System, Information, Project Management, Resources, Team.

### 1. INTRODUCTION

The procedure created to coordinate a project from beginning to end is known as project management [1],[2]. A project is characterised as a complex system in a complicated environment [3],[4]. The operational and tactical aspects of every project are what bring time, money, and quality into balance. A project's interior comprises of several types of activities that are arranged in the project network [5],[6]. A project has many different, and most importantly, multifunctional, parameters. The project has a set time restriction and is one-time only [7],[8]. It uses up resources including time, money, people, and materials. Coordination and oversight are needed [9],[10]. By producing outcomes, a project succeeds in fulfilling its goals. These outcomes are attained by carrying out procedures or tasks with the assistance of resources. Each action is organised into a process, and the organisation is made up of how the human resources are used. Every project has additional value, risks, and uncertainties; as a result, decisions must be made in a dynamic and unpredictable environment.

An association or business utilizes a DSS, which is programming program, to help choices, decisions, and activities taken [11], [12]. Monstrous measures of information are arranged and inspected by a DSS, which accumulates inside and out data that might be utilized to take care of issues and settle on choices [13],[14]. A DSS habitually utilizes information on track or expected income, marketing projections or past deals information from various time spans, notwithstanding different inventories or tasks related measurements. A DSS is an electronic framework that accumulates, evaluates, and afterward incorporates information to deliver far reaching data reports. A DSS has an unexpected objective in comparison to a run of the mill executable program, which is to gather information as it were. Better choices can be taken, issues can be addressed speedier, and activities, correspondences, and even administration are

taken care of all the more effectively with the utilization of choice emotionally supportive networks. A choice emotionally supportive network gathers, investigations, and afterward orchestrates information to deliver far reaching data reports. Since a DSS is an instructive application rather than a traditional tasks software engineer, which simply gathers information, The DSS can be completely controlled by PCs or by individuals. Both might be utilized in various circumstances. The best frameworks investigations information and settle on decisions for the client's benefit. They essentially empower human clients to answer all the more quickly and insightfully.

### *1.1. Characteristics of a DSS:*

Giving client's information that is simple to understand is the fundamental objective of employing a DSS. A DSS system does have an advantage since it may be configured to produce different reports according to user requirements. For instance, the DSS may produce data and present this data graphically, such as in a bar graph showing predicted income, or textually, like in a report. As technology advances, mainframe computers that are big and cumbersome are no longer necessary for data analysis.. A DSS can be downloaded on most desktop and laptop computers because it is simply programming. A few DSS applications are also available for mobile devices. Customers that often travel gain a lot from the DSS's adaptability. Due to their constant access to information, they are able to make decisions that are optimal for their company and customers when stationary or even in the moment.

The DSS might be utilized by production network the executives and different cycles to accomplish inside an organization to accumulate data and information and afterward incorporate it into significant understanding. As a matter of fact, these stages are fundamentally utilized by mid-to upper-level administration. For instance, a DSS might be utilized to extend an organization's productivity over the accompanying a half year in light of ongoing projections for item deals. Because of the many variables that influence anticipated pay information, this is definitely not a direct calculation that can be performed physically. Be that as it may, reliant upon the organization's set of experiences item deals information and current conditions, a DSS might incorporate every one of the various perspectives and produce an end as well as substitute outcomes.

The present paper is a study about the majority of enterprises require customised, non-standard systems to accommodate the kinds of choices they make, which has been the one significant challenge in the advancement of DSS. Naturally, this means that each decision-support system needs to be unique. This study is divided into several sections, the first of which is an introduction, followed by a review of the literature and suggestions based on previous research. The next section is the discussion and the last section is the conclusion of this paper which is declared and gives the outcomes as well as the future scope.

## **2. LITERATURE REVIEW**

Anna Brown [15] et al. have explained how government public service organizations are increasingly adopting algorithmic decision-making technologies. The author provides a report on workshops that were held to find out the issues that impacted communities had with child welfare services. The workshops were attended by 83 research participants, including service providers, staff from child welfare agencies, and families who had children in the system. Its findings show that widespread scepticism of the present system is a major factor in the limited familiarity with computational decision-making. Identifying ways to increase comfort via enhanced communication and greater openness was the outcome.

Mohammad Shibli Shahriar [9] et al. have explained that utilizing forecasting techniques because part of project assessments is a crucial responsibility since without doing so, it would be impossible to make the necessary financial decisions. The previous study aims to provide a thorough overview of the forecasting methods that might help a specific project with its financial decision-making needs. Markov pert analysis is a method that has lately been employed to precisely estimate project completion time and expense. It has been found that the type and context of the project have a significant impact on how well different financial forecasting approaches, such as the S curve, may be applied to evaluate the project. The dependability of the warning signals produced by any forecasting methodology should be used instead of only the quantitative error margins while making financial choices.

Hirushie Karunathilake [16] et al. have explained the idea of creating towns powered entirely by renewable energy (RE) sources has gained popularity. The project's objective was to create a decision-making framework based on life-cycle thinking that really can effectively convey the difficulties and practical demands of creating a community-level energy infrastructure while giving decision-makers the opportunity to take their own priorities into account.

In order to take into consideration conflicting needs, stakeholder priorities, and significant ambiguity, a fuzzy multi-criteria decision-making technique was utilized to evaluate the technologies. The results show that the overall allocated ranking alters in the alternative choice situation with technological ratings as that of the RET with better resource quality as well as a lower technology hazard beats the competition. The implications of system variability over time must be further assessed from a dynamic systems perspective in order to make the optimum energy decisions.

Morteza Yazdani and Pascale Zarate [17] has explained how a particular body of knowledge will gain benefits and values as a consequence of the reasonable and meaningful implementation of several concepts and strategies in the field of decision-making processes. With the help of several aggregation techniques, it presents a combined compromises decision-making process. The supply chain project the authors were working on involved picking logistics and transportation businesses in France.

Compared to other Multi-Criteria Decision-Making (MCDM) techniques, the algorithm has a distinctive structure. The authors have taken into account the distance metric, which originates from the fuzzy membership coefficients and tries to enhance the flexibility of the results. Finally, suggest extending this strategy to include ordinary fuzzy sets, interval arithmetic, neutron-sophist, even hesitant fuzzy sets.

Jianming Zhan [18] et al. have explained that three-way decisions (3WD) may successfully reduce decision risks by providing a new delayed decision alternative, in contrast to two-way decisions (2WD) (2WD). Based on an outranking relationship, the researcher who created this study includes 3WD within multi-attribute decision-making (MADM).

A hybrid informative table that combines a MADM matrix and a loss function column has been provided, and the entirely outclassed set for each option has been constructed. It provides three methods for creating a brand-new 3WD architecture for MADM.

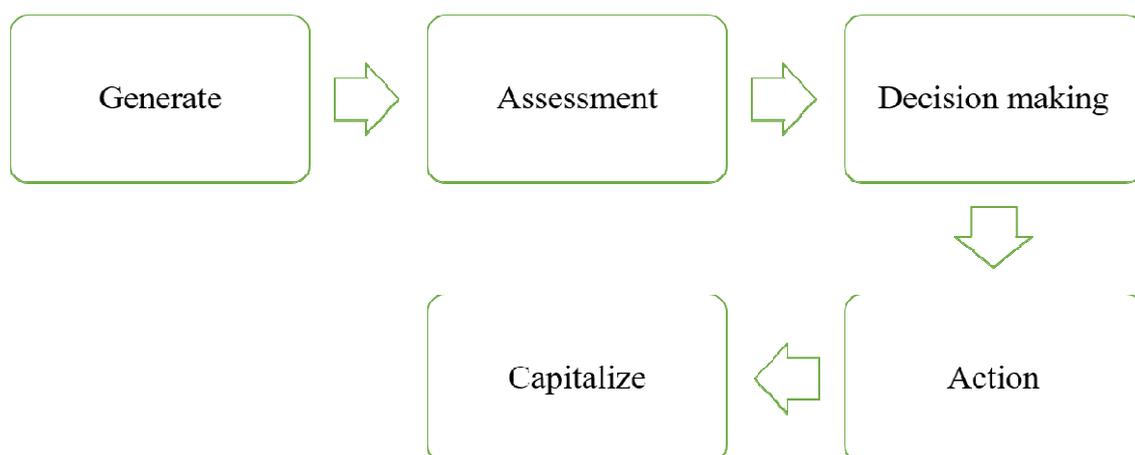
The findings show that the proposed 3WD approach is practical and effective in handling the company investment proposal destination selection problem. In conclusion, in a hybrid informational index, it is conceivable to analyze the loss function depends on fuzzily defined variables, linguistic expressions, and other ambiguous assessment values.

The above study shows the how government public service organizations are increasingly adopting algorithmic decision-making technologies. And also the idea of creating towns powered entirely by RE sources has gained popularity. In this study, the author discussed the importance of decision making in project management, and challenges of decision-making in project management.

### 3. DISCUSSION

People make a vast variety of choices, moves, and considerations in both daily life and projects. It might take an extremely long time or be immediate, but it always follows the same progression of phases. Generally speaking, there are five phases: Generation of possible solutions through the creative phase and methodical examination. It is a phase of selection, production of potential solutions, and removal of impractical options, and it requires both creativity and discipline. Knowledge of the relevant facts and information, as well as familiarity with historical solutions to comparable problems, might help at this step. The evaluation of prospective solutions throughout the subjective and synthetic phase: It is a step of sorting, where potential solutions are categorised based on conscious and unconscious criteria. Therefore, this phase theoretically depends on: understanding of the selection criteria and their relative weights.

The choice must be made between various solutions, decisions, and even models and approaches to apply after the prospective solutions have been categorised. The decision's application is the procedural step. Therefore, a choice made during this phase may be summed up as a process that must be followed once it is made, with the process differing depending on the type of decision. The last yet crucial stage: capitalising the decision this stage is essential since it determines whether the choice was made correctly. The purpose of capitalization is to preserve a record of what happened so that all relevant information may be reused in the future. A decision is an elemental, irreversible procedure that alters the project's status or shifts its orientation to a new equilibrium state in Figure 1. As a result, decisions have effects that might be positive or detrimental.

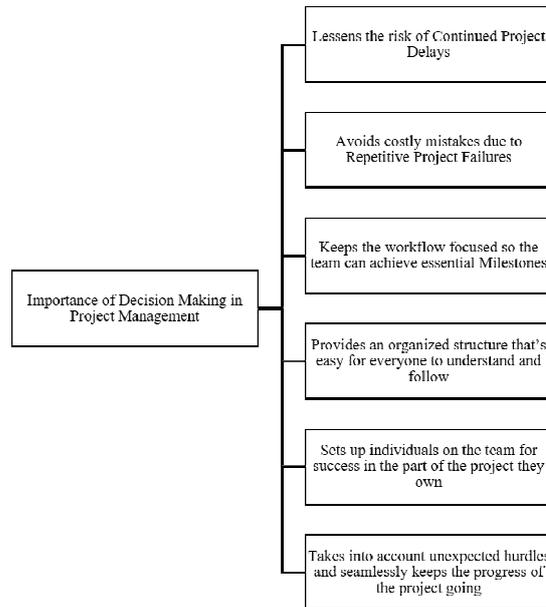


**Figure 1: Illustrates the Phases considered when making a Decision in General.**

#### *3.1. Importance of decision making in project management:*

How another individual (and the team) feels about a project may be significantly impacted by the way choices are made throughout. Unfortunately, it can also result in a wide range of workflow issues and misunderstandings amongst people. In order to create realistic goals along with the organization's purpose and preserve flexibility for any unanticipated events

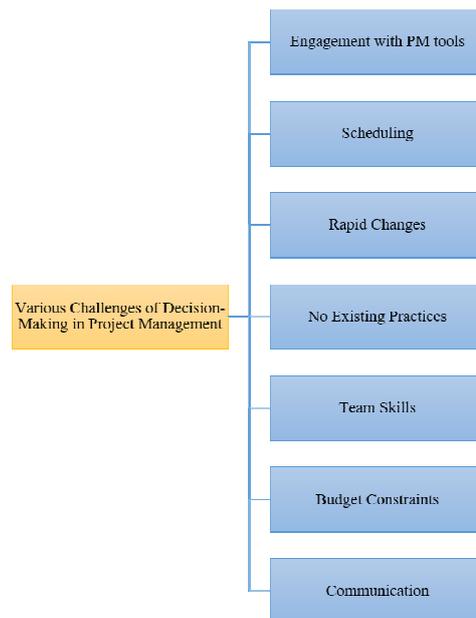
over the project's entire life cycle 5 Figure 2, effective decision-making is essential to adhere to a framework that keeps the team moving forward.



**Figure 2: Illustrates the Importance Decision making Project Management.**

*3.2.Challenges of Decision-Making in Project Management:*

High Cost of Poor Performance in PMI's Pulse of a Professions Only 42% of businesses say they have projects that are strongly aligned with their organisational goals or business strategy. In comparison to previous year, at least 29percent of organisations report that their initiatives are more aligned this year. In other words, the organisation will have less success if the project's objectives do not coincide with the broader business plan in Figure 3.It's essential to comprehend the obstacles that prevent effective decision-making in the workplace in order to aid overcome some of the inescapable issues associated with project management are:



**Figure 3: Illustrates the various Challenges of Decision-Making in Project Management.**

### 3.2.1. *Engagement with PM tools:*

For more efficient project management, a lot of this depends on how acquainted and at ease people are utilising the company's selected technologies. In the workplace, utilising new technology and adjusting to its different upgrades is a common difficulty. To address this, new and more experienced members of the team should continue to place a high focus on learning and development to maintain their expertise current. A team will quickly fall behind and be incapable of effectively utilise these resources for their (as well as the company's) interest if they are unable to keep up with rapidly changing technology. For instance, on the off chance that another partner isn't thoroughly prepared on the stages utilized it to follow the advancement of an undertaking, such absence of understanding and contribution with both the instrument might create disturbing setbacks. They couldn't comprehend how to extend to an update or whenever to name an employment opportunity as gotten done, which would keep the undertaking supervisor from rolling out the fundamental improvements to the schedule and illuminating the important accomplices. This has an unwarranted, detrimental cascade effect on the entire team.

### 3.2.2. *Scheduling*

Scheduling conflicts are common, especially when a company is juggling several projects at once. This is taken into account by an effective project manager (PM) when suggesting and putting in place a timeframe that is workable for everyone. Issues arise when there is resistance with regards to resynchronizing every one of the expected schedules and tenderizing in the fundamental assets to allow a consistent pipeline of simultaneous tasks. These incorporate requests of numerous different undertakings and what they mean for specific gatherings.

### 3.2.3. *Rapid changes:*

Throughout one project's life cycle, changes are constant. Customers or clients from outside the organisation may have certain requirements that differ from the norm. Internal management may occasionally adjust processes in an effort to find better and more efficient ways to complete certain duties. The project manager must be able to conduct in-depth discussions about the adjustments and find solutions that are advantageous to everyone involved in conjunction with the project's main participants and leadership. When project requirements are frequently outside of standard procedures, it becomes difficult for the team to function. Due to the workflow being slowed down, there will be a backlog on work unless a solution is discovered. The team might not be able to generate outcomes of a high standard if this occurs simultaneously on several projects. The team needs to be honest about its capabilities in order to go through this kind of obstacle.

### 3.2.4. *No existing practices:*

On several times, businesses are trying out new procedures and approaches to see which works best for their personnel. Stronger decision-making may be hindered because this process is frequently time-consuming and requires constant feedback from all parties involved about what is and isn't working. Managers may approach problem-solving differently, or the procedure may need to be tried out several times first before team finds its groove.

### 3.2.5. *Team skills:*

The resources at hand, particularly the team's skill set, might be one of the major obstacles to making good decisions in project management. The individuals working on a project

determine whether it will be successful. In order to ensure success and prevent errors, the team needs to be able to depend on one another to carry out their individual responsibilities. Managers should be aware of their immediate reports' abilities (and provide training for areas that need improvement) in order to foster effective teamwork. They must also offer them responsibilities that encourage their professional development. Ensuring the perfect individuals are in the right situations to propel the undertaking effectively is a significant stage in the dynamic methodology. Moreover, to fill any holes in the ongoing group structure and offer additional help, administrators must have the option to distinguish when to fill places that need specific ranges of abilities.

### *3.2.6. Budget constraints:*

Budgets serve as a roadmap for how to proceed, helping to identify which initiatives should be prioritised and which could be taking up too much time without providing enough benefit. Additionally, it may detect which resources are already in use and which need to be distributed to other departments of the business. Simply said, budgets may assist a business determine what is feasible. The administration group should know about its monetary status to settle on informed choices for the short and long haul to guarantee compelling activities, proceeded with development, including extension. Making a realistic budget which accounts for all of the component expenses of a project is another difficulty. If not carefully organised, a more constrained budget may make it more difficult for some teams to do their task effectively.

### *3.2.7. Communication:*

Poorly communicating businesses frequently foster a work atmosphere where employees struggle to maintain attention and motivation. Since project the executives fundamentally relies heavily on how effectively a group conveys among itself to get done with a responsibility and address issues as they arise, any breakdown in correspondence among supervisors and staff can likewise have serious outcomes that rise above all through project the board. There are ways of making project the executives more compelling, notwithstanding the way that there are many difficulties that could adversely influence the group's ability to simply decide.

### *3.3. DSS and Project Management:*

A significant number of the models created in the 20th hundred years, such Sprightly and CPM, have been integrated into choice emotionally supportive networks as a technique for consolidating an electronic data set containing verifiable data. The usage of functional, restrictive, and prescient information is additionally predominant. These models utilize this information to smooth out project arranging and the executives while further developing reaction to changing authoritative and ecological requests. In truth, the presentation of the microcomputer made project-the executive's innovation, a particular execution of choice emotionally supportive networks, reasonable and accessible for even tiny organizations. Many of the conventional concepts are utilised by these software programmes to assist managers in creating plans for assets and activities, keeping track of schedules, monitoring material and supply levels, and identifying possible schedule breakdowns. This is completed determined to redistribute assets as fast as could really be expected, ordinarily on the suggestion of the undertaking the executives framework. These are a couple of instances of the assistance a DSS could give the undertaking supervisor.

### 3.4. DSS and Alternative Decision Criteria:

In spite of the fact that there are numerous standards for making decisions, streamlining and satisficing are the most widely recognized ones. Streamlining, the purported level headed financial dynamic interaction, can happen on the off chance that all potential results are perceived and related values are perceived. This is very implausible since they could choose to maximise the expected value of the findings as opposed to the results them self in uncertain scenarios. The manager can determine a condition of near-optimization with the use of DSS models. A very wide number of possibilities may be swiftly and easily evaluated using modelling and simulation abilities offered by specialized decision support systems.

It is just necessary for anyone to create the numerous scenarios. By using a DSS like this, company can exclude all but the most important options. You'll see that the DSS takes into account a number of qualitative criteria in addition to quantitative data. Users provide these as inputs to help us focus our search. This approach more accurately approaches satisficing, a purported organizational decision-making strategy. With this approach, the decision-maker just selects one of the possibilities from the subset about that they have reasonably complete information. They are options. Once more, the DSS offers the critical assistance required for people to choose the finest from the competing options.

### 3.5. Improvement of DSS in Future:

In the future it can expect three major areas of improvement of DSS for the project manager are.

#### 3.5.1. More variety:

For every one of the many project management activities, a greater range of models will be shown. This will make it possible to combine the various components into a single solution that is suitable for each DSS user. User will be able to choose a system from of the modules that best suits your requirements. This will provide the decision support environment's much-needed adaptability and personalization for both businesses and individual users.

#### 3.5.2. User-friendliness:

The user-friendliness of decision support algorithms will increase. This is crucial in order for people with less expertise to get more. A growing number of intelligent users who are aware of the outstanding strength and worth of such systems will accompany this user-friendliness. These new models will be employed by managers to their greatest advantage in both routine and exceptional situations.

#### 3.5.3. Lower cost:

The advantages of DSS will be accessible to more and smaller enterprises as the cost of standardised decision support software steadily decreases. As a result, even the simplest and least expensive initiatives will have managers with higher levels of expertise. The DSS software will be as vital for organisations that previously hadn't invested much formally in project management as even the microcomputer is now.

## 4. CONCLUSION

The theories around decision-making as well as the decision-process are numerous, there are several models, ranging from intricate mathematical ones to simple word structures that offer assistance and direction for decision-making. Making project management decisions can be difficult. A project's performance is greatly influenced by the decisions that the team

members make. It's crucial to comprehend project management decision-making instances and how they might help you make the ideal decisions for your team and corporation. The claim that a corporation performs better in modelling complex project management decisions the more mature it is based on the belief that more mature levels are advantageous for decision models. Companies with greater degrees of maturity have project management platforms that enable them to use important documents and data while making decisions. However, the decision support instrument should assist mature businesses, the majority of which lack such information systems, in organizing and modelling project data. The decision-support system must facilitate remote issue resolution and assist in resolving stakeholder conflicts for maturity levels, which are traits of businesses that grow over organization initiatives. The decision support system has to be flexible to accommodate professionals with limited project management experience and transdisciplinary issue solving.

## REFERENCES

- [1] S. Farshidi, S. Jansen, R. de Jong, and S. Brinkkemper, "A decision support system for software technology selection," *J. Decis. Syst.*, 2018, doi: 10.1080/12460125.2018.1464821.
- [2] K. Farooq, B. S. Khan, M. A. Niazi, S. J. Leslie, and A. Hussain, "Clinical decision support systems: A visual survey," *Inform.*, vol. 42, no. 4, pp. 485–505, 2018, doi: 10.31449/inf.v42i4.1571.
- [3] A. S. Negm, O. A. Hassan, and A. H. Kandil, "A decision support system for Acute Leukaemia classification based on digital microscopic images," *Alexandria Eng. J.*, vol. 57, no. 4, pp. 2319–2332, 2018, doi: 10.1016/j.aej.2017.08.025.
- [4] D. Zikos and N. Delellis, "CDSS-RM: A clinical decision support system reference model," *BMC Med. Res. Methodol.*, 2018, doi: 10.1186/s12874-018-0587-6.
- [5] B. Kloör, M. Monhof, D. Beverungen, and S. Braäer, "Design and evaluation of a model-driven decision support system for repurposing electric vehicle batteries," *Eur. J. Inf. Syst.*, 2018, doi: 10.1057/s41303-017-0044-3.
- [6] S. G. Fashoto, O. Amaonwu, and A. Aderenle, "Development of a decision support system on employee performance appraisal using AHP model," *Int. J. Informatics Vis.*, 2018, doi: 10.30630/joiv.2.4.160.
- [7] N. Mileu and M. Queirós, "Integrating risk assessment into spatial planning: RiskOTe decision support system," *ISPRS Int. J. Geo-Information*, 2018, doi: 10.3390/ijgi7050184.
- [8] Y. Zhu, "A data driven educational decision support system," *Int. J. Emerg. Technol. Learn.*, 2018, doi: 10.3991/ijet.v13i11.9582.
- [9] A. M. H. Pardede *et al.*, "Framework for patient service queue System For Decision Support System on Smart Health Care," *Int. J. Eng. Technol.*, 2018, doi: 10.14419/ijet.v7i2.13.16915.
- [10] Y. Böttiger *et al.*, "Development and pilot testing of PHARAO—a decision support system for pharmacological risk assessment in the elderly," *Eur. J. Clin. Pharmacol.*, 2018, doi: 10.1007/s00228-017-2391-3.
- [11] B. G. Hwang, M. Shan, and K. Y. Looi, "Knowledge-based decision support system for prefabricated prefabricated volumetric construction," *Autom. Constr.*, vol. 94, pp. 168–178, 2018, doi: 10.1016/j.autcon.2018.06.016.
- [12] S. Khairat, D. Marc, W. Crosby, and A. Al Sanousi, "Reasons for physicians not adopting clinical decision support systems: Critical analysis," *JMIR Medical Informatics*. 2018. doi: 10.2196/medinform.8912.
- [13] L. Légar, S. Van Laere, M. Nyssen, S. Steurbaut, A. G. Dupont, and P. Cornu, "Clinical decision support systems for drug allergy checking: Systematic review," *Journal of Medical Internet Research*. 2018. doi: 10.2196/jmir.8206.
- [14] E. G. Stone, "Unintended adverse consequences of a clinical decision support system: two cases," *J. Am. Med. Informatics Assoc.*, 2018, doi: 10.1093/jamia/ocx096.
- [15] A. Brown, A. Chouldechova, E. Putnam-Hornstein, A. Tobin, and R. Vaithianathan, "Toward algorithmic accountability in public services a qualitative study of affected community perspectives on algorithmic decision-making in child welfare services," *Conf. Hum. Factors Comput. Syst. - Proc.*, pp. 1–12, 2019, doi: 10.1145/3290605.3300271.
- [16] H. Karunathilake, K. Hewage, W. Mérida, and R. Sadiq, "Renewable energy selection for net-zero energy communities: Life cycle based decision making under uncertainty," *Renew. Energy*, vol. 130, pp. 558–573, 2019, doi: 10.1016/j.renene.2018.06.086.

- [17] M. Yazdani, P. Zarate, E. Kazimieras Zavadskas, and Z. Turskis, “A combined compromise solution (CoCoSo) method for multi-criteria decision-making problems,” *Manag. Decis.*, vol. 57, no. 9, pp. 2501–2519, 2019, doi: 10.1108/MD-05-2017-0458.
- [18] J. Zhan, H. Jiang, and Y. Yao, “Three-Way Multiattribute Decision-Making Based on Outranking Relations,” *IEEE Trans. Fuzzy Syst.*, vol. 29, no. 10, pp. 2844–2858, 2021, doi: 10.1109/TFUZZ.2020.3007423.

## CHAPTER 15

### A COMPARISON BETWEEN THE BUSINESS TO BUSINESS AND BUSINESS TO CONSUMER MANAGEMENT

Avinash Rajkumar, Assistant Professor,  
Department of Teerthanker Mahaveer Institute of Management & Technology, Teerthanker Mahaveer  
University, Moradabad, Uttar Pradesh, India  
Email Id- avinashtmimt1982@gmail.com

**ABSTRACT:** *Business-to-Business (B2B) order management entails keeping track of the orders customers make with your company and overseeing the essential fulfillment procedures on their behalf. The process of performing direct quality of goods and services between such a company and the clients who will eventually use those product or service is known as business-to-consumer (B2C). The issue with B2B marketing sales and profit includes weak leadership, an absence of structure, a lack of a sales process, multiple decision-makers, lengthy sales cycles with several touch points, and numerous opportunities for error. As a result, the author focuses on comparing business-to-business and B2C transactions using several characteristics. It found that a B2C customer is more inclined to be passionate and susceptible to purchasing things on a whim or in the heat of the moment whenever it comes to selling their product. B2B customers, however, will be far more sensible and focused on making smarter business decisions. B2B buyers won't be considering simple customized items. It was concluded that whenever the two business concepts were combined, they covered the whole business process. B2B refers to businesses who provide their services to other businesses while adding value. Although B2B firms have been later to adopt ecommerce compared their B2C counterparts, they nowadays are increasingly seeking for digital business strategies to boost sales.*

**KEYWORDS:** *Business to Business, Business to Consumer, Companies, Consumer, E-Commerce, Marketing.*

#### 1. INTRODUCTION

A B2B connection is a particular kind of partnership between firms, often known as a B-to-B transactions. A transactions between a manufacturer, distributor, and retailer are two examples [1], [2]. Transactions between firms, as contrasted to those between such a business as well as a particular consumer, are referred to as business-to-firm transactions [3], [4]. B2B service charges contrasted between business-to-consumer (B2C) and business-to-government (B2G) interactions [5], [6]. A negotiation or interaction between two businesses, such as a wholesaler and the retailer, is referred to as business-to-business (B2B) [7], [8]. Generally, B2B transactions occur in the supply chain when one firm purchases raw materials from another in preparation to use them for manufacturing [9],[10]. B2B transactions are typically conducted by businesses in the automotive industry, management firms, housekeeping, and industrial cleanup [11], [12]. Contrarily, B2C purchases are those that happen between a business and a single customer [13], [14]. A typical supply chain entails routine business dealings as corporations purchase parts and goods, including other raw materials, to be used in production. Following that, businesses and private individuals can purchase and resell finished goods. These are business-to-business networks, including social media that link workers of various companies. A B2B communication is one that takes place between employees of two or more distinct businesses.

Manufacturing businesses frequently engage in business-to-business relationships and have extensive company portfolios. Hyundai, for instance, serves as one of Apple's key suppliers for the iPhone. iPhone has business-to-business relationships with a number of companies, including Micron Technology, Intel, Hyundai, and semiconductors maker Samsung. B2B transactions were essential to the automobile industry's viability. Numerous separately

produced vehicle parts are bought by automakers to put automobiles together. For instance, several businesses regularly produce and sell tires, hoses, battery, electronics, as well as central locking via automakers. Service providers also conduct B2B transactions. For example, organizations that specialize in industrial cleanup, management company, and housework may exclusively market to other corporations and do not serve private clients.

B2C refers to the procedure of a business selling goods and services directly to the customers who will ultimately utilize them. B2C firms are those that sell largely to customers directly. Whenever the dot-com bubble burst in the mid-1990s, the term B2C gained huge popularity, it was largely used to represent online retailers that provided services and products to clients online. B2B and B2C are quite different company models since they deal with business-to-business trade. B2C marketing describes the practice of businesses selling goods and services directly to customers rather than through a middleman. B2C refers mostly to online merchants who use the internet to sell products and services to customers. Online B2C posed a threat to traditional shops that profited by boosting prices. But companies like Amazon, eBay, and Priceline have thrived and ultimately destroyed whole sectors. B2C sales techniques are among the most well-liked and well-known sales procedures. In 1979, Michael Aldrich made the phrase B2C widely known by relying mostly on television for his customer communications.

In the past, the term B2C has been employed to describe pay-per-view movies, dining out, mall shopping, even TV advertisements. E-commerce, or perhaps the act of buying and selling products and services online, is a fresh B2C company model made necessary by the expansion of the internet. Regardless of the fact that many B2C companies failed in the subsequent dotcom catastrophe as investor confidence in the sector dwindled and venture capital investment gone dry, B2C giants such as Amazon and Booking withstood the market correction as well as have since had exceptional success. Any firm that relies on B2C sales should maintain good customer relations to ensure repeat business. Businesses that rely upon B2C marketing typically evoke an emotional response from their consumers as opposed to B2B marketing initiatives, which try to demonstrate the importance of a service.

The present paper is a study about the comparison the characteristics of B2B and B2C with their challenges. This study is divided into several sections, the first of which is an introduction, followed by a review of the literature and suggestions based on previous research. The next section is the discussion and the last section is the conclusion of this paper which is declared and gives the result as well as the future scope.

## 2. LITERATURE REVIEW

Rekha and Pooja Jain [15] has explained how managing consumers has always been a difficult undertaking for marketers. In order to better manage consumers, the author evaluates the most prominent technology acceptance models to anticipate Indian vehicle purchasers' intents to utilize digital communication when making a purchasing choice. 801 automobile purchasers from Delhi, including real and future buyers, provided the primary data. In order to assess and compare the models' general fit, explanatory power, and importance, structural equation modeling were utilized. The study's results suggest that marketers may utilize the Decomposed Theory of Planned Behavior to better manage consumers by using it to explain the uptake of electronic technology. In conclusion, digital marketing communications has the capacity to overcome obstacles caused by cultural and demographic disparities as well as stereotypes about communication.

Yu Chang [16] et al. has explained that although scholars have given business-to-business branding a lot of attention, practitioners are sluggish to adopt brand approaches. The primary

emphasizes the part brand orientation plays in converting organizational and managerial capabilities into excellent brand performance. In particular, that study adds to the body of knowledge by examining the variables that affect managers' branding orientation adoption and the mechanisms through which B2B branding might affect brand performance. Using information gathered from 166 Chinese industrial companies that operate across a range of industrial sectors. It was found that organizations looking to foster brand orientations should encourage strategic entrepreneurship between their senior executives. In conclusion, In order to fully realize the benefits of B2B branding, executives must overcome the risk-averse propensity of strategic decision-making.

Uthayasankar Sivarajah [17] et al. has explained how many digital developments, such as the evolution of the online phenomenon, contribute to the digital transformation. Author has introduced gap filled by qualitative approach research, which develops taxonomies that emphasize the advantages of participation web over passive web for different organizations to participate in business operations. It also draws conclusions from manager interviews. Management and advertising, two crucial interconnected corporate processes, have been mapped across three sustainability criteria for this aim. It demonstrates how big data and social networking sites analytics may help B2B firms become profitable and continue to be sustainable through tactical operations and business-related marketing initiatives. In conclusion, that information is valuable for managers and academics who want to learn more about and advance the commercial usage of participatory online technologies to achieve corporate sustainability.

Oriol Iglesias [18] et al. has explained how corporate brand identity has generally been seen as something managers direct and control. To better understand the process for co-creating company's brand identities, they used a case study method with a variety of cases, encompassing five smaller and medium-sized B2B corporate brands. B2B corporate brands were chosen by the author to represent the co-creation approach because of how frequently they are built on strong, lasting relationships with a number of stakeholders. According to the result, co-creating corporate brand characteristics in B2B environments is an ongoing, dynamic process that includes a number of internal and external participants. Managers should put focus on using effective channels for communication in order to spread the company brand identity and align their operations with it.

Thomas Rittera and Carsten Lund Pedersen [19] has explained that the use of data in brand management does not represent a new occurrence, B2B businesses have recently paid a lot of attention to the digitization of marketing approaches. In his historical evaluation of such studies, the author comes to the realization that research on digitization in B2B marketplaces has been undertaken for a long time and is not a recent phenomenon. It first establishes a description for digitization capability in order to explain how an industry's digitization competence connects with its corporate plan to allow data-enabled advancement. It was found that the maximum capabilities of digitization in industrial partnerships has not yet been fully utilized by industrial marketing. The creation of a scale that scientifically measures digital enterprise models will be a crucial first step in the process of comprehending this phenomena.

The above study shows the how managing consumers has always been a difficult undertaking for marketers. And also the digitization of marketing strategies for business-to-business enterprises have recently drawn a lot of attention, even if the use of data in marketing management is not an new phenomena. In this study, the author discussed the challenges of B2B and B2C management and their advantages in businesses.

### 3. DISCUSSION

The main goal of marketing, which encompasses a variety of activities, is to increase sales. Both B2B and B2C business and marketing approaches aim to increase revenues, but this does not imply that they are similar in any other way. The term B2B refers to a particular type of commercial transfer of funds when things are bought and sold between two separate corporate organizations. Examples of B2B transactions includes when one business offers support to another or when one business supplies raw materials to another for manufacture. Selling goods and services directly towards clients is a different business model known as B2C. Businesses classified as B2C are those whose customers utilize their products and services directly. There are many important comparison between B2B and B2C in Table 1.

**Table 1: Illustrates the comparison between B2B and B2C based on different parameters.**

S.NO.	Based on Comparison	B2B	B2C
1	Meaning	It involves the promotion of products and services between two business groups.	It transactions refer to business sales of products and services to customers.
2	Relationship	Supplier - Manufacturer	Relationship
3	Customer	Company	End user
4	Buying Decision	Reasonable and organized, based on requirements.	Passionate and driven by desire and want.
5	Focus on	Relationship	Product
6	Buying and Selling cycle	Lengthy	Short
7	Quantity of merchandise	Large	Small
8	Relationship horizon	Long term	Short term
9	Creation of Brand Value	Complementary Relationship and Confidence	Publicity and Marketing

#### *3.1.Challenges of B2B Management:*

A business-to-business transactions is an agreement that takes place between two firms, such as a manufacturer company and its suppliers. Making judgments can be difficult due to the large number of business-to-business contacts. Businesses in the business-to-business industry are concentrated on creating strong personal connections with the various parties involved in the deal due to the small size of each of the target audience. The various challenges in B2B management are:

##### *3.1.1. Global supply chains are complex and growing:*

There are now several options to finish orders and distribute packages throughout the world, including third-party logistics (3PL) suppliers, drop shipping businesses, and conventional in-

house supply chain techniques. Depending on the services package that decide upon with a 3PL, you will send frequent shipments of merchandise to chosen logistics provider, who will then manage all order delivery, refunds, freight forwarding, and sometimes even order fulfillment. Bookings and deliveries are forwarded to a supplier or manufacturer as part of drop shipping completion. They will then be in charge of transporting the goods to your clients on their behalf; often, they will do this while wearing their logo so that they are unaware you have hired a drop shipping firm. However, one notable supply chain technique that provides B2B companies with a unique set of difficulties and complications is electronic data exchange (EDI). Businesses can share documents and operations with trading partners using EDI in a standardized electronic format.

### *3.1.2. Growing demand for online shopping:*

More online orders also imply more orders to fill, which might strain your operations if your company isn't quick and efficient. Particularly if your procedures and systems don't allow for real-time inventory updates across every one of company channels, independent of how much you purchase and sell, this is where inventory mistakes may frequently slip in. Additionally, two-speed order processing is necessary if their organization is a combination of retail and B2B. Managing fewer (though larger) orders concurrently with shorter but more frequently ones, as well as balancing longer lead periods for their B2B clients with shorter timelines for their B2C customers, are all examples of this.

### *3.1.3. Purchasers have high standards:*

B2B clients typically have considerably higher criteria than B2C consumers since they are likely to place larger and more expensive orders with you and are frequently searching for a long-term suppliers to do customer retention with. A rising number of millennial B2B customers want an experience that is similar to that of B2C, including simple navigation, quick checkout, quick shipment, and excellent customer service. Although most customers also value one-on-one sales encounters, alluring discounts, individualized attention, and quick ordering procedures. Every company has to be able to meet these tough requirements. If company don't, company run the danger of losing your extremely important B2B customers through chargebacks and terminated contracts. Here, effective order management systems including e-commerce platforms that naturally complement their particular company model are crucial.

## *3.2. Challenges of B2C management:*

E-commerce is one of the best ways to interact, communicate, and make purchases. If they focus on B2C e-commerce in particularly, it is evident that the webpages have been painstakingly adjusted to meet the needs of the customers. One excellent example as to how e-commerce is growing quickly is Direct Macro. Unfortunately, B2C e-commerce systems have some ludicrous challenges. To protect their future and understand the challenges they must overcome, every B2C supplier needs to be conscious of these concerns.

### *3.2.1. Meeting the Exact Customer Expectations and Closing the Gap:*

Meeting accurate consumer expectations is the most underappreciated problem when considering B2C e-commerce difficulties. B2C vendors frequently make significant attempts to reduce the gap; yet, the majority of the online purchasing process is dependent on the product photographs. As a result, purchasers cannot be completely certain of what they will receive after making a purchase. Because there isn't a solid alternative to waiting hours in some kind of a physical store, B2C consumers don't find this to be a significant barrier to

online buying. The listed items must currently be trusted by the buyer, but B2C sellers must broaden their strategy if they want their clients to be completely persuaded. To ensure that their customers have complete faith in their products, B2C retailers must blend traditional product material with contemporary media content. The incorporation of AR/VR material will be one potential remedy for this.

### 3.2.2. *Getting Relevant Traffic:*

For B2C e-commerce, obtaining suitable visitors is another major difficulty. High expenditures are associated with traffic creation, and businesses must carry out a variety of tasks to drive visitors to their website. Numerous activities, including as SEO, PPC online advertising, mobile advertising, and presence on social media are involved in the process of generating visitors. All of these actions require funding to be completed, but sellers must exercise caution to avoid squandering their cash on unrelated traffic. Google AdWords may be used by B2C vendors in a variety of ways. Through advertisements in Google's search results, sellers may promote their online store. This will enable them to attract customers to their establishment. Additionally, they can display text or banner advertising on webpages, applications, or Gmail. Online shops may also employ a few more strategies to attract the right customers to their site. For instance, retailers may use Video content to display the most relevant video advertising and target customers based on attributes like user interest and geography.

### 3.2.3. *Rendering Mobile-Oriented Experiences:*

Desktop use is becoming more commonplace, but mobile is becoming the lead. The acceptance of the new mobile commerce technologies is one of the main problems for B2C vendors. With the help of mobile commerce solutions, sellers may offer excellent customer service. Becoming mobile will also offer additional benefits for both shoppers and vendors. Additionally, retailers might provide mobile-only discounts to entice more customers to their stores. Both consumers and sellers will take use of mobile technology throughout this way. Although embracing mobile commerce has advantages of its own, B2C e-commerce has difficulties since it also includes money, which raises additional cybersecurity issues. B2C sellers should enlist the aid of reputable fintech companies and provide single-tap payment solutions to the clients in order to minimize the risk associated with customer transactions. Mobile Payments, Apple Pay, as well as Google Pay are a few of the reliable mobile wallets.

### 3.2.4. *Welcoming Digital Currencies:*

Since we are discussing e-commerce issues, we shouldn't forget to bring up digital currencies. If the cryptocurrency-based payment system is effectively implemented, B2C e-commerce will have a bright future. Bitcoin is a well-known digital money, and while it is uncertain how it will function on e-commerce networks. However, it is certain that millennials will embrace bitcoin as one of their most popular payment options. B2C e-commerce platforms may take use of the use of digital money to adapt to the demands of a specific audience.

### 3.2.5. *Adaption of Voice Ordering System:*

The newest approach for ordering internet things is voice purchasing. Google itself is the most well-known platform that have included the speech technology. However, B2C e-commerce platforms still do not regularly incorporate it. Since these systems need development costs and e-commerce companies are unsure of their utility, adding ordering voice systems to the standard system can be rather difficult. However, if we look closely at those platforms that have previously adopted the technology, we can see that the speech

system is really useful for those companies. Voice searches can match user expectations, attract more user attention, and improve customer relationships with the company. Additionally, by integrating a speech system into the app, shops may enhance the mobile consumer experience. It will help the software stand out in a crowded market.

### *3.2.6. Fair Product Return Policy:*

Even while every company professes to be trustworthy, few actually adhere to ethical standards. It might be difficult for business-to-consumer e-commerce vendors to satisfy customer requirements when it comes to lawful product return policies. The cost of transportation and shipping associated with product returns is significant for firms. E-commerce businesses must thus pay particular attention to combat the threat. These vendors must create a clear product strategy and train their personnel on it so that they can better serve customers. Additionally, internet enterprises must be ready to cover the costs of their errors without any secret policy provisions; otherwise, the market reputation of the organization will suffer.

### *3.3. Advantages of B2B Ecommerce Business:*

A large online presence business B2B trading characterizes the internet-driven economy of today. The B2B ecommerce Strategy for 2019 predicts that by 2023, B2B e-commerce will represent 17% of any and all B2B sales within the United States. The total is \$1.8 billion. Following are the main causes of this incredible expansion of the internet B2B market. The benefits of ecommerce B2B business are.

#### *3.3.1. Reduction in Cost and Time:*

The B2B e-commerce sector frequently uses the self-service approach. It is clear that every B2B shopper would choose to conduct their own product research and transactions online rather than standing in line to talk with a salesperson if B2B ecommerce were to cease growing in popularity all throughout world. Self-service of this type is a concept that is advantageous to both parties. Customers can easily locate and purchase items that meet their needs, allowing enterprises to considerably reduce labor and administrative expenses.

#### *3.3.2. Increase Sales Opportunities:*

A B2B webpage may help your business effortlessly gain new customers. Technologically savvy, the youth of today spends a great deal of time online looking for the best B2B partner. If your business is online, there is a significant chance that customers will remain with you for a time because they can make snap decisions.

#### *3.3.3. Rapid Payment:*

In B2B transactions, on-time payments is crucial for streamlining corporate procedures. Aside from providing a month-long debit alternative, businesses strive to streamline the payment procedure. People in this situation can benefit from digital payment alternatives. Consumers may effortlessly pay using the many payment methods they offer on business website. Users and company clients will feel more at ease if the payment procedure is swift and safe. However, this does not imply that establishing a B2B website is the answer to every issue faced by businesses. The following are the main drawbacks of B2B websites.

### *3.4. Advantages of B2C e-commerce:*

Users might be interested in finding out about the advantages of B2C business and marketing if perhaps're thinking of working for a B2B firm or starting a marketing position.

#### 3.4.1. *No physical overheads:*

B2C has been predominantly dominated by in-store transactions, in which customers go to a real store to buy a product from a brand. Businesses can reduce overhead expenses by including an e-commerce component. Businesses may direct clients to the online shop to make purchases by closing down inefficient physical locations and investing a tiny fraction of the expense on advertising.

#### 3.4.2. *Global reach:*

The worldwide reach of B2C e-commerce is arguably its most well-liked advantage. Customers living on the other opposite side of the globe can purchase goods or services from even modest businesses that operate from their homes. A business's capacity to sell to anybody, anyplace might increase its profits.

#### 3.4.3. *More data to profile clients:*

Businesses may access more customer data and direct marketing strategies when they transfer their operations online. Businesses may learn more about their customers' psychographic characteristics, such as their values and interests, by using analytics technologies. Using this data, businesses may develop a customer personality that will guide how they communicate with clients on their webpages and in other advertising material.

#### 3.4.4. *Trackable marketing:*

Conventional marketing tactics have historically been challenging to monitor, but B2C e-commerce makes it simple for businesses to conduct online marketing and monitor conversions. Attrition models aim to highlight the value of various advertising networks in achieving online company success. Analytics tool reports can reveal a customer's first path to a company site, the number of visits necessary for them to converted, and the specific pages where they did so. With this knowledge, businesses may create a website that converts more effectively than those of their rivals.

## 4. CONCLUSION

A B2C customers are much more likely to really be emotional whenever it comes to buying their goods and is more inclined to act impulsively or on the whim of the moment. B2B clients, however, will be far more sensible and focused on making wise business decisions. Customers in the B2B market won't be considering simple customized items. Modern B2B ecommerce systems are now available to assist B2B firms in overcoming the difficulty of a shaky economy. These platforms are designed specifically for B2B ecommerce and offer personalization, B2C capabilities, and support. Adopting such a platform now will provide businesses the agility and flexibility businesses need to save costs, keep consumers, and expand. B2B ecommerce technologies will also become more and more important for businesses who want to gain and keep a competitive edge. In general, understanding the various marketing strategies looked at in this study could aid managers in improving their capacity to successfully conduct both transactional as well as relational marketing. Managers will need to be aware of the information, assets, and systems that underlie each strategy. In this sense, it is probable that companies in the consumer and business-to-business sectors will be able to learn from each other as they continue to expand their marketing capabilities. It was suggested that by balancing cost and revenue, either model's profitability could be guaranteed based on their different qualities. However, while having large sales, an extremely competitive B2B market might not be able to generate bigger profits due to price constraints. However, because the price is uniform and effective, a B2C vendor may scale up growth and

profitability through increased sales. In the opposite situation, a specialist B2B service or product might generate sizable profit thanks to increased selling.

## REFERENCES

- [1] W. S. Boyce and H. Mano, "An inquiry into the supplier selection decision from the business-to-consumer (B2C) perspective," *J. Bus. Ind. Mark.*, 2018, doi: 10.1108/JBIM-06-2018-0183.
- [2] X. Tong, D. Tao, and R. Lifset, "Varieties of business models for post-consumer recycling in China," *J. Clean. Prod.*, 2018, doi: 10.1016/j.jclepro.2017.09.032.
- [3] J. Zhu, M. A. S. Goraya, and Y. Cai, "Retailer-consumer sustainable business environment: How consumers' perceived benefits are translated by the addition of new retail channels," *Sustain.*, 2018, doi: 10.3390/su10092959.
- [4] E. Morgan, T. J. Foxon, and A. Tallontire, "'I prefer 30'?: Business strategies for influencing consumer laundry practices to reduce carbon emissions," *J. Clean. Prod.*, 2018, doi: 10.1016/j.jclepro.2018.04.117.
- [5] P. Leonard, "Business-to-Consumer IoT Services, Consumer Protection and Regulation," *SSRN Electron. J.*, 2018, doi: 10.2139/ssrn.3154235.
- [6] A Fotostock, "The price of fast fashion," *Nature Climate Change*. 2018. doi: 10.1038/s41558-017-0058-9.
- [7] S. V, V. S. M, M. K, and A. R. S. Priya, "A study on impact of an affiliate marketing in e-business for consumers' perspective," *Int. J. Eng. Technol.*, 2018, doi: 10.21817/ijet/2018/v10i2/181002050.
- [8] - Gat, "Adopsi Model Business to Consumer (B2C) Dalam Menghasilkan Sistem Mobile Marketplace," *CogITO Smart J.*, 2018, doi: 10.31154/cogito.v4i1.113.200-212.
- [9] V. Lofthouse and S. Prendeville, "Human-Centred Design of Products And Services for the Circular Economy—A Review," *Des. J.*, 2018, doi: 10.1080/14606925.2018.1468169.
- [10] T. A. Auliandri, A. Thoyib, F. Rohman, and A. Rofiq, "Does green packaging matter as a business strategy? Exploring young consumers' consumption in an emerging market," *Probl. Perspect. Manag.*, 2018, doi: 10.21511/ppm.16(2).2018.34.
- [11] R. L. Priem, M. Wenzel, and J. Koch, "Demand-side strategy and business models: Putting value creation for consumers center stage," *Long Range Plann.*, 2018, doi: 10.1016/j.lrp.2017.07.007.
- [12] D. Huo, K. Hung, H. Wang, and X. Xiaoli, "Country of origin and online promotion in cross-border e-business: A study of consumer behavior for quality management," *Int. Trade J.*, 2018, doi: 10.1080/08853908.2017.1387082.
- [13] A. Pandey, R. Sahu, and M. K. Dash, "Social media marketing impact on the purchase intention of millennials," *Int. J. Bus. Inf. Syst.*, 2018, doi: 10.1504/IJBIS.2018.091861.
- [14] Y. Komarova Loureiro, K. L. Haws, and W. O. Bearden, "Businesses Beware: Consumer Immoral Retaliation in Response to Perceived Moral Violations by Companies," *J. Serv. Res.*, 2018, doi: 10.1177/1094670517738366.
- [15] Rekha and P. Jain, "Consumer Management in Internet Age: A Study of Indian Car Buyers Digital Communication Adoption by Applying Competing Models," *FIIB Bus. Rev.*, vol. 8, no. 4, pp. 279–291, 2019, doi: 10.1177/2319714519883107.
- [16] Y. Chang, X. Wang, and D. B. Arnett, "Enhancing firm performance: The role of brand orientation in business-to-business marketing," *Ind. Mark. Manag.*, vol. 72, no. 17, pp. 17–25, 2018, doi: 10.1016/j.indmarman.2018.01.031.
- [17] U. Sivarajah, Z. Irani, S. Gupta, and K. Mahroof, "Role of big data and social media analytics for business to business sustainability: A participatory web context," *Ind. Mark. Manag.*, vol. 86, no. July 2018, pp. 163–179, 2020, doi: 10.1016/j.indmarman.2019.04.005.
- [18] O. Iglesias, P. Landgraf, N. Ind, S. Markovic, and N. Koporcic, "Corporate brand identity co-creation in business-to-business contexts," *Ind. Mark. Manag.*, vol. 85, no. August 2018, pp. 32–43, 2020, doi: 10.1016/j.indmarman.2019.09.008.
- [19] T. Ritter and C. L. Pedersen, "Digitization capability and the digitalization of business models in business-to-business firms: Past, present, and future," *Ind. Mark. Manag.*, vol. 86, no. August, pp. 180–190, 2020, doi: 10.1016/j.indmarman.2019.11.019.

## CHAPTER 16

# EXPLORATIVE STUDY ON THE UTILIZATION OF VIRTUAL PROJECT MANAGEMENT IN BUSINESS

---

Chanchal Chawla, Professor,  
 Department of Teerthanker Mahaveer Institute of Management & Technology, Teerthanker Mahaveer  
 University, Moradabad, Uttar Pradesh, India  
 Email Id- chanchalchawla0@gmail.com

**ABSTRACT:** *Virtual project management is the practice of using remote or virtual teams to plan, oversee, and complete a project or assignment on schedule and within budget. This process is very comparable to traditional project management; the primary distinction is that traditional project management occurs on-site, while virtual project management occurs virtually or online. The transition from conventional project management to virtual project management has been made easier by the rise of a remote workforce. Project management systems have been converting from analog to digital for some time, which has increased production and efficiency. Therefore, the transition to virtual project management is the significant leap that it may seem to be. This study explain the challenges and advantages of virtual project management in business. Virtual project management is an art form for experienced project managers. Virtual teams can also be successful. Increase the adaptability and work-life balance that workers have always needed. Virtual project management is an art form for experienced project managers. Virtual teams can also be successful, increase the adaptability and work-life balance that workers have always needed.*

**KEYWORDS:** *Business, Project, Project Managers, Virtual Project Management, Virtual Team.*

### 1. INTRODUCTION

Working from home is not only widespread, but it is also increasingly necessary for a variety of reasons. Finding the greatest talent, wherever they may reside, has benefits. It benefits a company's bottom line. An act of God may sometimes stop the regular flow of labor. Whatever the cause, managing a project is a challenging undertaking, to begin with, and virtual project management adds its own set of difficulties to the mix. Traditional procedures for assigning tasks, managing resources, monitoring progress and updating stakeholders exist, but they don't apply when people are in another city or another country [1]. The method of managing projects using remote or virtual teams is known as virtual project management. Teams that are dispersed across time zones must still be given assignments, and that work must be managed and supervised to ensure it is completed on schedule.

Virtual project management has become more standardized as more teams choose to work remotely [2]–[4]. There is a difference even if the fundamentals, like the project life cycle and the numerous disciplines involved in overseeing every part of a project, remain the same. It's a huge one, too. The teams being supervised are dispersed around the globe, not concentrated in one location. Project managers have additional challenges since they are unable to interact physically with their team members. Virtual teams will not disappear. Project managers must avoid becoming comfortable and thinking that the previous rules still hold because they are expanding. Project managers must adapt to the changing environment and move project management into the digital era (Figure 1).

Thankfully, project management systems have been converting from analog to digital for some time now, enhancing productivity and efficiency. Therefore, the transition to virtual project management is the significant leap that it may seem to be. Let's first examine the trend and why it cannot be disregarded. The majority of us are fully aware of the standard

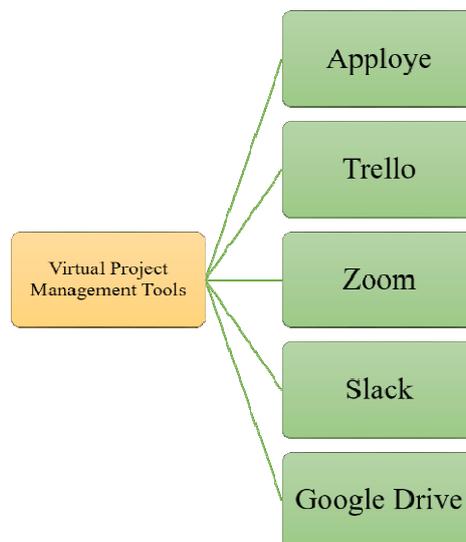
methods for managing any commercial project. However, managing virtual projects is a must for any outsourced organization since remote working is quickly more popular. Virtual project management is the practice of using remote or virtual teams to plan, oversee, and complete a project or assignment on schedule and within budget. The key distinction between this process and traditional project management is that traditional project management happens inside the same building, while virtual project management happens online or virtually [5]–[7].



**Figure 1: Illustrating the Benefits of Project management Software in Business [Otcom].**

*Virtual Projects and Virtual Team:*

Any virtual project is completed by the virtual team. Virtual teams and virtual projects interact on a bilateral basis. In general, whether an offshore or in-house team, every project relies on them. A virtual team consists of distant workers from various origins, ethnicities, and other backgrounds. It might be difficult to manage a project when your team never really meets [8], [9]. A productive virtual team with exceptional leadership is essential for completing any virtual assignment. A virtual team's connection is strengthened by putting more emphasis on togetherness than on distance. Project Management Tools are the only option available for every virtual project. Few project management tools as shown below in Figure 2:

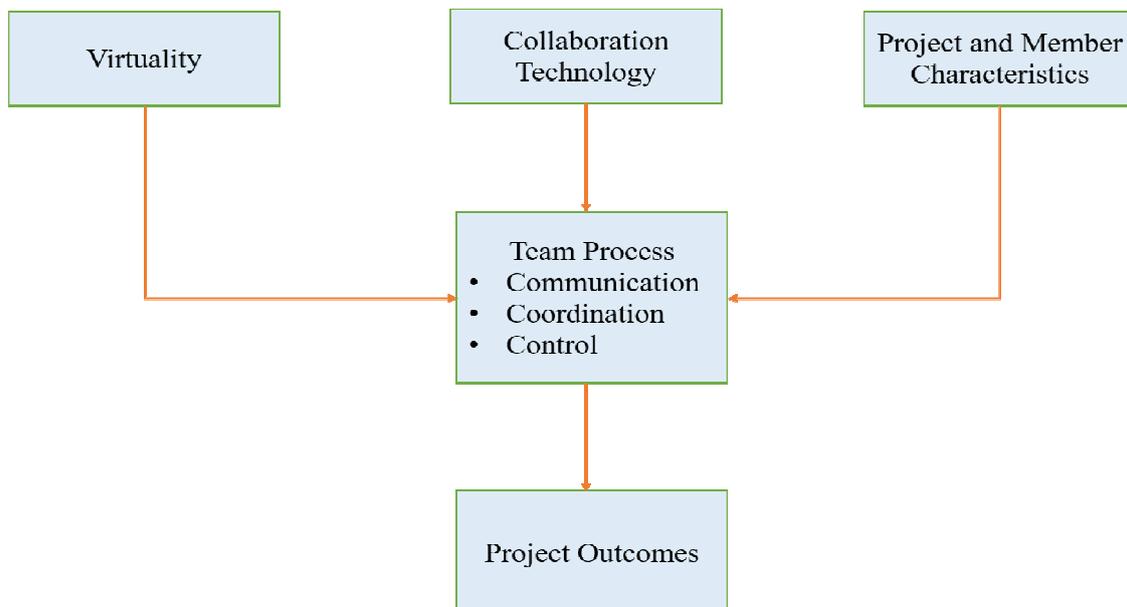


**Figure 2: Illustrating the Various Tools that are used in Virtual Project Management.**

Using outsourced business procedures Time zone differences will exist when using freelancers or outsourcing suppliers to complete any assignment. The time difference between a project manager who lives in Silicon Valley and a team member who lives in Manila, Philippines, is +16 hours. The completion of the project is delayed as a result of this time zone difference [2], [10]. Supervisors will be able to gauge the status of a virtual project based on the performance of the distant team members. Every management should assess the performance of their staff to boost productivity. The ability to efficiently manage employees' performance will increase the trust of remote workers for virtual projects.

## 2. DISCUSSION

The popularity of virtual project management is rising for a variety of reasons. Numerous teams are requesting more flexibility at work to have more control over their schedules. Finding a balance between a job and home life or having small children and wishing to remain at home with them may be the cause of this. The practice of using independent contractors to outsource tasks has had some unanticipated effects. Organizations have warmed to the notion of virtual teams and virtual project managers as they get more acclimated to and comfortable working with teams that are not physically there with them, Figure 3 explains the workflow of virtual project management.



**Figure 3: Illustrating the Workflow of the Virtual Project Management.**

### 2.1. New Technology:

This is closely related to how technology advancements have simplified managing distant personnel. The emergence of a virtual office has greatly facilitated the shift to virtual project management. The emergence of virtual project management is partly influenced by the generational shift in the workforce. Older employees who can adapt are remaining in the workforce with the aid of virtual teams while new workers join the workforce. As a result, the team becomes even more effective, buoyed by the energy and fresh ideas of the younger team members while being grounded by the knowledge and abilities of the more seasoned ones. Additionally, working in virtual teams appeals to a lot of younger employees. They often have a greater familiarity with digital technologies and like flexibility. Fortunately, none of this poses a threat to the fundamental principles of effective project management.

## 2.2. *Virtual Project Management's Difficulties:*

Virtual project management presents a variety of difficulties [10]–[13]. Few of these difficulties are discussed below:

### 2.2.1. *Communication Issues:*

Project management requires effective communication. If the team members have effective communication channels, the project may have a better and more structured workflow. In-house offices and virtual offices employ different communication systems. Team members have trouble interacting with one another while managing a virtual project since they lack access like in an office space.

### 2.2.2. *Lack of Trust:*

The success rate of prospective virtual initiatives is predicted by “trust”. Improved member trust and collaboration provide the security necessary for remote teams to work successfully together. While allowing remote workers to work at any time as long as they do their tasks by a certain time, managers should have trust in their staff. No employee can increase their confidence without sufficient trust.

### 2.2.3. *A Fragmented Structure:*

Every project's success relies on how the project management process is organized. When it comes to a virtual project's structure, choosing the right team members, tactics, and tools is difficult. In virtual project management, hiring qualified individuals from anywhere in the globe is extremely likely to be doable. Therefore, to complete any virtual project, a comprehensive structure must be chosen based on their capabilities.

### 2.2.4. *Being cut off from the teams*

Face-to-face interaction is not required while working remotely since team members may connect electronically. A virtual project is difficult to manage without the correct teamwork of all participants. Because of the decreased connectedness, remote team members can feel alienated. Disconnectivity between the members of the remote team may result from inadequate motivation, feedback, and remote workers' input.

### 2.2.5. *Concerns about Transparency:*

Any project may only be considered finished when all of the team's goals have been met. This page offers a summary of the project's development in this case. Remote team members are free to work from any location to complete their assigned duties. Therefore, it has been noted that some remote workers are hesitant to complete their jobs. False claims of job completion may be a significant obstacle to finishing the virtual project on schedule.

### 2.2.6. *Insufficient Cooperation:*

Virtual project collaboration is the process through which a team of remote workers with a variety of project management expertise and experiences comes together to collaborate on a specific virtual project. True cooperation is impossible if any of the distant workers are not included; their participation is required. Virtual team members may have difficulties when working together, which will seriously hinder their ability to finish the project.

2.2.7. *Problems with the Schedule:*

For online project managers, creating a comprehensive project plan that incorporates project stages, dependencies, and project activities are much more challenging. While working from home allows employees the freedom to complete their tasks whenever they choose, it may be problematic when changes are made to the project midway through.

2.2.8. *Tracking and Monitoring of Employees:*

A manager or team leader can simply keep an eye on the team members or workers who are at work, which would please the leaders. However, managers must rely on online time-tracking software to track and oversee team members who operate remotely. When working remotely on a virtual project, there is a huge requirement for employee or personal supervision.

2.2.9. *Roles and Responsibilities:*

Additionally, you need to be extremely explicit with your coworkers and assign them jobs and obligations following their abilities. Additionally, team members must be aware of their duties within each position. This will offer you a clear understanding of how your staff feels about their duties. The idea is that workers should be aware of their routine responsibilities. Thanks to the resource calendar, all parties employees, and their employer or project manager are aware of their responsibilities, time commitments, and availability.

2.3. *Tools of Virtual Project Management*

Now that you are aware of the drawbacks of virtual project management, Table 1 examines how may get around them by using these technologies:

**Table 1: Illustrating the Various Tools of Virtual Project Management and their Important Features.**

Software	Definition	Feature
Slack For Instant Messaging	Slack is an instant messaging service that enables members of virtual teams to communicate with each other through text messages and files and exchange responses in real-time.	<ul style="list-style-type: none"> <li>• Establish distinct channels for tasks, subjects, or teams.</li> <li>• Add each customer and virtual assistant to a channel to keep them updated.</li> <li>• Instantly search the Slack history for any relevant files and messages.</li> <li>• Establish audio or video calls with team members.</li> </ul>
Zoom	With the help of the video conferencing technology Zoom, remote teams may have a co-located team meeting where they can share screens and communicate through voice or video calls.	<ul style="list-style-type: none"> <li>• Organize a private and encrypted video conference.</li> <li>• Hold online meetings on any device and from any location.</li> <li>• Use video and audio calls</li> </ul>

		<p>in full HD.</p> <ul style="list-style-type: none"> <li>• Get integrated recording and transcribing features</li> </ul>
Trello	Trello is a project management tool that brings together virtual teams and manages virtual projects in an entertaining and rewarding way using boards, lists, and cards.	<ul style="list-style-type: none"> <li>• Integrated workflow automation for efficient cooperation.</li> <li>• Trello cards for adding comments, files, and deadlines.</li> <li>• Simple labeling, categorization, and tag systems.</li> <li>• Use Gantt charts in conjunction with project tracking and scheduling.</li> <li>• Checklists to track project execution and outputs.</li> </ul>
Google Drive	You can save, save, and share files and documents easily and securely with Google Drive, a cloud-based file syncing and storage service.	<ul style="list-style-type: none"> <li>• Complete documents, presentations, and spreadsheets online.</li> <li>• Take pictures of papers and quickly save them as PDF files.</li> <li>• Share, edit, and monitor real-time changes in presentations, documents, and sheets.</li> <li>• Provide offline access to documents and make it simple to sync them.</li> <li>• Get free 15 GB of data storage.</li> </ul>

*2.4. Benefits of Virtual Project Management:*

The transition from conventional project management to virtual project management has been made easier by the rise of a remote workforce [1], [14], [15]. Since it is impossible to overlook virtual project management's obvious benefits in today's world, it is important to comprehend its benefits. Let's further investigate this by looking at the benefits of virtual project management.

*2.4.1. Lowering Operating Expenses:*

One of the best things about virtual project management is this. Just imagine you don't have to pay for office space rent, overhead charges, or equipment prices since businesses all around the world are trying to cut costs wherever they can. Anyone may set aside that cash and use it for your business's other essential operations.

#### 2.4.2. *Improve Output and Product Quality:*

The quality of the work is improved when projects are managed online or by team members who are located remotely. The efficiency of the business is increased via virtual project management, which enables collaboration between knowledgeable and experienced team members from across the globe. Remote team members and employees may do their tasks whenever they feel like it and in their own productive time. Virtual meetings have the potential to be more effective and interesting than traditional face-to-face meetings if they are performed appropriately.

#### 2.4.3. *Improves Worker Retention:*

Due to its many benefits, working from home tends to become more popular. Because they have more time to spend with their families and friends, employees like working from home. Remote employees might save money on transportation since the home office eases traffic congestion when they commute to work.

#### 2.4.4. *Boost Performance:*

Whether the system is online or offline, the project management cycle is essentially the same. Virtual project management, however, is the approach to project management that is both effective and successful. Members of the team sometimes become bored when spending a lot of time in the workplace. It wastes crucial working hours. For a virtual office, managing time wastage and increasing efficiency at work are simple. The cooperation of productivity tools may be used to accomplish this.

#### 2.4.5. *Working Remotely with Highly Trained Personnel:*

Wonderful to run the contact center project with the best-qualified staff from the Philippines at the lowest pay rate. If the organization permits virtual project management, anyone may choose the finest applicant to carry out your project anywhere in the globe. The skilled labor force from across the globe will bring fresh suggestions and options to the table for finishing your virtual project.

#### 2.4.6. *Reduces Workload:*

The team members that are best qualified for the project will be discovered. Peoples may choose any team member, regardless of where they are physically located, using virtual project management. Project managers' responsibilities are reduced by assigning tasks based on team members' skill levels, monitoring project progress, and making any required modifications.

### 3. CONCLUSION

After the epidemic is finished, remote labor will remain a need due to future demand and technological advancement. Working remotely enables you to finish any assignment online. No one can dispute the benefits that virtual project management has accrued over time. Although managing virtual projects presents many difficulties, each challenging project may be handled most simply with the right attention and tools. The use of virtual project management is crucial for keeping your distant project going. There are several advantages to this kind of administration. Virtual teams are effective as well. The flexibility and work-life balance that employees always demand are improved. Additionally, having brilliant workers from other countries who are more productive benefits owners and management. Proper communication, regular meetings, project management training, and assigning roles and tasks to the staff are crucial for keeping the team on track. Teams that take into account all of these variables will be well on their way to success, finishing their projects on time while retaining

a sufficient level of relevance. Although managing virtual projects presents many difficulties, with the right attention and equipment, any challenging project may be handled most simply.

#### REFERENCES

- [1] K. Brockhoff, "Virtual global project management in eighteenth-century astronomy," *J. Manag. Hist.*, 2020, doi: 10.1108/JMH-11-2019-0070.
- [2] M. S. Bissaliyev, "The effectiveness of collaboration tools on virtual project management," *Int. J. Appl. Eng. Res.*, 2017.
- [3] B. Blaskovics, "Aspects of digital project management," *Dyn. Relationships Manag. J.*, 2018, doi: 10.17708/DRMJ.2018.v07n02a03.
- [4] N. A. Haron, L. T. Hua, S. Hassim, F. Eftekhari, M. T. Muhammad, and A. N. Harun, "Strategies to improve communication management within virtual project teams," *Pertanika J. Sci. Technol.*, 2019.
- [5] M. Khaldi and M. Erradi, "Design and Development of an e-Learning Project Management System Modelling and Prototyping," *Int. J. Emerg. Technol. Learn.*, 2020, doi: 10.3991/ijet.v15i19.14595.
- [6] P. Nitithamyong and M. J. Skibniewski, "Web-based construction project management systems: How to make them successful?," *Autom. Constr.*, 2004, doi: 10.1016/j.autcon.2004.02.003.
- [7] J. Kostalova, L. Tetrevovala, and J. Svedik, "Support of Project Management Methods by Project Management Information System," *Procedia - Soc. Behav. Sci.*, 2015, doi: 10.1016/j.sbspro.2015.11.333.
- [8] T. Zuofa and E. G. Ochieng, "Working separately but together: appraising virtual project team challenges," *Team Perform. Manag.*, 2017, doi: 10.1108/TPM-06-2016-0030.
- [9] M. Varhelahti and T. Turnquist, "Diversity and Communication in Virtual Project Teams," *IEEE Trans. Prof. Commun.*, 2021, doi: 10.1109/TPC.2021.3064404.
- [10] C. L. Guss, "Virtual Project Management: Tools and the Trade," *Proj. Manag. J.*, 1998, doi: 10.1177/875697289802900106.
- [11] S. Nauman, A. Mansur Khan, and N. Ehsan, "Patterns of empowerment and leadership style in project environment," *Int. J. Proj. Manag.*, 2010, doi: 10.1016/j.ijproman.2009.11.013.
- [12] B. Katzy and G. Sung, "Virtual project productivity - A management issue," 2016. doi: 10.1109/ICE.2006.7477048.
- [13] C. Beise, T. Carte, C. Vician, and L. Chidambaram, "A Case Study of Project Management Practices in Virtual Settings: Lessons from Working in and Managing Virtual Teams," *Data Base Adv. Inf. Syst.*, 2010, doi: 10.1145/1899639.1899644.
- [14] N. Didehvar, M. Teymourifard, M. Mojtahedi, and S. Sepasgozar, "An investigation on Virtual Information Modeling acceptance based on project management knowledge areas," *Buildings*, 2018, doi: 10.3390/buildings8060080.
- [15] M. V. Kanagarajoo, R. Fulford, and C. Standing, "The contribution of social media to project management," *Int. J. Product. Perform. Manag.*, 2020, doi: 10.1108/IJPPM-09-2018-0316.

## CHAPTER 17

### ANALYSIS ON THE IMPORTANCE OF AGILE PROJECT MANAGEMENT (APM) IN BUSINESS SECTOR

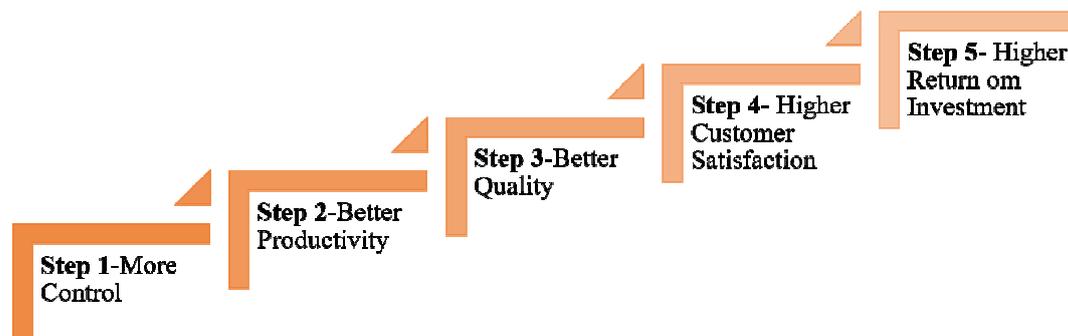
Puneet Sethi, Associate Professor,  
Department of Teerthanker Mahaveer Institute of Management & Technology, Teerthanker Mahaveer  
University, Moradabad, Uttar Pradesh, India  
Email Id- sethipuneet5@gmail.com

**ABSTRACT:** *Even initiatives that use agile methodologies must have effective project management to succeed. Without management, project teams run the risk of choosing the incorrect project, having the wrong combination of personalities or talents, or being hampered by organisational dysfunction. The key tenets of the iterative agile project management approach are frequent releases and consideration of customer feedback at every stage. APM techniques foster software teams' ability to develop faster, interact extensively, and respond more swiftly to market changes. Agile empowers individuals and fosters variety of thought, accountability, early benefit delivery, and continuous improvement. The importance of Agile Project Management (APM) in the business sector is the main topic of this study. The corporate world is seeing a faster and more intense pace of change, which puts pressure on teams to finish projects more quickly and on a tighter budget. In order to fulfil these new business needs, firms are striving to use APM since the quantity of long projects is decreasing.*

**KEYWORDS:** *Agile, APM, Business, Project Management, Software Development.*

#### 1. INTRODUCTION

In addition to project management, software engineering processes also include business analysis, requirement specification, design, programming, and testing. It has long been a contentious issue. Even today, as project management approaches progress, just about half of firms (53%) are fully aware of the relevance of these practises. Project management is crucial to a company' efficiency and eventual success, regardless of the industry. In reality, companies that use tried-and-true project management methods incur 28 percent less financial loss and complete tasks that are 2.5 times more successfully. A successful project is one that not only adheres to its timelines and budget but also produces the expected outcomes, according to experts in project management. Figure 1 illustrates how agile project management is reflective, iterative, and adaptable. When employing an agile approach, a project is split up into smaller pieces. They are often referred to as sprints. At the end of each sprint, stakeholders and the team assess their work, make adjustments for the next sprint, and repeat until everything is finished [1]–[3].



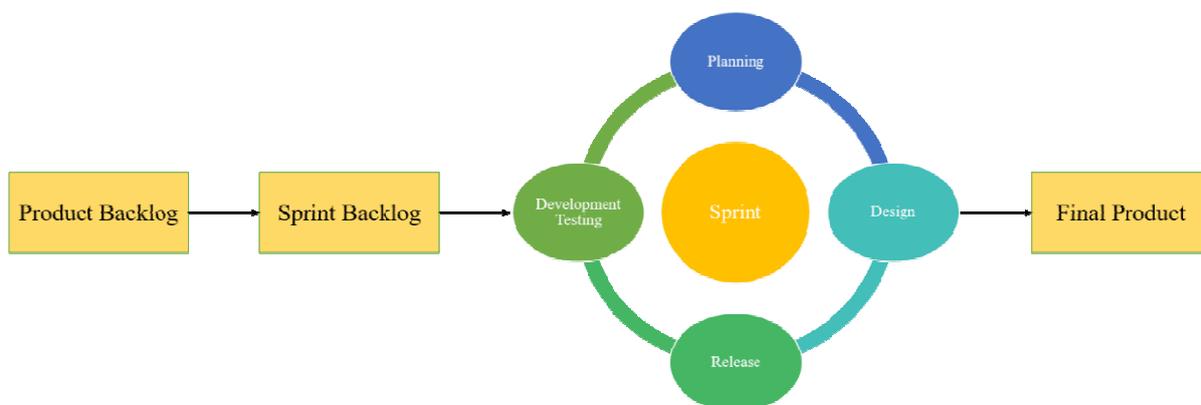
**Figure 1: Illustrating the Benefits of Using APM Methodology.**

Agile emphasizes continuous value delivery rather than a final, all-or-nothing delivery of benefits. Software development serves as the foundation for Agile Project Management (APM). The length of development cycles has significantly decreased over time. Bringing a product to market might take years for software engineers. Before it reached users' hands, the software was sometimes outdated. Part of the problem was caused by conventional project management frameworks. They are quite straight and stiff. Problems are hard to adjust to, and nothing is released until all the work is finished [4]–[6]. The framework embraces chaos as a solution to many business issues. It is made to take into consideration the possibility that you may experience unforeseen issues. It understands that in order to get your intended results, you will unavoidably need to make a change. Agile enables your team to target a broad direction, create something, and then reevaluate the situation. This method is beneficial to many teams, both within and outside of the software business, in order to complete challenging, complicated jobs.

### 1.1. History of APM:

It is possible to date Agile's beginnings to 1957: When designing software for IBM and Motorola at the time, John von Neumann, Herb Jacobs, Bernie Dimsdale, as well as Gerald Weinberg used incremental development methodologies. Despite not understanding how to categorise the technique they were using, they quickly understood that it differed greatly from Waterfall in many aspects. However, the current agile methodology wasn't really established until a meeting of 17 software development experts in 2001 to talk about other project management approaches. After having a thorough understanding of it, they articulated the adaptable, lightweight, team-oriented software development technique in the Manifesto for Agile Software Development.

In the twenty-first century, the use of the Agile Project Management methodology significantly expanded, especially for IT efforts and software development projects. On the other hand, the notion of continual improvement dates back to the middle of the 20th century and has been supported in several ways throughout the years by numerous leaders. For instance, James Martin's Rapid Iterative Production Prototyping approach served as the foundation for both the 1991 book *Rapid Application Development (RAD)* and the technique of the same name. Scrum is a specific APM paradigm that emerged more recently. Its steps are shown in Figure 2. A product owner works with the development team in this method to create a product backlog, which is a prioritised list of the features, functionality, and fixes required to create a successful software system. The team then rapidly delivers the goods.



**Figure 2: Illustrating the Process Involve in the Agile Project Management.**

APM breaks project activities into shorter cycles known as sprints or iterations. It is an iterative planning and directing technique. Similar to Agile software development, an Agile

project is carried out in manageable chunks. In agile software development, an iteration is a single development cycle. The project team analyses and offers input on each segment or iteration, and it should be made up of representatives of the project's multiple stakeholders. The information gained from the iteration's critique is used to determine the project's next step. The primary benefit of Agile Project Management is its ability to solve issues that arise over the course of the project [7]–[10].

A well-educated workforce is an essential resource for the production of technology, and contemporary growth theory makes it plain that this is the case. Technological advancement was not explicitly measured in classical economics. Researchers must be handled quite differently from the typical workforce since they are the engine that drives technology. The preferred method of leading teams to complete R&D with technology and innovation is termed "Agile," and it is centered on providing demands progressively and incrementally. A different approach to management would lead to technological failure, a downward shift in the rivalry among technology developers, and "creative destruction." Leading nations in technology are also recognised for their excellence in high-tech exports. Companies are directed to teams managed under various frameworks under the programme umbrella and wish to update them with a new approach in areas where procedures are insufficient because they are unable to keep their competitive advantage in the market with traditional project management techniques.

## 2. DISCUSSION

There is one significant distinction between Agile management and conventional project management phases found in the Adapt phase, which characterizes Agile project management's iterative nature. Move on to the "Explore" phase after developing the product's vision and an iteration strategy. There, rather of waiting for everything to be finished, the goal is to continually release modest deliverables to the market. Following that, teams participate in quick project reviews with the clients who provide their individual input during the "Adapt" phase. Instead of doing a thorough rewrite, the aim is to modify your future activities in light of that input and, if required, make minor adjustments to what has already been supplied.

### 2.1. Agile Approach:

Resources may be saved as well as a successful project can be finished on schedule and under budget when necessary modifications are made at the right time [11]–[13]. As a result, the Agile method is built on five essential characteristics of agility when it comes to project management:

#### 2.1.1. Transparency:

The common knowledge of the process among all stakeholders involved is one of the main tenets of agile project management. This necessitates more openness in team communications and collaboration. By including information radiators like Kanban boards, individuals work in an open setting where they can discuss their job progress. This makes it possible for everyone to comprehend what and how their peers are doing what they are doing, which in turn facilitates discussions on how to do it better. Team members are also urged to openly discuss their problems and suggestions without worrying that doing so could jeopardise their position on the project. As a consequence, the Agile method of project management seeks to foster an atmosphere of cohesion where teams accept responsibility for their errors and work together to find solutions.

### 2.1.2. *The Client*

Dave McClure, a successful serial entrepreneur, has said "Customers are uninterested in your solution. They are concerned about their issues ". In other words, even if you have the finest solution in the world, your clients won't want to utilise it if they can't understand how it will really help them solve their issue. To ensure that client needs are well understood via ongoing communication, the Agile approach to project management puts a strong emphasis on this. The objective is to provide clients what they need rather than merely what they asked for. This is a typical problem in a knowledge-based workplace since the details of the task might be easily misconstrued when it is almost invisible. Thus, regular feedback loops work as checkpoints for clients to observe how "what they thought they wanted" really appears throughout the Agile project delivery lifecycle. This promotes the discovery of fresh information and the investigation of potential novel solutions.

### 2.1.3. *Adaptability:*

The second major notion of agile project management is to provide teams the tools they need to react more quickly to changes brought on by the aforementioned checkpoints. In order for teams to quickly receive input directly from the market, this also demands for more regular value delivery to the end user. Agile hence emphasises an iterative strategy where teams break down their projects and regularly deliver tiny pieces of them while maintaining flexibility for the remaining work, as opposed to creating one large batch of work. The objective is to make sure that the project being worked on and the Agile project lifecycle are in sync with the end user. As a consequence, you will be able to identify any altering client needs early in the process, swiftly adjust to the new circumstance, and prevent any significant delays in the delivery of the finished product. Take a short glance at the Agile stages to better understand this cycle of ongoing adaption.

### 2.1.4. *A Feeling of Ownership:*

Creating a feeling of ownership among teams, which aids in more efficient leadership, is another quality that "agility" adds to project management. For instance, in conventional project management, each piece of information is routed via a specific project manager, who then assigns responsibilities to other team members. Due to the greater possibility that part of the information may be lost, this may not be useful.

### 2.1.5. *Continual Development:*

The atmosphere it fosters for continual development is one of agile project management's key strengths. Instead of having a large "lessons learned" session at the conclusion of a project, teams often participate in numerous learning cycles. This makes sure that critical process enhancements take place while the Agile project is still in progress, which may help to guarantee that the final solution is successfully delivered to the end users. Naturally, there is nothing wrong with the other strategy, which is still used in the Agile project management procedure. However, depending only on it for successful Agile project delivery is useless in a setting where the labour is unseen and changes happen often. Additionally, work is divided into smaller deliverables and regularly sent to the clients for review and feedback. This also aids in the ongoing improvement of a product or service with the intention of making it ideally suited for the intended user.

## 2.2. *Need of Agile Methodology and Methodology for Agile Project:*

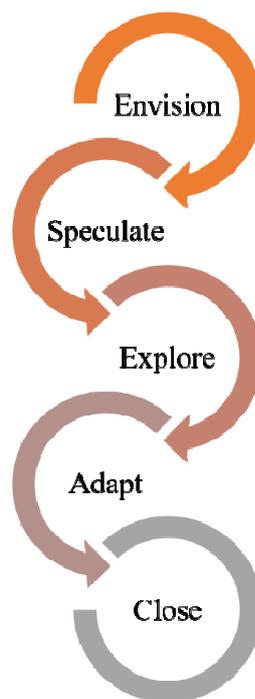
We had the Waterfall paradigm of software development prior to the advent of Agile. The waterfall model may be described as a top-down, sequential method used in the development

of systems and software. This model was simple and linear in nature. Gathering requirements, software design, deployment, implementation, testing, and maintenance were some of the steps included in the waterfall approach.

The Agile project strategy divides projects into small chunks. The sprints, or short work intervals, are when these project components are completed. Sprints often span from a few days to a few weeks. From the initial phases of design to testing and quality assurance, everything is covered in these discussions (QA). The Agile methodology allows teams to publish portions as they are completed. Using this continuous release strategy, teams can demonstrate the effectiveness of these components, and if not, they may take quick action to fix any problems. It is believed that by continuously improving during the duration of the project, the risk of catastrophic failures is decreased. In order to manage a project, the Agile methodology separates it into many stages. It is necessary to continually develop at every level and work with all stakeholders. Once the task is underway, the team cycles through a process of planning, performing, and evaluating. Communication between team members and project stakeholders must always be maintained.

### 2.3. Working of APM:

Agile teams include best practises for QA into iterations as well as quick feedback and constant adaptation. They use techniques like continuous deployment and continuous integration to speed up the utilisation of products by using technology that automates operations. Teams must constantly evaluate time and cost as they work to finish their mission according to the rules of agile project management. They use burndown, velocity, and burnup charts to evaluate their work in progress rather of Gantt charts and project milestones. A project manager is not required to be present or participate in agile project management. Despite the fact that a project manager is essential for success under traditional project delivery methodologies, such as the waterfall model, project scope, where the position manages the budget, personnel, as well as other crucial elements, the role of the project manager is divided among team members under APM.



**Figure 3: Illustrating the Five Stages of the APM Process.**

For instance, the product owner sets the project's goals, and the team members split up the scheduling, progress reporting, and quality control tasks. Additional management levels are part of several Agile approaches. For instance, a Scrum Master is necessary according to the Scrum methodology in order to help identify priorities and guide the project toward completion. Project managers may still be used in agile project management, nevertheless. Many firms continue to employ them, particularly for larger, more challenging Agile projects. These companies often use project managers more as coordinators, with the product owner in responsible of making sure the project is successfully completed. Team members must be aware of how to work within the framework in Agile Project Management since the responsibility has been transferred from project managers to Agile teams. Both with users and one another, they must be able to cooperate. They need to be able to communicate well in order to keep projects on track. In order to maintain the pace of delivery schedules, they must also feel at comfortable executing the correct tasks at the suitable times.

#### 2.4. Various Phases of APM:

The APM process [14], [15] is divided into five distinct stages as shown in Figure 3.

##### 2.4.1. *Envision:*

In this phase, the project and final product are initially conceived, and the demands of the target market are determined. The project's stakeholders and employees are also chosen at this phase.

##### 2.4.2. *Speculate*

The first requirements for the product are created at this phase. Teams will collaborate to come up with a list of features for the finished product before deciding on project timetable milestones.

##### 2.4.3. *Explore*

Teams will investigate options to meet project needs while working on the project with an emphasis on respecting project limits. Before moving on to the next milestone, teams work on individual ones and iterate.

##### 2.4.4. *Adapt*

Teams examine their delivered findings and make any necessary adjustments. This stage focuses on adjustments or modifications that result from employee and consumer feedback. Feedback should be offered often to ensure that every component of the project satisfies end-user needs. With each revision, the project ought to become better.

##### 2.4.5. *Close*

Teams assess their completed work and make any necessary adjustments. The completed project is evaluated against the most recent requirements. It is important to examine any errors or problems that occurred throughout the procedure in order to prevent them from happening again.

#### 2.5. Principles of Agile:

- The main goal is to please the customer by consistently and timely providing valuable software.

- Adapting to new demands must be done even at the very end of the development process. Agile techniques harness change for the competitive advantage of the consumer.
- Regular deployments of functional software are required, ideally within a few weeks as opposed to a few months.
- Business experts and software developers must work together daily throughout the project.
- Make businesses that depend on motivated individuals. Give them the environment and support they need, and trust them to do the work.
- Speaking face-to-face with a development team is the most effective and efficient approach to transfer expertise.
- Software that is functional is the primary measure of advancement.
- Agile development approaches support long-term expansion. The sponsors, developers, and users should be able to go on at the same rate indefinitely.
- By maintaining a consistent emphasis on technical excellence and clever design, agility is enhanced.
- Simplicity is essential, as is the ability to increase the amount of work saved.
- Self-organizing teams provide the best specifications, designs, and architectural frameworks.
- The team often thinks about how to succeed more, then adjusts and alters its behaviour as appropriate.

2.6. Agile Methodology Advantages and Agile Environment:

Agile project management allows for routine evaluation of primary constraints like time and money. Teams' plans are created to incorporate frequent adaption, rapid feedback, as well as best practises for Q&A, which ensures high-quality output and a smooth workflow. The following advantages of Agile project management are shown in Figure 4.

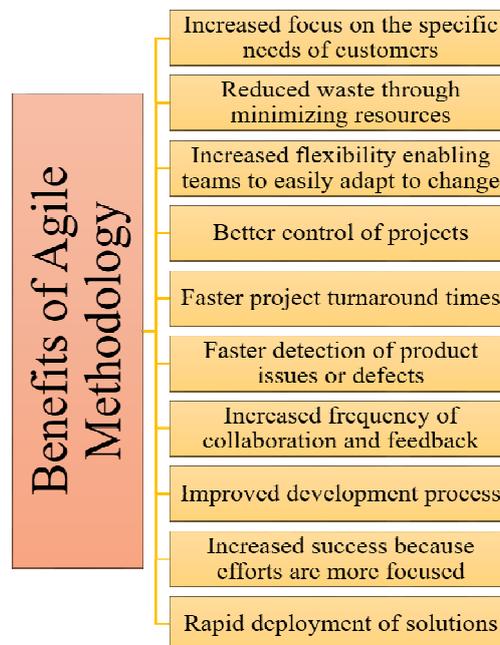
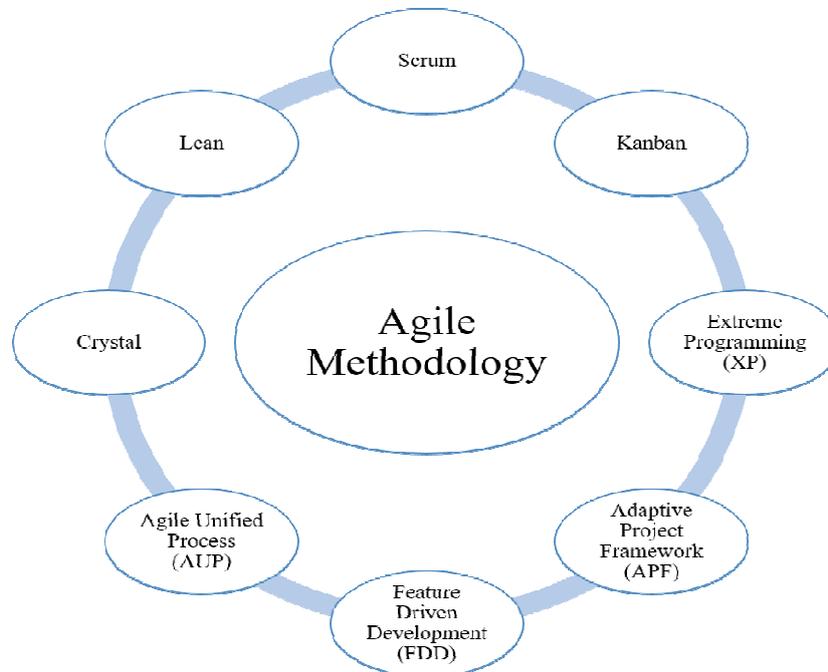


Figure 4: Illustrating the Various Advantages of the APM.

Two of the most frequent obstacles to implementing an Agile approach include the firm's culture being at odds with Agile ideals or an overall aversion to change inside the business, as

we covered in another section. Agile has to be seen as a comprehensive approach to projects rather than simply a project methodology. Agile has an effect on everyone in the company, including those who are not directly involved in projects. Additionally, for Agile to be effective, the culture of the whole organization must support its ideals and guiding principles (Figure 5).



**Figure 5: Illustrating then Methods of Implementing the Agile Methodology.**

### 3. CONCLUSION

The Agile Development methodology has been updated to place an emphasis on speed and flexibility while producing software solutions. Today, the bulk of digital items are produced using the Agile development technique. Corporate Transformation programmes need for more business engagement due to their more complex requirements and business integration focus. Agile ideals encourage communication both horizontally and vertically within the business and are advantageous to the project development process. Agile guarantees commercial value by involving the customer directly throughout the whole delivery process while enhancing creativity via high-performance diverse teams. During the planning phases and throughout the project lifecycle, improved communication, cooperation, collaboration, and organizational transformation increase the adoption of greater business value products. It might be difficult to ensure business appropriateness and governance. Iterative software development is the foundation of agile methods. After each step, a functional, standalone module is created. A code should be finished in no more than two weeks of iteration. Instead of having a distinct quality assurance staff, agile techniques encourage developer participation in testing. The new techniques and ideas of agile approaches allow a team to quickly produce a product in circumstances that are changing.

#### REFERENCES

- [1] D. Özkan and A. Mishra, "Agile Project Management Tools: A Brief Comparative View," *Cybern. Inf. Technol.*, 2019, doi: 10.2478/cait-2019-0033.
- [2] J. Koch and C. C. Schermuly, "Who is attracted and why? How agile project management influences employee's attraction and commitment," *Int. J. Manag. Proj. Bus.*, 2021, doi: 10.1108/IJMPB-02-2020-0063.

- [3] F. Albuquerque, A. S. Torres, and F. T. Berssaneti, "Lean product development and agile project management in the construction industry," *Rev. Gest.*, 2020, doi: 10.1108/REGGE-01-2019-0021.
- [4] V. Jiménez, P. Afonso, and G. Fernandes, "Using agile project management in the design and implementation of activity-based costing systems," *Sustain.*, 2020, doi: 10.3390/su122410352.
- [5] C. Loiro, H. Castro, P. Ávila, M. M. Cruz-Cunha, G. D. Putnik, and L. Ferreira, "Agile Project Management: A Communicational Workflow Proposal," in *Procedia Computer Science*, 2019. doi: 10.1016/j.procs.2019.12.210.
- [6] A. Rasnacis and S. Berzisa, "Method for Adaptation and Implementation of Agile Project Management Methodology," in *Procedia Computer Science*, 2016. doi: 10.1016/j.procs.2017.01.055.
- [7] R. Kurniawan, D. Budiastuti, M. Hamsal, and W. Kosasih, "The impact of balanced agile project management on firm performance: the mediating role of market orientation and strategic agility," *Rev. Int. Bus. Strateg.*, 2020, doi: 10.1108/RIBS-03-2020-0022.
- [8] F. J. Brandl, N. Roider, M. Hehl, and G. Reinhart, "Selecting practices in complex technical planning projects: A pathway for tailoring agile project management into the manufacturing industry," *CIRP J. Manuf. Sci. Technol.*, 2021, doi: 10.1016/j.cirpj.2021.03.017.
- [9] E. C. Conforto and D. C. Amaral, "Agile project management and stage-gate model—A hybrid framework for technology-based companies," *J. Eng. Technol. Manag. - JET-M*, 2016, doi: 10.1016/j.jengtecman.2016.02.003.
- [10] M. E. K. Säisä, K. Tiura, and R. Matikainen, "Agile project management in university-industry collaboration projects," *Int. J. Inf. Technol. Proj. Manag.*, 2019, doi: 10.4018/IJITPM.2019040102.
- [11] J. Gaete, R. Villarroel, I. Figueroa, H. Cornide-Reyes, and R. Muñoz, "Agile application approach with Scrum, Lean and Kanban," *Ingeniare*, 2021, doi: 10.4067/S0718-33052021000100141.
- [12] A. Gemino, B. Horner Reich, and P. M. Serrador, "Agile, Traditional, and Hybrid Approaches to Project Success: Is Hybrid a Poor Second Choice?," *Proj. Manag. J.*, 2021, doi: 10.1177/8756972820973082.
- [13] W. Idzikowski and I. Perechuda, "Agile approach in a transforming organization, a descriptive study of chosen Polish companies with rapid revenue growth," *Oeconomia Copernicana*, 2018, doi: 10.24136/oc.2018.023.
- [14] Y. H. Lee, S. C. Huang, S. W. Wang, and K. H. Chen, "Fast transient (FT) technique with adaptive phase margin (APM) for current mode DC-DC buck converters," *IEEE Trans. Very Large Scale Integr. Syst.*, 2012, doi: 10.1109/TVLSI.2011.2163093.
- [15] Z. Hong, G. Li, Y. Xu, and X. Zhou, "User Grouping and Power Allocation for Downlink NOMA-Based Quadrature Spatial Modulation," *IEEE Access*, 2020, doi: 10.1109/ACCESS.2020.2974663.

## CHAPTER 18

### A COMPREHENSIVE STUDY ON THE SIGNIFICANCE OF MASS MEDIA IN RURAL DEVELOPMENT

---

Pirtibha Sharma, Associate Professor,  
 Department of Teerthanker Mahaveer Institute of Management & Technology, Teerthanker Mahaveer  
 University, Moradabad, Uttar Pradesh, India  
 Email Id- ica.pratibha.pdp@gmail.com

**ABSTRACT:** *The term mass media refers to the communication tools that may be utilized to connect and communicate with a wide range of people in many languages. Currently, the mass media plays a critical role in modernizing rural life. Using readily accessible human and natural resources, rural development raises the level of living for rural residents. Problems in rural areas due to lack of mass media such as illiteracy, lack of facilities, services, unemployment and health. The author focuses on the role of mass media in rural development such that the widespread use of mass media, which often reaches individuals of different demographic groups, provides opportunities for rural residents to grow, and can inspire better communication. In this paper, the author also discussed the role of both mass media and rural development in developing countries. It concluded that with the help of mass media, it is now feasible to disseminate knowledge, and new technologies have sped up this process for those living in remote areas. In the future as new information technologies spread across Indian society, more and more skepticism is being generated by the variety of uses they have.*

**KEYWORDS:** *Government, Mass Media, Information, Public, Rural Development.*

#### 1. INTRODUCTION

To portray the genuine picture or occurrence of society, the media is nothing more than a method through which one may transmit or supply information. According to the correctly identified, the verb take might be singular or plural for the noun media, which is the possessive form of the term medium. Every broadcast and narrowcasting medium, including the internet, newspapers, publications, Television, radio, and direct mail, is considered to be media. Due to the vastness of the idea of media, we will only examine print (news outlets) and electronic media while designing our current study to maintain simplicity. Media that accesses material using electronics or electromagnetic energy is generally referred to as electronic media [1],[2]. Once more, the term "print media" refers to a category of media in which text and image material is accessed through the use of a master format or template. The subject is pertinent given the numerous recent theoretical debates of innovative approaches to development incorporating new functional responsibilities for communications; even if the media's position is more constrained and limited, I believe there are higher expectations for the media. That title's multiple ironies that are contrasted make the issue dialectical and controversial. The term mass media is utilized as a personalized topic primarily an institution with urban origins and located objectives applied to the greater rural development goals and purposes among most Asian countries [3],[4]. The sub-title presents each phenomenon as the opponent of the other in a clear contradiction with appealing polarities. My talk will be organized in the manner suggested by the title, first focusing on the mass media as it has been reconfigured [5]–[10].

One focused on the national broadcasting company in my nation, while the other was more focused on the policy execution by the network's division in charge of rural broadcasts. The institutional state of the mass media within emerging cultures is one of the apparent but seldom taken into account aspects. Broadcasting, on the contrary hand, has mainly remained

an organizationally governmental owned and run institution in so many Third World nations while the national newspapers have mostly been left in the hands of the private proprietors. This reality explains why the relevant media have such a wide range of perspectives, objectives, and orientations. This has significant effects on programming, information, and decision-making. The variety, quality, and content of media are influenced by the organizational architecture and framework as just a result of the imposition of government policies and practices.

The fact that perhaps the media is viewed, employed, and utilized as a tool of the government is another implication of both the media being owned and managed by the government. Consequently, the media is employed for rural development to the same extent as the government is committed to and committed to it. However, dedication to a policy does not guarantee that all of its objectives will be achieved. Much is dependent upon the application and the actualization of policy objectives. Even though public sector media organizations are frequently entangled with political realities, on the governmental level they can be viewed as responding to events rather than initiating them. However, on the implementation stage, like any other organization, they must modify, affect, and deflect in proportion to how they reflect the motivations of the policy to the extent that they do reflect them. The idea that an organization behaves in as many various ways as media sociologists attribute to it, more used, manipulated, as well as subordinate to political decision-making than what is frequently admitted as being the case, particularly in the West, should be maintained despite how fashionable it may be to employ the word mass media as a particular topic in a sentence [11]–[14].

The present paper is a study of the development of rural areas the emergence of widely recognized theories regarding development has had an impact on communication as well. This study is divided into several sections, the first of which is an introduction, followed by a review of the literature and suggestions based on previous research. The next section is the discussion and the last section is the conclusion of this paper which is declared and gives the result as well as the future scope.

## 2. LITERATURE REVIEW

Mahanand Timalsina and Prajwal Man Pradhan [15] have explained the impact of community radio on rural development in general and the process of developing rural communities in particular. The author emphasizes the beneficial effects community radio has had, especially in seven theme areas. Agricultural development and the phrase "rural development" are frequently used interchangeably. Most agricultural villages and the majority of rural residents in Nepal depend on agriculture for their livelihood. It was found that the money made through agriculture is sufficient to cover the costs of basic requirements like food, shelter, and clothes. In conclusion, rural radio is regarded as a crucial component in the rural region since it supports the residents' desire for information.

Husne Jahan Chowdhry the purpose of that study is to discuss the value of professional development, its accessibility, and efficient human resource growth (HRD). The author focuses on investigating the function of professional training in human resource development, studying the Bangladesh Academy for Rural Development (BARD), analyzing and evaluating its training initiatives, and exposing its clear shortcomings. It was found that training aids in employees' growth, the improvement of their flexibility, and the acquisition of certain skills. It also aids in cultural changes. It concluded that investing in human resources is crucial for the growth of our economy. The government has taken a variety of initiatives to promote social transformation and the growth of skilled workers.

Lutfun Naher Mukta [16] et al. have explained that a critical issue in emerging nations like Bangladesh is the participation of women in the household agriculture sector. From July to August 2011, this study involved 90 randomly chosen farm women from the two chosen communities. It was found that the majority of rural women engaged in homestead livestock, poultry, vegetable, and fruit production, as well as post-harvest work. It was determined that rural women participated extensively in post-harvest work and poultry rearing. In conclusion, women engaged in a variety of economic tasks, such as post-harvest, vegetable cultivation, livestock care, etc., and the size of their families affected how much they were involved.

Ravi Kumar Mehta and Sanjay Bundela [17] have explained how media can be a potent tool for war and a valuable tool for societal progress and change. According to the author, today's world is a media world in which media influence all spheres of social life, including politics, economics, markets, and elections. The author encourages experts to speak on the media's contribution to Rajasthan's growth. The findings show that the Central and Rajasthan governments are running several programs for the advancement of women. Self-help organizations have been connected via the portal in such a circumstance. In conclusion, the webpage also provides information regarding women's rights. Women are becoming more aware of their rights as a result.

Praveen Kumar and Venu Lenin [18] explained that a questionnaire and open-ended questions were used to gather information about the restrictions faced by folk artists and development officials. The nonparametric Kruskal-Wallis test was used by the author to analyze the obstacles that traditional folk multimedia artists and development professionals must overcome to use traditional folk media for regional development in Rajasthan's Jaipur and Udaipur districts. It demonstrated that financial restrictions are the least restrictive, whereas technological constraints are the most restrictive, followed by communication, administrative, and social constraints. It concluded that there was no difference between the restraints encountered by folk media artists with development bureaucrats during the research period.

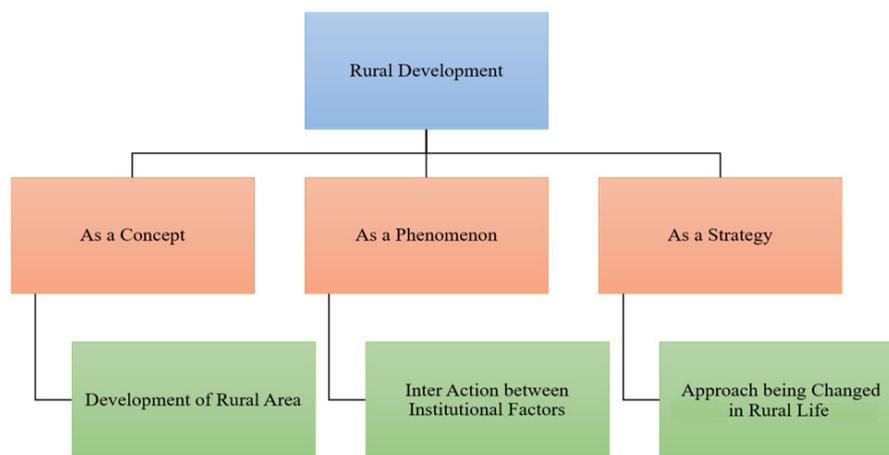
The above study shows the impact of community radio on rural development in general and the process of developing rural communities in particular. And also a critical issue in emerging nations like Bangladesh is the participation of women in the household agriculture sector. In this study, the author discussed the developing social structure, the role of mass media in development, and interpersonal communication.

### 3. DISCUSSION

The mass media has indeed been recognized as an important tool for rural communities' political, social, and economic growth. For these purposes, the mass media must be utilized as the only means by which people will be educated on new developments. Every congregation needs the full support of the federal government on rural development to be fully civilized, even so, that they can know the necessities and circumstances of the state economy. Communication remains an important force with its ability to appeal to people's thoughts despite together all changes caused by the social scene and in media. However, we frequently see a propensity to have a highly constrained perspective on media and to let our media usage and habits restrict our perspective. If we wish to use media to address the issues our society occasionally confronts, then must first comprehend its full breadth, range, and usage.

If people wish to understand how media might contribute to fostering a culture of growth, we must first comprehend its whole spectrum and dimensions. As a result of rising commercialization, the media's ability to represent popular opinion is dwindling, and more

restrictions and obstacles are appearing in the way of an open and equitable dialogue between the people and the media. The dominant urban-area notions control the media and information systems in emerging nations. The only way that developing nations can tackle this issue is by creating alternative media programming ideas that are rooted in their local social and cultural contexts. The process through which rural residents' standards of living rise steadily is what is meant by rural development. It might be described as "raising the standard of living for low-income residents in rural regions and ensuring that their development becomes self-sustaining. In actuality, the idea of rural development spans a broad range and has lately captured the interest of Asian nations like India as well as international organizations. The term rural development has been employed in many contexts much more recently, as can be demonstrated with the aid of Figure 1.



**Figure 1: Illustrating the Concept of Rural Development used in Different circumstances which can be shown with the help.**

*a. Developing Society Structure:*

In the developing world, society is organized into a three-step hierarchy pyramid with an urban component at the top that is ruled by a relatively limited elite. This elite group tends to be economically more prosperous and well-educated. Top government authorities, highly compensated workers in the field of international business, industrialists, businesspeople, and white-collar workers as a whole make up this group. The middle part is a sub-urban area where semi- and barely qualified as well as impatient illiterate residents live after being evicted from rural areas due to severe economic realities. However, because of their lack of education and talent, they are unable to enter the urban elite groups. These people are typically undernourished, badly housed, jobless, or otherwise unemployed, and they live in horrifyingly unhygienic conditions. The third part is a rural one, which is by far the largest in terms of both people and land area.

The vast majority of individuals live there. For instance, this group makes up roughly 80% of the population of Nigeria and as much as 95% in Niger. The majority of this rural population is quite impoverished, tied by tradition, and lacking in modern social services. The bulk of the population lives in poverty and cannot afford to enroll their children in school. There are extremely few, if any, motorable highways, factories, or medical services. The majority of the population relies on agriculture for livelihood. It should be emphasized that the above-described social structure is nearly entirely inverted in sophisticated countries. The wealthy don't dwell in the urban sector of the population as they do in emerging civilizations; they reside in the sub-urban sector. Furthermore, whereas the rural component makes up the majority of the population in developing countries, it does not in industrialized countries.

*b. International Personal:*

Mass media outlets are seldom ever able to function effectively on their own in rural development initiatives. They require assistance from interpersonal communication channels. For instance, in rural Africa, the five fundamental tenets of the traditional method of interaction—the supremacy of the community, the convenience of the individual, the inviolability of authority, the respect for elders, and religion as just a way of life—must be taken into account for any communication strategy to be successful. These guidelines provide communication within rural areas context and relevance. Therefore, the very significant function of interpersonal communication among rural communities shouldn't be undervalued, regardless of the media utilized or the technique adopted in Table 1's rural developmental projects. Any communication plan that wholly disregards conventional media will fail to capture and hold the public's attention for very long. In addition to the fact that two media are preferable to one for communicating effectively, a combined effect of both interpersonal and mass media is preferable to using either of those alone. Any communication message that fails to take into account the value systems which underlie the frame of reference within which the communication takes place will not be able to bring about the attitude and behavior patterns changes required for rural development.

**Table 1: Illustrates the Main Characteristics of Mass Media, Interpersonal Communication, and the two channels in combination.**

Sl. No.	Characteristics	Mass Media Channel in One-Way	Interpersonal Channel in Two-Way	Mass Media and Interpersonal in Two-Ways
1.	The most likely main effect	Increased knowledge	Attitude Change	increased knowledge and attitude change
2.	Accuracy in a large audience	High	Low	High
3.	Ability to answer the local needs of the audience	Low	High	High
4.	Overcoming Selective Exposure and Selective Perception	Low	High	High
5.	Time to reach a large audience	Rapid	Slow	Rapid

*c. Rationale:*

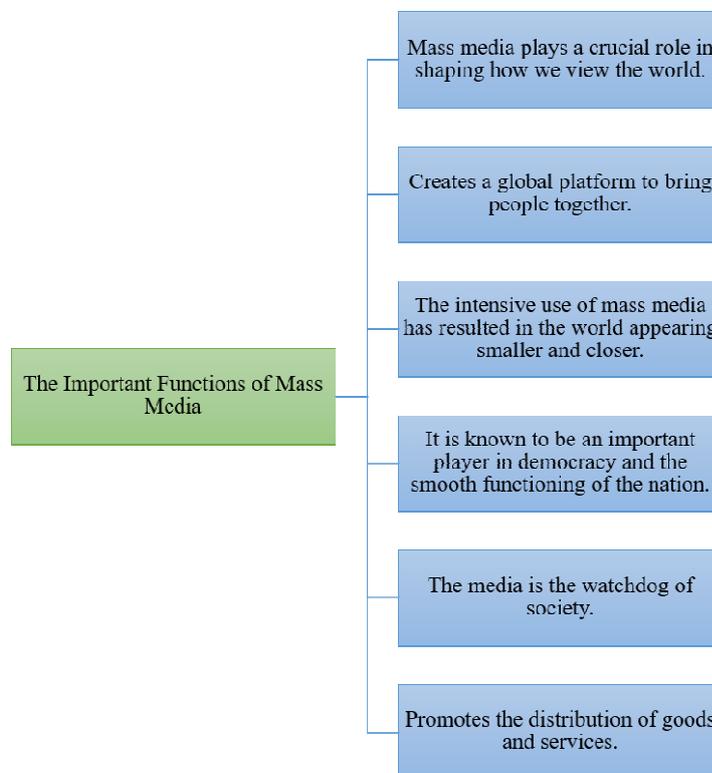
The main justification for using mass media for rural development activities is the requirement to communicate development news, information, and messages to the whole rural population. This justification is based on the necessity of promoting communal growth through particular circumstances, as well as the need to promote the individual's physical and mental development and, by extension, the community's as well. This entails fostering, encouraging, and supporting the acquisition of essential knowledge to improve the accomplishment of development goals. Communication must work to foster and sustain a supportive environment so that those who value tradition may participate in communication and make appropriate use of the results. Earlier attempts to meet these essential criteria for

rural transformation face-to-face with Agricultural Extension representatives, Ministry of Information Public Enlightenment Managers, and Literacy instructors were so inadequate that they barely touched the surface of the issues of rural underdevelopment.

There were several issues with such face-to-face endeavors, including inadequate training, a lack of extension officers, a population that was too vast to serve, and a lack of funding. Therefore, switching to a mass media approach was a smart move. The mass media method enables literacy barriers to really be crossed and total distance to be completely removed, and it managed to make the services of the handful of well-trained individuals around obtainable to the entire nation despite the strictly vertical feed-forward structure of the operation supported by the precepts of Development Media theory. The mass media method also guaranteed inspiration and universal mobilization, helped raise awareness among, and started to win the compassion and empathy of, large urban literate as well as elite population, where access and involvement were taken into consideration. One of the less-discussed difficulties in rural development projects, the incapacity of many professionals, government employees, and extension agents can function properly at the project level, was also lessened thanks to the use of the media. The requirement to record broadcast materials gave rise to the possibility to evaluate such items in light of the intended audiences before they were broadcast.

*d. Role of Mass Media in Development:*

It is impossible to overstate the importance of communication to human survival. This is because, in addition to meeting his or her basic demands for food and shelter, a person must speak with other people. In our modern culture, the impulse to communicate is both fundamental and essential to life. That is to say, a community cannot exist, much less grow and flourish, without communication.

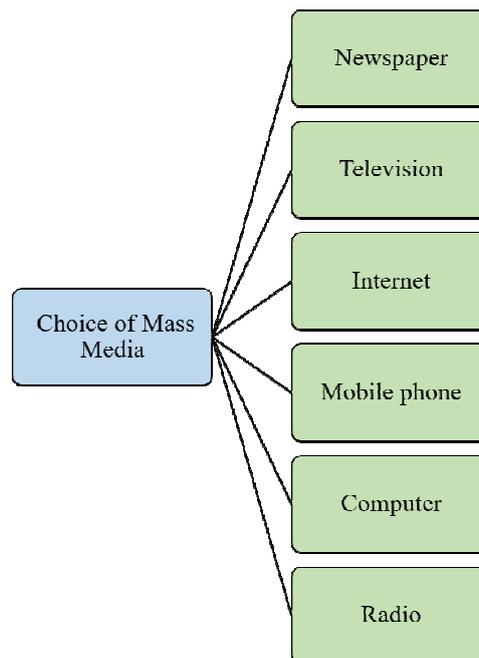


**Figure 2: Illustrates the important function of mass media which works to transmit heritage and cultural values.**

Every society's organization and existence depend on communication, which is a fundamental and essential activity. A free press is not an extravagance. The foundation of equitable development is it. Corruption may be exposed through the media. They can influence public policy by drawing attention to government activity. They enable individuals to express a range of views on governance and reform and aid in fostering public agreement for the change. These mediums improve how markets function. By transferring ideas and innovation beyond borders, they can facilitate commerce. The media are crucial for human development because they spread knowledge about health and education to isolated communities in nations like Nicaragua and Uganda. However, as past events have demonstrated in Figure 2, media independence may be brittle and quickly jeopardized. Media require the proper environment in terms of liberties, capabilities, and checks and balances to enable development.

*e. Choice of Media:*

When the choice has been taken to employ mass media responsibly for rural development, one of the initial issues to address is selecting the appropriate medium and media. This topic is crucial because it determines whether or not development messaging will first reach the intended rural populations. Depending on whether the affected rural people would make the initial attempt to pay attention. The type of media a person chooses also has an impact on what they learn and also how efficiently and quickly they can learn.



**Figure 3: Illustrates the Choice of Mass Media which can help Rural Development.**

Making the "correct" decision is therefore seen to be a crucial problem with significant ramifications for the effectiveness of the mass media in attempts to promote rural development. But the complexity of the tasks involved with rural development—including those related to literacy, health, agriculture, employment skills, self-help, and community development indicates the need for a multi-media strategy. This is true because some forms of media are more appropriate for specific tasks than others. Consequently, in an integrative approach towards rural development, the focus should not just be on selecting the best medium or media to utilize, but rather on identifying which one of the mass communication platforms now in use is best suited because of what task and at what stage of the development activities.

The features of each medium, in addition to its ownership and usage trends in each nation or community, must be taken into consideration to achieve this effect. The development of farmers in the agricultural industry and rural regions depends greatly on the media. However, as shown in Figure 3, there is a dearth of adequate information regarding agricultural and livestock-rearing methods in both urban and rural settings in developing nations. The function of the media in rural and agricultural studies has been the subject of several study publications, yet there is still a significant disconnect between the media's role and farmers in these fields. The objective of this assessment is to bridge the communication gap between agricultural extension staff and farmers. Farmers might learn the most relevant information and skills on how to manage crops and livestock through the media. A strong understanding of the media's function would enable agricultural extension workers to effectively persuade farmers of the benefits of their expertise.

#### 4. CONCLUSION

Three components or phases are distinguished within the development communication activity. Consolidation is the point at which efforts must be made to maintain people's trust to protect the gains made and to promote the successful performance needed for development efforts to grow strongly. Mobilization is set to raise awareness and change public attitudes, while implementation aims to establish a conducive environment for people to agree to participate and contribute to development efforts. It is important to emphasize that a very sharp distinction must indeed be made between talking to and interacting with an audience, regardless of the stage and type of program used. The first is information only, and it is highly unlikely that it will be effective in motivating or mobilizing the rural population. The former refers to communication, which involves interaction and idea-sharing between the source and the recipient and is essential for understanding and, thus, for education. While dumping documentation on the uneducated and poor and disadvantaged rural population creates a dominant/presentation environment that the rural audience is generally unprepared to present, dialogue and exchange of ideas begin to establish relationships and restore trust, creating an atmosphere of trust, respect and goodwill each of which is the development and acceptance of sustainable and new ideas for group decisions.

#### REFERENCES

- [1] A. Sinha and F. Ram, "Formation of traditional gender attitudes among young married women in rural North Dinajpur, West Bengal: Does religion play a role?," *J. Popul. Soc. Stud.*, vol. 26, no. 2, pp. 83–100, 2018, doi: 10.25133/JPSSv26n2.007.
- [2] E. L. MIHAILUK, "MARKETING INSTRUMENTS FOR ENVIRONMENTAL DEVELOPMENT AGRICULTURAL TOURISM," *Econ. Innov.*, vol. 20, no. 3(68), pp. 145–154, Sep. 2018, doi: 10.31520/ei.2018.20.3(68).145-154.
- [3] L. Boyd, S. Giffin, and M. Powell, "ED and poison center surveillance for the Great American Solar Eclipse in Oregon," *Online J. Public Health Inform.*, vol. 10, no. 1, May 2018, doi: 10.5210/ojphi.v10i1.8797.
- [4] O. J. Umeh and I. Nwachukwu, "Behavioural approaches of rural women farmers to mitigation and adaptation measures of climate change in Abia State, Nigeria," in *University Initiatives in Climate Change Mitigation and Adaptation*, 2018, pp. 111–129. doi: 10.1007/978-3-319-89590-1\_7.
- [5] S. Sinha, "Mass Media and Indian Society: An Analytical View of its Significances," *SMS J. Entrepreneursh. Innov.*, vol. 6, no. 01, Dec. 2019, doi: 10.21844/smsjei.v6i01.17664.
- [6] O. Ovikuomagbe, "Determinants of Maternal Healthcare Utilization in Nigeria," *African Res. Rev.*, vol. 11, no. 2, p. 283, 2017, doi: 10.4314/afrev.v11i2.21.
- [7] A. A. Seidu, "Mixed effects analysis of factors associated with barriers to accessing healthcare among women in sub-Saharan Africa: Insights from demographic and health surveys," *PLoS One*, vol. 15, no. 11 November, 2020, doi: 10.1371/journal.pone.0241409.

- [8] Aaditya Anand & Ananya, "ROLE OF MEDIA, INFORMATION AND COMMUNICATION TECHNOLOGY IN EDUCATION," *Int. J. Humanit. Soc. Sci.*, 2016.
- [9] S. Kumari, N. Sethi, and R. Jodha, "Psychological and communication factors with impact assessment of mobile based advisory services in Haryana," *Ann. Agri Bio Res.*, 2017.
- [10] L. A. KUMAR, S. H. Mazhar, and J. Jahanara, "To Ascertain the Level of Knowledge of Beneficiaries Regarding Integrated Tribal Development Agency (ITDA) Providing Farm Services Adilabad District of Telangana," *Int. J. Adv. Agric. Sci. Technol.*, 2021, doi: 10.47856/ijaast.2021.v08i8.014.
- [11] C. Chesher, "Mining Robotics and Media Change," *M/C J.*, vol. 16, no. 2, Mar. 2013, doi: 10.5204/mcj.626.
- [12] S. Thompson and K. Kyle, "Understanding mass school shootings: Links between personhood and power in the competitive school environment," *Journal of Primary Prevention*, vol. 26, no. 5, pp. 419–438, 2005. doi: 10.1007/s10935-005-0006-8.
- [13] H. Chorna, "SOCIO- PEDAGOGICAL FACTORS FOR VALUE FORMATION AMONG MODERN STUDENTS YOUTH," *Visnyk Taras Shevchenko Natl. Univ. Kyiv. Pedagog.*, no. 2 (8), pp. 64–68, 2018, doi: 10.17721/2415-3699.2018.8.17.
- [14] M. V Sajeev and K. N. Gowda, "Perceptions on experiential learning: a study of agriculture students.," *Indian Res. J. Ext. Educ.*, vol. 13, no. 1, pp. 48–55, 2013.
- [15] M. Timalisina and P. M. Pradhan, "Role of Local/Community Radio on Rural Development," *Nepal. J. Dev. Rural Stud.*, vol. 16, pp. 46–52, Dec. 2019, doi: 10.3126/njdrs.v16i0.31570.
- [16] L. N. Mukta, M. E. Haque, M. A. Sadat, and M. Z. Tareq, "Participation of Rural Women in Homestead Agricultural Activities," *J. Exp. Biosci.*, vol. 11, no. 2, pp. 55–66, 2020.
- [17] R. K. Mehta and S. Science, "Role Of Media In Rural Development Of Rajasthan," vol. 19, no. 4, pp. 5768–5771, 2020, doi: 10.17051/ilkonline.2020.04.764980.
- [18] P. Kumar and V. Lenin, "Constraints Faced by Traditional Folk Media Artists and Development Functionaries for Rural Development in Rajasthan," *Indian J. Ext. Educ.*, vol. 57, no. 03, pp. 96–98, 2021, doi: 10.48165/IJEE.2021.57322.

## CHAPTER 19

# PROJECT DELAYS AND FACTORS THAT HELPS TO AVOID PROJECT DELAY

---

Raghuvir Singh, Professor,  
Department of Teerthanker Mahaveer Institute of Management & Technology, Teerthanker Mahaveer  
University, Moradabad, Uttar Pradesh, India  
Email Id- rs-dhayal@yahoo.com

**ABSTRACT:** Typically, project delays put businesses over budget, force them to miss deadlines, and sometimes cause projects to fail. Due to the potential impact it may have on costs and schedules, project managers should pay particular attention to its occurrence. Projects might differ in various ways, including duration, degree of procedural complexity, level of financial investment, etc. Such organisational and technological complexity poses serious risks, which may appear as delays in project completion. This investigation focuses on project delays and potential mitigating factors. Despite the fact that time delays and cost overruns are very common in construction projects, adopting an appropriate performance monitoring mechanism and control system that will be integrated with all the crucial components and activities of each phase of the construction project will help to reduce or eliminate them.

**KEYWORDS:** Cost Overrun, Delay Cost, Project, Project Delays, Project Management.

### 1. INTRODUCTION

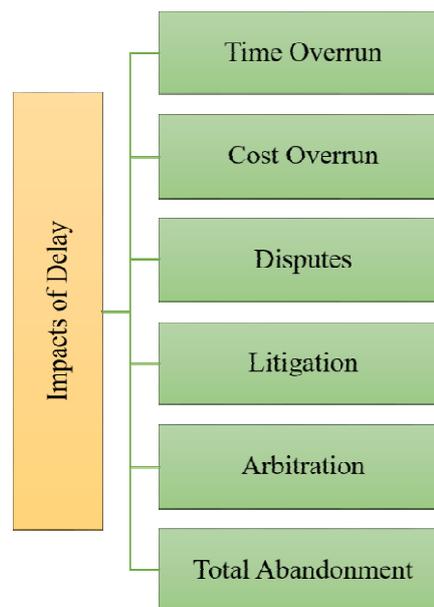
Construction projects are unique endeavours with many distinguishing characteristics, including a lengthy duration, a repulsive environment, complex organisational processes, and a high financial intensity. The significant risks that come with such complexity in technology and organisation have caused construction project completion delays and cost overruns. A construction delay is any extra time required or incurred beyond the project's anticipated completion date or after the deadline set by the project's stakeholders. The timely completion of the project is a sign of the effectiveness of all project participants, but the building process is susceptible to several unexpected variables that have a variety of origins. Typically, a project delay may put businesses over budget, lead them to miss deadlines, and sometimes cause projects to fail. Project managers need to be especially aware of its occurrence since it may have a substantial influence on costs and timelines [1]–[3]. Projects might differ in various ways, including duration, degree of procedural complexity, level of financial investment, etc. Such organisational and technological complexity poses serious risks, which may show themselves as delays in project completion. Delays may occur in a variety of sectors, including construction, IT, finance, and others. By revealing project delays, managers go to work putting up effort for improvements and timely project completion. When anything occurs that stops a project from beginning or continuing, it may be delayed accidentally and without prior notice. The amount of time lengthens the project's duration and prevents it from achieving its aims and objectives.

Delays are often brought on by circumstances that prevent project activities from beginning and continuing. Requests from parties having significant influence over the project, such as clients, sponsors, or other stakeholders, very seldom result in delays. Unexpected project delays are inevitable, unanticipated, and often have a detrimental impact on the course of the project and its results. Unexpected delays increase project costs and time of project activity overall [4]–[7]. It produces time-related cost impacts that increase resource consumption and lengthen the amount of time needed to complete a project. Establishing a delay tolerance

from the very beginning of a project is sensible in order to minimise the negative effects of delays. Delay allowance is the amount of time included into the project plan ahead of time to account for unforeseen circumstances and anticipated small delays [8]–[11]. Through the avoidance of activity interruptions and the establishment of time buffers, it serves as a technique to increase project safety.

### 1.1. Reason for Projects Get Delayed

To comprehend project requirements and customer expectations, they were put together. The work put into carrying out the project is rendered useless if these deciding variables are altered in the middle of it. To achieve the objectives set out for its completion, the project must often be replanted, repositioned, and restarted, as shown in Figure 1.



**Figure 1: Illustrating the Various Reason for Projects Get Delayed.**

#### 1.1.1. Resources on Hand:

To eliminate issues about execution, the time and resource needs are calculated early on in the planning process. However, there is no assurance that the initiative will benefit from the resources allotted. During activities, errors might happen. Resources are squandered and must be repurchased, depending on the severity of the fault. Additionally, when manufacturing equipment malfunctions, a production resource is no longer accessible, which causes additional issues and delays.

#### 1.1.2. Insufficient Planning

Time and resource management are essential for a project's effective completion. Employees must do their duties at the appropriate times in order for the project to be completed. The completion of a project might become challenging if there is little tolerance for error in the planning and the timetables are distorted. When timetables are realigned, issues arise with both the current project and future projects as well.

#### 1.1.3. Unrealistic Deliverable

Underperformance and overpromising are unacceptable in commercial settings. A thorough analysis must be done before projects are given to a company to see if the team has a realistic

chance of finishing them. Delays and failure completion are unavoidable if a company accepts a project despite not being able to satisfy the criteria.

1.1.4. External Variables:

Timelines and needs for projects must take into account suppliers. The manufacturing cycle is put on hold until the inventory is delivered when suppliers are late. Suppliers operate outside of the manufacturing industry. Anything that is processed to create a final product qualifies as a raw material, including data. The customer must adapt to new project timeframes as a result of the delay.

1.1.5. Communication Mistakes:

Easy flow of communication is required throughout the company. There are several departments and parties involved in the project's completion. A communication breakdown may hold up execution, postpone processing and approvals, and eventually delay project completion.

1.1.6. Large-scale, unpredictable changes:

Project delays and failures often have external causes. Businesses are compelled to suspend regular operations when large-scale, unexpected catastrophes like natural disasters or political concerns take place. These delays cannot be prevented, thus both parties must accept them.

2. DISCUSSION

Imagine the challenge facing a project manager who has to complete the task in a time-sensitive manner to enhance the impact. In such cases, the project either isn't delivered on time or, if it somehow manages to arrive at the table, the deliverables aren't in the best possible shape. The best strategy to handle project delays is to anticipate risks, problems, and any potential causes that might cause delays. PMs may then quickly end the delays and revert to a contingency plan that always works in this fashion. Project managers from traditional sectors, like construction, had to cope with risk reduction and delays in project management long before Agile project management became popular. They handled these problems in a manner that didn't interfere with the process or the long-term objectives, Figure 2 shows the reason for project delay in construction industry.

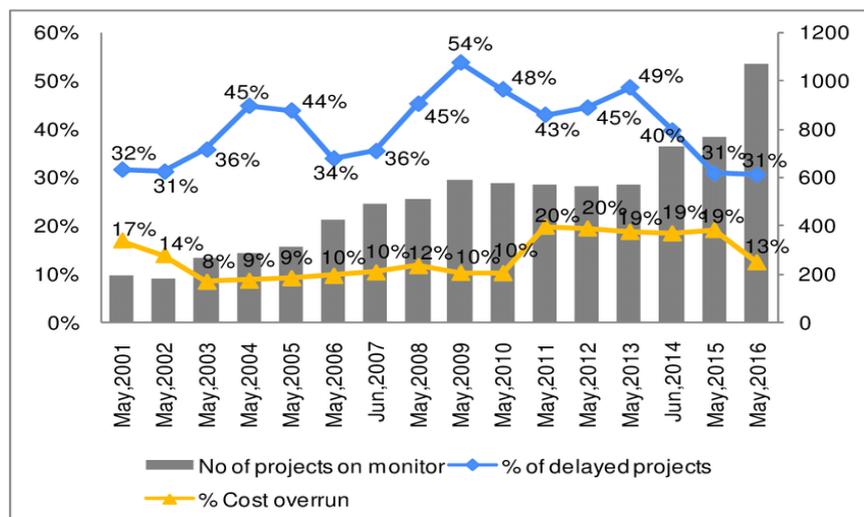
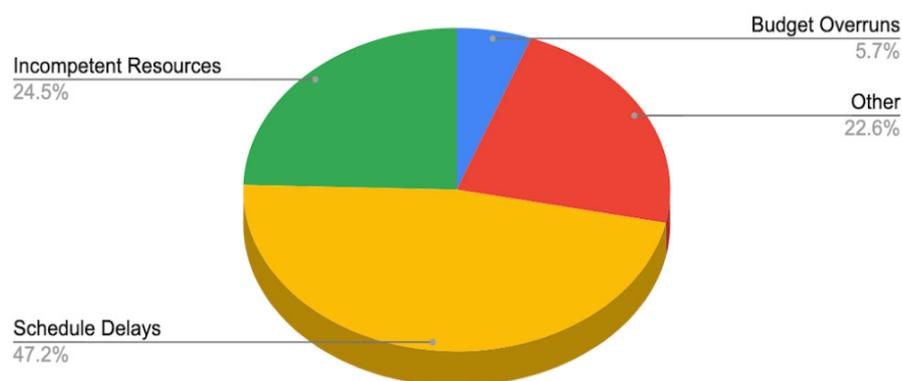


Figure 2: Illustrating the Over the years, India's building projects have tended to be delayed and over budget [Researchgate].

Project management is a highly skilled field, yet delays and cost overruns nevertheless happen often. Even while some would consider this to be unimportant It is important to note that the physical and financial extent of projects today is determined by how well they meet the criteria for success set out in the Iron Triangle of cost, time, and scope on the foundation of profit to the parent organisation and of national interest. It is thus very appreciated to look at certain reasons of delays and cost overruns in projects and their mitigation strategies in order to enhance the perception of project success. According to studies, one of the major reasons for cost overruns in the majority of projects is due to design errors. It's important to keep in mind that project designs are often utilised as a guide to achieve good technical contribution to project execution and correctly reflect the client's needs. A faulty design thus effectively conveys inaccurate or insufficient project results. When the project's actual execution phase begins, this might lead to the wrong application of processes to obtain the targeted objectives, which would create delays and cost overrun [12]–[14].

Because project estimates are based on the produced designs, design errors that manifest as omissions or misrepresentations will cause the estimation for the project cost to also take these omissions into account. This will result in extra work, change orders, etc., which will cause a delay and cost overrun. In a manner similar to this, designs produced without doing a comprehensive research of the website may be flawed. This is because once the actual site conditions start to emerge during the project's construction phase, such designs may lead to more work, a changed scope of work, and a new contract. The primary consideration for managing project delay and expense overrun due to design flaws is the deployment of qualified tools and the involvement of professional talents throughout the project. To create work that is error-free, a well-planned design process that includes good communication between all members of the design team and gives ample time for corrections, in-depth research, and reviews is required.



**Figure 3: Illustrating the Different Reasons for Project Schedule Delays.**

Changes to the project's scope might cause delays and cost overruns. The word "scope" describes all of the deliverables that are anticipated at the conclusion of a project. It follows naturally that all project plans, estimates, schedules, quality standards, and base lines are often created based on the project's original scope. Therefore, any change in the project's scope during execution will need a review of the whole original project plan, including the budget, timeline, and quality. Compared to the original baseline, this indicates that additional time and resources will be required. The project timeline and budget are put under strain because resources from the project are often diverted to tasks that were not included in the project's initial scope. It is essential to first recognise that change is unavoidable in projects and that it may even be advantageous to the success of the overall project in order to implement an appropriate control for scope change. In order to adopt a proactive strategy that

involves project stakeholders and takes their demands into account throughout the project lifecycle, it is crucial to include a good change management plan (Figure 3).

Inappropriate and insufficient procurement as well as a flawed contractual management system are two other important causes of cost overruns and project delays. Almost every facet of a company relationship is spelled out in contracts, including payment terms, price, and service standards. As a result, a contract that does not explicitly describe every aspect of the project might result in disagreements inside the contract system. For example, if the first contract does not fully identify every pertinent part of the project work, this may result in protracted discussions, arbitration, and/or mitigation owing to work modification orders and the pursuit of a revised contractual agreement with new budgets and schedules. There will undoubtedly be a project delay and cost overrun as a consequence. The project's complexity might potentially play a role in the delay and cost overrun. The scale of the project may be used to determine complexity; for example, most megaprojects have longer implementation times than small projects. The original budget may need to be increased in order to finish the project due to inflation, changes in material prices, and variations in currency rates. The outcome might be cost overruns and protracted negotiating processes that cause delays. Similar to this, complicated projects often have intricate planning, timetables, and estimates such that, if caution is not exercised, there may be a propensity to overlook key aspects of the project estimates and plans, which might result in change orders. Potential reasons for delays and cost overruns are also included in the project's post-execution phase. Being the very last phase of the project life cycle, it is often ignored by enterprises, especially in situations when there are several projects. Unexpected delays and stray costs can be added to the project as a result of unresolved problems with client acceptance, contracts and procurement, unissued final change orders, poor close out of the final account, insufficient documentation of the project's success and lessons learned, slow client acceptance, and failing to close the work order. One may argue that sluggish closeout is impeding the different handover processes. For example, if a project team is not quickly decommissioned once the project's work is over, they may continue to function even though no work is being done, which might result in extra overhead expenditures that cause the project cost to exceed the budget. Similar to this, delaying the payment of suppliers and contractors after the project is complete might lead to a dispute and postpone the signature of the project's certificate of full completion.

2.1. Five Methods to Preventing Project Delays:

Every project stakeholder's worst fear is a project delay. Even though approximately 60% of projects have delays, it's not hopeless since delays can always be avoided with a little forethought and preparation [15]–[17]. Take a moment to consider what you can do to better prevent project delays before moving on to your next phase in the plan, beginning with the planning stage. Avoid project delays in in various step as shown in Figure 4.



Figure 4: Illustrating Few Points that Helps to Avoid Project Delay.

## 2.2. *Communicate Project Delays:*

Here are the two most effective strategies to handle delays in any project, without micromanaging.

### 2.2.1. *Take Charge proactive in order to minimize project delays:*

In order to reduce delays brought on by unforeseen circumstances, you must take a proactive approach. Make sure you remain alert and keep a careful check on the project to see if anything might create delays in the future.

### 2.2.2. *Planning beforehand may often reduce delays:*

Each project must be approached seriously. You must create a realistic, feasible timeline while considering your team, your objectives, your dependents, and your standards.

### 2.2.3. *follow recognised protocols:*

These processes include not just how you go about doing your task but also how you handle communication and reporting. You can become better with each project if you use reports and criticism from prior ones. Create a predetermined structure and feedback loop to cut down on as many unforeseen delays as you can. Keep track of all objectives and deadlines as a proactive project manager, and try to modify and enhance the tasks at hand to increase productivity and efficiency.

Additionally, as a proactive project manager, make sure that your channels of communication are clear and efficient. Make sure your staff gets enough opportunity and feedback reports so they may discuss problems as they arise. You'll be able to provide solutions quickly as a result of this. This will facilitate job completion swiftly and guarantee high-caliber work. Additionally, you must make sure that procedures are properly planned and followed. For instance, your team members should be aware of what to do in the event of a system crash to prevent unneeded delays. The best strategy to prevent project delays is to foresee probable problems and dangers. This will keep things operating smoothly.

## 2.3. *Few Points that dealing with project disruptions and delays*

### 2.3.1. *Establish reasonable expectations and goals:*

In a professional setting, managing expectations is essential. Being honest with your customer and with yourself can help you avoid setting yourself up for failure. Although establishing more ambitious objectives may be enticing, developing a trusting connection with your customer is more crucial. Establish measurable objectives that can be monitored and measured all the way through.

### 2.3.2. *A lot of team meetings:*

The most crucial meeting for every project is the first one. Here, duties and objectives are explained and addressed. It is essential that each individual engaged comprehend their part in carrying out the project. The initial meeting also establishes deadlines and benchmarks that the company may work with.

### 2.3.3. *Enhance Resource Acquisition:*

A company with the appropriate resources may easily complete a project from beginning to end. The organisation allots a certain amount of money to each initiative. It's crucial to finish your project inside that spending limit if you want the company to continue operating

effectively. Resources may include both labour power and the material things necessary to generate the desired product.

#### 2.3.4. *Improved Scheduling Techniques:*

A tight deadline is often difficult to meet. It demands utmost accuracy in execution and little space for mistake. However, putting out a thorough schedule with the appropriate resource allocation and a buffer might save staff members from feeling overburdened. A clear timetable is required. Include estimates of the resources and time required for each activity as you list all the necessary tasks and activities, fully describe the project stages, and look at sequences and relationships. All staff must have easy access to the schedule.

#### 2.3.5. *Always Track Your Progress:*

Making sure workers and activities are on schedule as the project develops keeps it going in the right direction. Only when the information conveyed is maximized can progress be tracked. These performance indicators provide data that is essential for achieving objectives and adhering to the project plan. Transparency aids in maintaining team concentration. Finally, it's critical to be open and truthful about this process. These ideas are necessary to comprehend what went wrong and develop a strategy to fix it.

### 3. CONCLUSION

The good news is that employing a robust project performance monitoring and control system that will combine all the crucial operations of each phase of the project, delay and cost overrun may be reduced or completely avoided. This system might be set up such that from project conception to closure, a closed-loop information feedback and feed-forward package is acquired. TO avoid further project delays by setting new deadlines, prioritising tasks, and communicating these changes. The outcome, however, is often not favourable for either the customer or the company. The reputation of a company is always best served by avoiding the problem entirely. When thoughtful planning and resource allocation are implemented early on, actions stay simple. Additionally, it increases your chances of successfully completing a project and strengthening your standing within your company. You are now aware of effective project delay management strategies. Nowadays, everything is a project, thus it is crucial for project practitioners all around the globe to advance their skills by learning about generally acknowledged project management frameworks and best practises. This may be accomplished by enrolling in reputable project management certification programmes offered by a reputable educational institution.

#### REFERENCES

- [1] H. O. Elhusseiny, I. Nosair, and A. S. Ezeldin, "Systematic processing framework for analyzing the factors of construction projects' delays in Egypt," *Ain Shams Eng. J.*, 2021, doi: 10.1016/j.asej.2020.10.016.
- [2] E. Soliman and K. Alrasheed, "Model for construction project delay occurrence (PDO)," *J. Eng. Res.*, 2021, doi: 10.36909/jer.v9i3B.10211.
- [3] C. N. Egwim, H. Alaka, L. O. Toriola-Coker, H. Balogun, S. Ajayi, and R. Oseghale, "Extraction of underlying factors causing construction projects delay in Nigeria," *J. Eng. Des. Technol.*, 2021, doi: 10.1108/JEDT-04-2021-0211.
- [4] Y. Rashid, "Analysis of delay factors and their effects on construction projects," *Manag. Sci. Lett.*, 2020, doi: 10.5267/j.msl.2019.11.039.
- [5] A. Asmi, A. Djamaris, and M. Ihsan, "Top Ten Similarity Ranking for Project Delay Factors in Construction Industry," 2019. doi: 10.1088/1757-899X/650/1/012006.
- [6] F. Eizakshiri, P. W. Chan, and M. W. Emsley, "Where is intentionality in studying project delays?," *Int. J. Manag. Proj. Bus.*, 2015, doi: 10.1108/IJMPB-05-2014-0048.

- [7] S. Durdyev, M. Omarov, and S. Ismail, "Causes of delay in residential construction projects in Cambodia," *Cogent Eng.*, 2017, doi: 10.1080/23311916.2017.1291117.
- [8] A. M. Kamaruddeen, C. F. Sung, and W. Wahi, "A study on factors causing cost overrun of construction projects in Sarawak, Malaysia," *Civ. Eng. Archit.*, 2020, doi: 10.13189/cea.2020.080301.
- [9] A. Bin Seddeeq, S. Assaf, A. Abdallah, and M. A. Hassanain, "Time and cost overrun in the Saudi Arabian oil and gas construction industry," *Buildings*, 2019, doi: 10.3390/buildings9020041.
- [10] R. F. Herrera, O. Sánchez, K. Castañeda, and H. Porras, "Cost overrun causative factors in road infrastructure projects: A frequency and importance analysis," *Applied Sciences (Switzerland)*, 2020. doi: 10.3390/app10165506.
- [11] G. Heravi and M. Mohammadian, "Investigating cost overruns and delay in urban construction projects in Iran," *Int. J. Constr. Manag.*, 2021, doi: 10.1080/15623599.2019.1601394.
- [12] T. Q. Vu, C. P. Pham, T. A. Nguyen, P. T. Nguyen, P. T. Phan, and Q. Le Hoang Thuy To Nguyen, "Factors influencing cost overruns in construction projects of international contractors in Vietnam," *J. Asian Financ. Econ. Bus.*, 2020, doi: 10.13106/JAFEB.2020.VOL7.NO9.389.
- [13] M. M. Odendaal, F. N. Vermaak, and E. Du Toit, "Cost estimation and management over the life cycle of metallurgical research projects," *South. African Bus. Rev.*, 2019, doi: 10.25159/1998-8125/5811.
- [14] J. J. Ganuza, "Competition and cost overruns in procurement," *J. Ind. Econ.*, 2007, doi: 10.1111/j.1467-6451.2007.00324.x.
- [15] S. M. A. Tabei, M. Bagherpour, and A. Mahmoudi, "Application of fuzzy modelling to predict construction projects cash flow," *Period. Polytech. Civ. Eng.*, 2019, doi: 10.3311/PPci.13402.
- [16] K. Kim, "Generalized resource-constrained critical path method to improve sustainability in construction project scheduling," *Sustain.*, 2020, doi: 10.3390/su12218918.
- [17] J. U. D. Hatmoko and F. Kistiani, "Model Simulasi Risiko Rantai Pasok Material Proyek Konstruksi Gedung," *MEDIA Komun. Tek. SIPIL*, 2017, doi: 10.14710/mkts.v23i1.14697.

## CHAPTER 20

### ASSESSMENT OF THE DYNAMIC ROLE OF ETHICS IN BUSINESS MANAGEMENT AND ITS REPERCUSSION

---

Manjula Jain, Professor,  
Department of Teerthanker Mahaveer Institute of Management & Technology, Teerthanker Mahaveer University,  
Moradabad, Uttar Pradesh, India  
Email Id- jainmanjula776@gmail.com

**ABSTRACT:** *Business ethics are the principles that define what is ethically right and what is wrong in organizations. Although being legal or ethical is not the same thing, the law does influence behavior to some extent. Business ethics support the law by defining appropriate behavior independent of government oversight. This study attempts to determine whether maintaining high standards of business conduct and corporate social responsibility has an impact on operational effectiveness and employee satisfaction. These two views provide a logical framework for examining the relationship between an organization and the communities in which it operates. The results suggest that organizations with higher corporate ethics and social responsibility are more efficient and therefore perform better. Additionally, companies with high standards of ethics and social responsibility tend to have higher levels of consumer satisfaction, which benefits the company's shareholders. Thus, the ethical behavior adopted by the company is taken into account while taking socially responsible action. The main objective of this paper role-plays ethics in business and its efficient management. In the future through this paper people will understand the role of ethics in business development and its efficient management.*

**KEYWORDS:** *Business, Employees, Ethics, Environment, Management, Decision Making, Repercussion.*

#### 1. INTRODUCTION

The current state of social development puts fresh strain on corporate management, according to organizations and society, who believe that ethics play a significant part in commercial practices. Recent organizational history once more has to deal with poor examples. Organizations that uphold ethical standards are crucial to society. Unmoral business practices can harm society [1]–[3]. Businesses should avoid using unfair labor practices, misleading clients and suppliers, and environmental pollution. Businesses that practice ethics have realized the harm that can be caused by unethical activity, thus they are moving forward and coming up with new methods to include ethics in their processes rather than debating the necessity of their function or value. If a business decides to accept or pursue its ethical commitments. It must be handled by someone who is knowledgeable of the goals or objectives of the company and can persuade the employees to pay attention to it [4], [5].

##### 1.1. Conceptual model framework:

The process of creating long-term value for a company through alliances with customers, markets, as well as other organizations is known as business development. For a firm to develop, its business ethics must be maintained. There has been a lot of focus on discussions or issues relating to corporate ethics from many sources. Demands from customers or pressure groups on firms to adopt more ethical and ecologically responsible business practices have intensified [6], [7]. The media has also consistently brought attention to business misconduct and abuses. Furthermore, it seems that companies are starting to understand the advantages of keeping strong moral standards. Regardless of their sector, firms have ethical issues [8], [9]. Another part of displaying professionalism is having a strong commitment to doing the right thing. Figure 1 illustrates the conceptual framework for management ethics. The traits of openness, sincerity, and honesty define ethical behavior. A

dedication to moral behavior is included in the rules of conduct of many organizations. On a personal level, professionals can set up a personal code of conduct and follow it.



**Figure 1: Illustrate the Relation between Management and Ethical Model.**

The relationship between management ethics and the organization is depicted in Figure 1; a code of conduct is crucial to establishing the values of the company and assisting management in integrating employees with company objectives. It has been seen and addressed in several papers that it is challenging to have acceptable ethical methods, however, there are certain ways that professionals or researchers may be guided in creating a healthy competitive atmosphere. Management is greatly impacted by ethics in the best way. According to empirical studies, ethical leadership is rare. There haven't been many studies on this subject. People's perceptions regarding the value of ethical leadership for understanding leadership might be influenced by societal culture in the form of institutional collectivism, performance emphasis, or uncertainty avoidance [10], [11]. Ethical principles have been introduced into legislation and regulations throughout the past 20 years. Global ethical outcomes since 2001 show that modernizing the public sector through putting citizens at the center of activities, increasing opportunities for welfare service choice, reducing administrative burdens, as well as emphasizing more measurable targets and results that can provide value for money, is made to feel like a central policy [12], [13].

Individual communication behavior serves as the organization's main conduit for communicating with the outside world. To protect others' rights, the organization enquires about its obligations. Professional ethics today is described by its identity as information and science, its practical function, the provision of a professional form, its increasing reliance on a moral framework, its indigenoussness as well as dependence on culture, the appearance of a multidisciplinary approach, its dependence on human knowledge with a clear strong motivational language, and its dependence on a moral framework.

### 1.2. *Professional Autonomy of Scientific Integrity:*

Instead of being pushed, accepted, or reprimanded in the form of moral dos and don'ts, this feature, like ethics within any other professional system, should represent the personal moral commitments of the professionals themselves in addition to their specialized organizations.

### 1.3. *Professional Self-Awareness:*

The basis of morality is to know one's, own expert. To understand their profession and professional movement ethically, including its style of thinking or relation to people's lives, they must first understand it. Children then develop a strong sense of responsibility for nature and the environment. Assuring that employees understand what ethical conduct is, promoting ethical behavior, disseminating ethical practices amongst line managers, distributing codes of ethical direction, and monitoring consistency. There are several duties, including examining procedures. Restoring an organization's ethical culture is one way to further its development. Motivating internal communication within an organization fosters effective leadership and worker satisfaction, which fosters the greatness and advancement of the hierarchical structure [14], [15].

The application of ethics in daily life as well as in business management differs somewhat. The ethics that govern the corporate sector go beyond the simple prohibitions against stealing and lying. It helps companies conduct business responsibly with all their stakeholders, including the environment in which they operate. It helps managers and employees make decisions by providing them with a sense of standard ethics about how they should react in a dangerous situation. Even if operating ethically in business operations may not appear crucial to the success of the firm in the short term, it has substantial long-term benefits for the organization, therefore successful businesses make an effort to do so even if the process ends up being costly.

Even though other issues should also be taken into consideration, ethics cannot be applied when one solely pursues his or her benefits. Different sectors are now under a variety of ethical challenges since many companies just care about making profits; as a result, they don't act ethically because it would increase their costs. For the sake of everyone, these issues should be resolved via compromises and the efforts of many industry stakeholders.

### 1.4. *Ethics in Business Management Practice:*

The most important component of business ethics is that all actions must be taken in compliance with the law, standards, and the organization's defined aims and objectives, eventually resulting in the satisfaction of all parties involved in the business. Because they are the foundation and the reason for a company's existence, businesses should constantly take into account the needs and interests of all of their personnel, clients, suppliers, the environment, and the general public. Diverse stakeholders frequently have conflicting interests. But to resolve such disputes and ensure the success of the company, compromises must be made and a shared interest must be identified [16], [17]. Additionally, there is always a chance that the business, the surroundings, and society may have trouble coming to an understanding, which can be challenging to resolve. Therefore, it's crucial to strike a balance that benefits all parties.

This paper is divided into several parts such as an introduction, Literature review, discussion, and conclusion. In the introductory part, the author talks about professional self-awareness and business ethics management. In the literature review section, the author talks about the previous study on business ethics. In the discussion, part author talks about the significance

of business Ethics, ethical behavior, and also Characteristics of Organizational Ethics. In the end, the author concludes the entire study based on their observation.

## 2. LITERATURE REVIEW

T. Damp studied professional ethics are important and necessary in the organization. Human values express a personal belief, whereas ethical standards reflect the generally recognized rules of action regarding moral obligations and virtues as they apply to an institution. The stakeholders in an organization are instructed about the desirable and unpleasant actions associated with a profession by codes of professional ethics. Respect for one another, professionalism, adhering to business regulations, effective communication, taking responsibility, and trust are a few characteristics of ethical workplace behavior. The best degree of effectiveness at work is ensured by these examples of moral behavior. This paper discusses professional ethics, including its importance, need, and managerial obligations [18].

Z. Menbarrow studied about importance of ethics in business. There are many benefits to business ethics, but employee loyalty, morale, and management team cohesion are just a few of them. The key indicators of whether a firm is a good investment are the neighborhoods, standing with other companies, or individual investors. Investors are less likely to buy shares of a firm or provide it with financial support if they feel it does not conduct business responsibly. Consistent ethical behavior is one of the most important factors in building a favorable public reputation for current or future investors. Businesses must be dedicated to operating on ethical grounds, including fair market procedures in terms of employee management, respect for the environment, pricing, and customer treatment, to maintain a favorable reputation [19].

Donovan A. Mcfarlane studied about importance of business ethics. The author looks at the literature, body of knowledge, and factors that make up the ethical foundation or ethical duties of small firms, as well as the rules of business ethics and the ethical difficulties that small enterprises face. To address the issue of ethics in small firms, the author outlines four areas in which it is particularly crucial to small venture practices and suggests three key methods or answers. Finally, several suggestions are provided for enhancing moral behavior that benefits clients, fosters the development of small businesses brands and reputations, and gives them a competitive edge [20].

Hoang Thi Phuong et al. studied the value of business ethics in the management of a firm. In addition to being the prime goal of local governments, regional economies, and the global economy, sustainable economic development is also the ultimate goal of businesses. One of the principles of long-term economic success is ethics. The potential for ethical leaders and workers to positively impact choices and actions that promote sustainability is quite high. Therefore, everyone at work today is expected to act ethically. This study contends that corporate ethics are the most crucial factor in generating long-term success and profits; a corporation must be motivated by strong ethical principles in addition to financial gain [21].

## 3. DISCUSSION

### 3.1. *Organizational Management and Ethics:*

Ethics is the collective term for all of the ideas, rules, and moral principles that constitute what society considers to be right or bad. The difference between good and wrong is shown. It aids employees of the organization in making decisions when it's difficult to select the greatest choice or even the largest one from a group of competing options. A good business upholds moral principles and serves the common good. Since the public has faith in the

company, ethical firms have a positive reputation that contributes to their success. Businesspeople or businesses benefit from ethical behavior as well since it improves the quality of their lives and the job they do. Ethical behavior benefits society as a whole, which is shown in Figure 2.

Organizational ethics is often referred to as corporate ethics or business ethics. It is a subfield of both professional and practical ethics that examines moral principles and moral conundrums that arise in the workplace. It affects how management, staff, and the company as a whole behave and applies to all facets of organizational behavior. Both normative and descriptive techniques apply to this topic. How frequently it is believed that organizational performance conflicts with non-economic social objectives may be seen in the diversity and volume of ethical challenges. Organizational ethics put a lot of emphasis on the commitment of the organization to achieving non-financial social objectives. They are linked to the morals of society, the morals of those who work for the company, and those who purchase its products.



**Figure 2: Illustrate the Role and Responsibility of Business Ethics [18].**

Although the concept has evolved to mean different things to different people, in general, it involves acting morally at work, considering the effects of products and services, and interacting with stakeholders. When undergoing a fundamental transformation, which is what businesses are now doing, the author contends that companies must pay particular attention to organizational ethics. In times of significant change, values that were formerly taken for granted are now being carefully questioned. Many of these principles are no longer followed. It is frequently described as a philosophy or a set of moral guidelines. The application of moral principles to the circumstances in which an organization operates is known as organizational ethics. Organizational ethics are formed through time and habit. From one organization to another, a custom is different. A tradition turns into an ethic when it is embraced by the group and the general populace. Any kind of company may benefit from organizational ethics. Additionally, the organization's social duty mandates that it conduct business ethically.

### 3.2. *The Significance of Business Ethics:*

To endorse, guarantee, or protect anything that has a big impact on other people's welfare, the profession requires both forward-thinking research and mastery of a specific body of acknowledgment and endeavor. There are codes of ethics for almost every profession that serve as a guide for making moral decisions. A set of rules known as professional ethics address both the morals and conduct of professionals in their day-to-day work. Corruption, carelessness, bribery, conflicts of interest, collusive tendering, underbidding, cover pricing, front loading, withdrawal of tender, bid shopping, and payment game are only a few examples of unethical practices and ethical conundrums in the construction sector. There are serious issues regarding the ethical behavior of building industry specialists. Corporate social responsibility and ethical conduct may transform a company for the better.

For instance, they may draw clients, reduce organizational turnover, boost job demand, draw investors, and enable the business to maintain its pricing and market position. This study discussed several theories on how public administration systems and ethics management may coexist. A massive expansion of dualistic continuum ethical management will be attempted. There is little indication that traditional methods have anything to do with the public service approach, even if it is thought of as a subset of practical or applied ethics. There are numerous reasons why organizational ethics is seen as a crucial subject since it aids in the organization's evaluation of its operations and the management's effort to make better decisions. The following ways good organizational ethics support the organization's operations.

An organization has more influence and influence in society today than ever before. Organizational ethics helps management to understand the causes, possible repercussions, and course of action of the situation. By creating essential goods and services, offering employment, paying taxes, acting as an engine for economic progress, and influencing public opinion, the enterprise has the potential to significantly benefit society. Abuse of power has immense potential negative effects on people, communities, and the environment. By assisting the organization in learning more about the reasons and consequences of these wrongdoings, organizational ethics contribute to the growth of a relationship based on mutual trust.

The requirements that the organization's many stakeholders impose on it to be ethical are continually getting more complicated. For the business to better uphold these ethical demands, organizational ethics offers the ability to recognize and comprehend these problems with greater clarity. By giving management the information and resources, it needs to accurately identify, diagnose, evaluate, and offer answers to the ethical difficulties and conundrums it faces, organizational ethics may aid in the improvement of ethical decision-making. Good ethical standards are the foundation for successful organizations. Organizational ethics aids in keeping activities active for a longer amount of time. Organizational ethics give managers the capacity to weigh the advantages and drawbacks of various approaches to handling various situations inside the firm. The level of competitiveness is rising daily in the age of market complexity. A strong ethical foundation enables the company to overcome obstacles.

### 3.3. *Moral Behavior:*

The definition of ethical behavior is behavior that complies with ethics, which includes personal moral convictions and societal norms regarding right and wrong. Ethics are crucial for having a decent character, living with oneself, and getting along with other people. The

ethical conduct of the organization while carrying out its activities is a topic of organizational ethics.



**Figure 3: Illustrate the Making of the Ethical Behavior.**

The organization has issues as a result of unethical behavior. The ethics upheld by the organization's administration and staff are crucial to its survival and expansion. Organizational ethics refers to how an organization acts while carrying out its duties by upholding moral principles. It is nothing more than the organization's application of ethics. It involves incorporating broader ethical principles into organizational behavior. Ethical conduct fosters and promotes societal good, boosts revenue, improves customer relations, and boosts employee productivity. Even while the word ethics has grown to signify many different things to different individuals, it is most frequently used to refer to knowing what is right or wrong at work as well as acting accordingly. Both the relationships with stakeholders and the goods and services provided are impacted by organizational behavior. Figure 3 illustrates how ethical conduct develops inside a company.

#### 3.4. Core Values of Organizational Ethics:

The basis of ethical behavior is laid by the values of justice, responsibility, respect, and good citizenship. It also depends on abiding by ethical standards. Organizational values help determine what is important and what is right and wrong. What is good and bad is determined by a system of rules known as morality. The six organizational ethics fundamental principles that shape ethical behavior are listed below.

- *Trustworthiness:* It is the broadest and most complex of the core ethical concepts. Integrity, honesty, maintaining one's word, loyalty, and other qualities that make someone deserving of trust are all included in this broad ideal.
- *Respect:* Respect is centered on the moral duty to uphold the inherent value and dignity of the individual. It is described in terms of admirable traits like decorum, decency, dignity, independence, tolerance, or acceptance. It also includes restrictions on behaviors like aggression, manipulation, humiliation, or exploitation, among others.
- *Responsibility:* It examines what it means to be responsible in terms of ethics, pursuing excellence, and exercising self-control.
- *Fairness or justice:* Fairness and justice represent a concern for equity, equality, impartiality, proportionality, transparency, and due process. The core characteristic of caring is a real, persistent interest in the welfare of others. Care encompasses the ideas of generosity, kindness, compassion, empathy, and sharing, among others.

Citizenship is the concept of civic duties or qualities that define how an organization should behave in a community. Giving back to society and demonstrating care for the next generation are essential components of effective citizenship. For instance, a good citizen supports the law, takes part in jury duty, reports crimes, votes, pays taxes, and safeguards the environment.

3.5. *Characteristics of Organizational Ethics:* The following list includes some of the key elements of organizational ethics.

- The rules and guidelines that direct managers to carry out organizational tasks in a disciplined manner are known as organizational ethics.
- Organizational ethics is dynamic and continually evaluates the laws and moral principles.
- Theological concepts like honesty, service, human welfare, and ethical behavior form the foundation of organizational ethics.
- Organizational ethics are founded on social norms that are prevalent in the economic world and reality. Several ethical concepts promote the development of personal dignity.
- Organizational ethics is the study of human-related actions, choices, and behavior that applies to all organizations.
- Organizational ethics maintains harmony among the many responsibilities of management, workers, customers, investors, suppliers, and society.

To achieve the organization's objectives, techniques must be sacred and pure, as highlighted by the idea of this organizational ethic. It shows that even while it is beneficial to society, a noble goal cannot be reached using dishonest means. Whether done for a means or an end, a tremendous evil must never be committed against another person or oneself. This concept states that before acting, one should exercise sound judgment to ensure that no one would be harmed as a result of that person's or their organization's activities. This policy makes it quite clear that the company should not collaborate with anyone to carry out any evil activities.

#### 4. CONCLUSION

There are certain procedures to be followed to enforce corporate ethics. Individual employees' ethical or immoral behavior at work is determined by both their moral growth and the cultural influence of the business. They are impacted by their coworkers, managers, and superiors as well as by a variety of outside factors, including pay structures, societal norms, company values, and how certain policies are carried out. There are many strategies for promoting and controlling ethical behavior. Human resource management (HR) and the promotion of ethical behavior among employees are important components of HRM. This may be carried out by the HRM department through training, communication, or discipline. In certain companies, there might be ethics officers tasked with putting the organization's ethical standards into practice. The HRM department must also develop a robust ethical program that incorporates the following components. In this approach, the company's moral standards are taken into consideration while acting in a socially responsible manner. The role-playing of corporate ethics and its effective management is the paper's principal goal. People will be able to comprehend the importance of ethics in company development and effective management in the future.

#### REFERENCES

- [1] T. Ahmad, "Editorial," *World Journal of Entrepreneurship, Management and Sustainable Development*, vol. 16, no. 2, pp. 71–79, 2020. doi: 10.1108/WJEMSD-05-2020-112.

- [2] I. Ferrero and A. J. G. Sison, "A quantitative analysis of authors, schools and themes in virtue ethics articles in business ethics and management journals (1980-2011)," *Business Ethics*, vol. 23, no. 4. pp. 375–400, 2014. doi: 10.1111/beer. 12057.
- [3] A. Soulsby, A. Remišová, and T. Steger, "Management and Business Ethics in Central and Eastern Europe: Introduction to Special Issue," *Journal of Business Ethics*, vol. 174, no. 4. pp. 739–746, 2021. doi: 10.1007/s10551-021-04924-y.
- [4] J. Hwang and J. E. Chung, "The Roles of Business Ethics in Conflict Management in Small Retailer–Supplier Business Relationships," *J. Small Bus. Manag.*, vol. 56, no. 2, pp. 348–368, 2018, doi: 10.1111/jsbm.12271.
- [5] S. Ocak, M. A. Köseoglu, and M. Yildiz, "Business ethics research in healthcare management: A systematic review," *International Journal of Healthcare Management*, vol. 13, no. 2. pp. 170–176, 2020. doi: 10.1080/20479700.2017.1336882.
- [6] L. Naimi, "Strategies for teaching research ethics in business, management and organisational studies," *Electron. J. Bus. Res. Methods*, vol. 5, no. 1, pp. 29–36, 2007.
- [7] A. Nurbasari et al., "Supply chain management ethics: Analyze the business," *Int. J. Supply Chain Manag.*, vol. 9, no. 2, pp. 1010–1013, 2020.
- [8] J. Kacetla, "Business Ethics for Students of Management," *Procedia - Soc. Behav. Sci.*, vol. 109, pp. 875–879, 2014, doi: 10.1016/j.sbspro.2013.12.557.
- [9] Y. Karishma W and T. Widiastuti, "Etika Bisnis Islam Dalam Pengelolaan Bisnis di Pesantren Mukmin Mandiri," *J. Ekon. Syariah Teor. dan Terap.*, vol. 4, no. 6, p. 464, 2017, doi: 10.20473/vol4iss20176pp464-477.
- [10] K. I. Al-Tarawneh, "Business ethics in human resources management practices and its impact on the organizational performance," *Bus. Theory Pract.*, vol. 21, no. 1, pp. 402–411, 2020, doi: 10.3846/btp.2020.11344.
- [11] B. Mihailovic, D. Cvijanovic, and Z. Simonovic, "Role of business ethics in management of human resources," *Ekonomika*, vol. 61, no. 1, pp. 85–96, 2015, doi: 10.5937/ekonomika1501085m.
- [12] L. Sebastian, "HUMAN RESOURCES MANAGEMENT BUSINESS ETHICS REVIEW AT PT XYZ," *Dinasti Int. J. Manag. Sci.*, vol. 1, no. 6, pp. 913–920, 2020, doi: 10.31933/dijms.v1i6.399.
- [13] T. Abdullah and J. Shiva, "Evaluating the Impact of Organizational Culture Features on Implementing Total Quality Management (TQM) by Focusing on the Business Ethics as a Mediator (Case Study: Shirin Asal Company)," *Appl. Sci. Innov. Res.*, vol. 5, no. 3, p. p49, 2021, doi: 10.22158/asir.v5n3p49.
- [14] J. D. Rendtorff, "An Interactive Method for Teaching Business Ethics, Stakeholder Management and Corporate Social Responsibility (CSR)," *J. Bus. Ethics Educ.*, vol. 12, pp. 93–106, 2015, doi: 10.5840/jbee2015126.
- [15] L. D. Nguyen, L. N. T. Pham, and N. Ermasova, "Business Ethics in a Global Economy: A Cross-Cultural Study Among Working Adults in Russia and Vietnam," *Glob. Bus. Rev.*, vol. 20, no. 4, pp. 856–870, Aug. 2019, doi: 10.1177/0972150919844903.
- [16] R. Ratna, R. K. Dehury, and S. Chawla, "Exploration of management of business ethics and employee motivation in indian it sector," *Int. J. Adv. Sci. Technol.*, vol. 29, no. 3 Special Issue, pp. 1507–1521, 2020.
- [17] H. Sakurai and A. Sendo, "Toward a socially rational management: Insights from Japanese and islamic business ethics," *Crit. Stud. Corp. Responsib. Gov. Sustain.*, vol. 11, pp. 271–292, 2016, doi: 10.1108/S2043-90592016000011 012.
- [18] T. Damp, "Significance of Ethics in Education," no. April 2017, pp. 1–10, 2020, [Online]. Available: <https://elearning.nust.na/elearn/mod/folder/view.php?id=228796&forceview=1>
- [19] Z. Menbarrow, "The Importance and Necessity of Professional Ethics in the Organization and the Role of Managers," *Psychol Behav Sci Int J*, vol. 18, no. 1, p. 6, 2021, doi: 10.19080/PBSIJ.2021.18.555979.
- [20] D. Mcfarlane, "The Importance of Business ethics to Small Ventures," *Entrep. Innov. Manag. J.*, vol. 1, no. 1, pp. 50–59, 2013.
- [21] D. V. G. Loan, Hoang Thi Phuong, Nguyen Thi Van, "The Importance of business ethics in business development I Tạp chí Giao thông Vận tải," *Giao Thông Vận tải*, vol. 2, no. 21 Dec 2020, pp. 1–6, 2020, [Online]. Available: <http://www.tapchigiaothong.vn/the-importance-of-business-ethics-in-business-development-d25200.html>

## CHAPTER 21

### AN ANALYSIS OF WOMEN AND MINORITIES IN MANAGEMENT

Shipra Agarwal, Assistant Professor,  
Department of Teerthanker Mahaveer Institute of Management & Technology, Teerthanker Mahaveer University,  
Moradabad, Uttar Pradesh, India  
Email Id- shipra21aug@yahoo.co.in

**ABSTRACT:** *To obtain the information, guidance, feedback, or social support they require to thrive in their professions, all employees should network. However, white males have used their wide, strong, and dense networks to their great advantage whereas women and people of color have not. By gathering this vital information from internet resources, the article advocates virtual networking as a strategy to support networking for women or marginalized groups. It assesses the advantages that websites, chat rooms, email, and other online services may have for these networks and makes recommendations for companies wishing to improve virtual networking. The difficulties that women who work in careers that lean more toward men experience are well documented in a significant corpus of evidence-based study. In this study, an overview of pertinent social psychology studies will be summarized and integrated into a model of women's leadership.*

**KEYWORDS:** *Business, Management, Glass Ceiling, Sexual, Women, and Minorities.*

#### 1. INTRODUCTION

Over the past century, the roles or contributions of women and minorities in the American workforce have changed dramatically. These advancements have enhanced businesses of all kinds and sorts and enabled the free enterprise to flourish in a more constructive, fruitful, as well as productive manner. Women have been in charge of the tasks that go into making a home for their families for thousands of years [1], [2]. The responsibilities of women altered as a society and economic opportunity shifted from fields to industries. Women started seeking occupations outside the house rather than staying at home to care for the family. While many women chose to work in teaching and nursing, others took on low-paying labor or clerical occupations in factories or other low-skilled settings. The industrial revolution fundamentally altered how the American economy functioned, and as a result, more and more women decided to work and support their families [2], [3].

The demographic makeup of the workforce in the twenty-first century has also changed significantly as more employees enter the labor market who are neither male, white, nor English-speaking. The proportion of people of color in the workforce is still growing. It is anticipated that these groups will expand more quickly than white people. Over the past century, the roles and contributions of women and minorities in the American workforce have changed dramatically. As a result of these developments, businesses of all sizes and types have improved, and the free market is now able to flourish in a way that is more positive, fruitful, and beneficial. Women have been in charge of the tasks that go into making a home for their families for thousands of years [4], [5]. The responsibilities of women altered as a society and economic opportunity shifted from fields to industries. Women started seeking occupations outside the house rather than staying at home to care for the family. Even though many women chose to work as teachers or nurses, others took on low-paying labor or clerical occupations in factories or other low-skilled settings. The industrial revolution fundamentally altered how the American economy functioned, and as a result, more and more women decided to work and support their families. The proportion of people of color in the

workforce is still growing. It is anticipated that these groups will increase more quickly than whites [6], [7].

### 1.1. *Laws Impacting Minority and Women's Employment:*

The Fair Labor Standards Act was amended by the Equal Pay Act of 1963. Employers are prohibited by the Equal Pay Act from paying their staff members differently based on their sex. According to the statute, businesses are prohibited from paying men and women differently for the same task that involves the same level of ability, effort, and responsibility. If there is a pay gap between men and women holding comparable occupations, the higher pay must be increased in order to make up for the lower pay. Four situations are allowed by the Equal Wage Act for wage disparities:

- In a seniority hierarchy.
- In the case of a differential system that disregards sex.
- In a merit-based system.
- In a system where production quantity or quality is utilized to decide compensation.

### 1.2. *Women Entrepreneurs:*

By 2006, women's impact on the global GDP through ownership, management, as well as the rest of the labor force was greater than that of China, India, or technology combined. The number, diversity, and influence of women-owned enterprises on the American economy are all rising. In 2003, women made up around 6% of all working women and about 38% of all self-employed people. According to data published by the Center for Women's Business Research, 19 million employed Americans, or one in seven, work for women-owned firms. 10.6 million Enterprises were operated by women as of 2004.

In nearly every significant industry, job growth supplied by women-owned firms has outpaced national norms. Women-owned businesses climbed by 24.00% between 1996 and 2004 compared to a 12.00% rise for all businesses [8]. Construction, wholesale commerce, manufacturing, transportation, and communications are among the sectors that have had the most significant development in women-owned firms, which has a greater influence on the global GDP. Since the 1960s, there had been a considerable increase in the number of female-owned enterprises, and this trend is still present today as more and more women of working age continue to opt for jobs as managers and company owners rather than as employees or workers in the service sector. Women manage a large number of home-based enterprises. Sixty-six percent of all home-based enterprises were run by women in 2002. Because they make it possible for many women to manage work and family duties at home while achieving professional goals, these businesses are revolutionizing the way business is done [9], [10].

### 1.3. *Women and minorities on corporate boards:*

More women are now represented on corporate boards as a result of a combination of increased cultural pressure and regulatory pressure. As of 2003, there was at least one female director on the corporate boards of 89 percent of the Fortune 500 businesses. However, just 13.6% of women served on corporate boards in 2003. Additionally, it was common for the same woman to hold multiple positions on different corporate boards. Women occupied 51% of the highest-paying managerial and professional positions in the nation as of 2007, according to the U.S. Department of Labor.

Moving up the corporate ladder has proven difficult, and much more work has to be done, even as blacks are entering the workforce in previously unheard-of numbers. One in twelve Fortune 1000 corporations, according to a 2005 analysis, had at least one African American on their board of directors, a startling increase from only ten years prior. But there is still a long way to go until sexual orientation, gender, ethnicity, or any other characteristic-based employment and recruitment practices are outlawed, while other minorities continue to be underrepresented.

### *1.3.1. Sexual Harassment.*

Sexually harassed women at work are seen as sex discrimination victims. In general, hostile environments and quid pro quo are the two main types of sexual harassment. When a victim refuses requests for sexual favors, they may be threatened with reprisal or promised a reward—such as a salary raise or promotion—in exchange. This is known as quid pro quo sexual harassment. These limitations may be mentioned directly or inferred [11], [12].

The hostile environment theory holds that it is the employer's responsibility to create conditions or to allow others to create conditions that make the affected employee's workplace hostile or extremely unpleasant. Using sexually explicit language, presenting pornographic images, commenting about another person's physical features, discussing sexual activities, and improper touching are some examples of behaviors that can create a hostile work environment. Both types of sexual harassment must be avoided by employers to comply with the law. To try to stop sexual harassment incidents from happening at work, businesses typically create extensive rules.

### *1.3.2. Women's and minority workers' concerns*

The typical incomes of men and women remain differ, notwithstanding the achievements made by women over the 20th century. Despite a considerable reduction in the wage gap between men and women between 1979 and 2003, the Bureau of Labor Statistics shows that women still made 79 cents for every dollar that men made in 2003.

Childcare, pregnancy, birth, and leave from work. In the United States, 99 out of every 100 women will work for compensation at some time in their careers, according to the Department of Labor. In addition, the percentage of families headed by women without a male partner is sharply increasing. In addition, the percentage of married couples whose sole breadwinner worked increased to 6.8% in 2003. With so many women working, both married and single moms, many of them were worried about juggling work and family. With so many women working, including married or single moms, many of them were worried about juggling work with pregnancy or childcare concerns.

Fewer and fewer businesses have strategies in place to deal with working parents who require outside childcare, even though the need for daycare is growing as more moms choose to work outside the house. While some women put off becoming mothers to pursue their careers or advance at work, other women could defer having children to pursue executive positions. 67 percent of high-earning career women were moms between the ages of forty and fifty-five, according to a 2001 nationwide poll. 72 percent of the 187 Most Powerful Women in Business according to Fortune Magazine who was the subject of another poll were moms. In reality, more than 60% of women with youngsters under the age of three and nearly three-quarters of all moms were employed as of 2003. Working women therefore continue to successfully juggle work and family as the paradigm shifts. The workplace's structures, routines, attitudes, and cultures are usually set up to accommodate the availability of moms

whose major priority is raising their children since traditionally, women have been forced to pick lower-paying employment.

## 2. LITERATURE REVIEW

N. M. Morrison studied that there is a “glass ceiling” that prevents minorities and women from advancing to top management positions in all American firms. Using theoretical frameworks from psychology and other social sciences, this study evaluates the information and investigates the reasons why this is the case. A science that researches both systemic and individual factors. Recent research findings are presented, ways to eliminate discrimination are discussed, and suggestions for further research are made [13].

Rashad et al. studies and research have been conducted, to understand the situation and solutions of the "glass ceiling" for women in the workplace. The world has seen an increase in women's access to professional development and jobs over the years. It was traditionally controlled by men, but according to many pieces of research and studies, this progress is still restricted and hindered by some form of gender discrimination, and women are not reaching the level at which they are needed. The three primary difficulties that have been identified and widely discussed in prior research and studies serve as the framework for the paper's discussion of gender discrimination [14].

Linda M. Hite studied the divergent perspectives of White or Black female managers on how important job options are accessible to both groups of women. The topics covered include mentors, significant assignments, compensation increases, access to hiring, and promotions. By contrasting White women or women of color, White men, and men of color, access to each is described [15].

## 3. DISCUSSION

### 3.1. *Women and Minorities in Management:*

Over time, more women have filled managerial positions as a result of the increasing number of women in the labor market. In 2007, 39% of working women were managers, professionals, or employed in occupations requiring advanced training and experience. As of 2007, there were more women than males working as budget analysts, auditors, accountants, and managers of financial and human resources. Women's representation in the executive suite dramatically increased between 1995 and 2002, from 8.7% of corporate executives in the Fortune 500 to 15.7 percent. Women made up 16.4% of corporate officials in 2005, showing that the proportions are increasing.

Many people from minority groups have also attained their professional apex in entry- or mid-level managerial positions. Despite efforts for equal opportunity or affirmative action, less than 1% of the top management positions in America's 1000 largest corporations were held by African Americans in 2003. Despite the fact that more women than ever are joining management roles, many of them may find it difficult to move through the organizational structure from middle management to positions at the top. The "glass ceiling" that many observers refer to as keeping women from obtaining the high-level positions they want exists in this situation.

Minorities have long been hampered from advancing into higher-level executive positions by these same invisible, subtly discriminating, but very real institutional barriers. The “brick wall” is another name for the idea that minority groups encounter organizational plateaus with built-in obstacles that prevent them from advancing to senior management positions.

Many firms' structural impediments have frequently impeded the progress of certain minority employee groups.

### 3.1.1. *The “Glass Ceiling”:*

Despite the fact that more women than ever are joining management roles, several of them might find it difficult to move through the organizational structure from middle management to positions at the top. This “glass ceiling” that stops women from obtaining the high-level roles they desire is often referred to by observers. For minorities, these institutional impediments to advancement into higher-level executive positions have long been a reality. They are subtle, little discriminatory, but very real. The brick wall hypothesis states that minorities have organizational plateaus with built-in obstacles that prohibit them from advancing to top management positions [16], [17]. Several assumptions form the basis of the glass ceiling phenomena. Comparing the glass ceiling to other forms of discrimination or inequality caused by a variety of circumstances, it is in reality a distinct and particular sort of inequality. The glass ceiling is mostly caused by prejudice against women in management. Women would thus still face the glass ceiling regardless of their degree of education, experience, or skill. Instead than only focusing on the percentage of women in managerial roles at any one moment, diachronically assessing the glass ceiling requires considering developments in women's careers or promotions within them. The phrase “glass ceiling” also describes the expanding disparities between men and women as their professional careers rise inside the company.

### 3.2. *Prioritizing diversity*

Establishing voluntary goals. Several of the tactics we mentioned in our 2015 report pushed or rewarded boards to give diversity top priority. One of these strategies is the voluntarily setting of targets for the proportion of women or minorities on the board of directors. Many of the stakeholders we spoke with for our previous research preferred voluntary aims for a certain percentage or quantity of women and minority candidates to externally mandated targets or quotas. Many of the stakeholders we spoke with were in favor of corporate boards requiring a diverse slate of candidates. Two other stakeholders suggested that boards include more than one woman on their list of candidates to avoid tokenism. A few interested parties specifically said that boards should aim for slates that are evenly balanced between men and women. Concern over tokenism was one of the reasons given by some of the stakeholders who were against determining the mix of slates.

Appointing women or minorities to temporary board positions. Strategies for making diversity a top priority for “FHLBank” boards were included in our 2019 report. For instance, several directors of the “Federal Housing Finance Agency and minority candidates” for interim board positions have been cited as a way to enhance diversity. As required by law, the directors may choose a substitute to serve out the remaining years of a departing “FHLBank” director's term. The possibility that a woman or minority director will be chosen by the member institutions for a future full term rises, according to one director we spoke with.

Putting a focus on the value of diversity and varied candidates. According to our 2015 analysis, boosting board diversity required highlighting the value of diversity and different candidates. Nearly all of the stakeholders we spoke with believed that shareholders, investors, and CEOs play a significant role in fostering diversity on company boards. One interested party, for instance, stated that CEOs may “create the tone at the top” by urging boards to give diversity efforts priority and recognize the advantages of diversity. FHLBanks have taken several actions to underscore the value of board diversity, as we noted in 2019. For instance, all 11 FHLBanks included remarks in their announcements of the 2017 election that urged

voting member institutions to take diversity into account when choosing board candidates. In their statements, six of the 11 banks specifically mentioned diversity in terms of gender, race, and ethnicity. Additionally, we discovered that FHLBanks had created and put into practice initiatives that expressly target member directors or board diversity in general. To further board diversity and to improve cooperation and sharing among FHLBank boards, for instance, the banks established a task group. The task team has a representative from each bank. All 11 FHLBank directors we spoke with said that their institutions had performed or intended to conduct diversity training for board directors, covering subjects like unconscious prejudice.

Guiding minority and female board candidates. Additionally, a number of the stakeholders we spoke with concerning corporate and FHLBank boards stressed the significance of CEOs mentoring and endorsing female and minority candidates for board positions. To increase diversity on FHLBank boards, for instance, performing mentoring or outreach was included as a plan in our 2019 report. Current directors are also committed to finding and supporting potential women and minority candidates for the board. One of the directors humans spoke with said that he approached qualified applicants of color and invited them to run. To improve diversity on FHLBank boards, another director stressed the need for member directors to reach out to member institutions. The leadership of member institutions may be engaged and educated on the value of electing diverse directors to FHLBank boards by member directors because they deal with them the most [18].

Improving the diversity of the board's information. As we noted in 2015, many of the stakeholder's humans spoke with and some significant investors favored enhancing federal disclosure laws on board diversity. Disclosure of data on board diversity, according to several organization leaders and experts humans spoke with, may also encourage businesses to think more deeply about diversity. Although the SEC strives to ensure that businesses give investors the pertinent information they require to make an educated investment or voting decisions, we discovered that the information businesses publish on board diversity is not always helpful to investors who value this information. Companies are free to define diversity, according to the SEC. As a consequence, there are differences in the quantity and nature of the information that businesses make available to the public. Some businesses decide to include traits like appropriate knowledge, skills, or experience when defining diversity. Others view variety as encompassing racial, ethnic, and gender demographic traits. To make clear what information corporations should include in their disclosures, the SEC provided revised guidelines on its diversity disclosure obligations in February 2019.

Investors, according to almost all of the stakeholders we spoke with for our 2015 study, are crucial in fostering diversity on company boards. For instance, virtually all of the board members and CEOs we spoke with agreed that shareholders or investors may affect board diversity by putting pressure on the businesses they invest in to give diversity priority when hiring new directors. According to a board director people spoke with, boards pay the closest attention to investors. In recent headlines, for instance, there have been instances of investor groups voting against all board members when the slate of candidates is not diverse.

Any woman who works in a field or setting that discourages women from moving up the corporate ladder may experience "glass elevators" rather than "glass ceilings." Even if the presence of such hurdles has long been known, doing so will need both men and women to make a sustained effort over time. Eliminating gender barriers is a smart business decision. Women who are exceptionally talented may get disillusioned and more likely to leave their jobs if they are not treated equally at work or aren't given the same opportunities for advancement as males, depriving businesses of some of their greatest human resources.

Additionally, if women are excluded from top management roles due to unrelated issues, all employees may start to believe that the same unrelated factors would hinder their future advancement within a business. Because there are more women than men in management positions, it is more likely that women will have better prospects at all levels of the firm.

#### 4. CONCLUSION

Many women may experience “glass elevators” rather than “glass ceilings”, as a result of their employment in fields or settings where women aren't allowed to advance. Although the existence of such hurdles has long been acknowledged, their removal would need a concerted effort from both men and women. Eliminating obstacles based on gender is a wise corporate move. Exceptionally talented women may get disillusioned and more likely to leave their jobs if they are not treated equally at work or aren't given the same opportunities for advancement as males, depriving businesses of some of their greatest human resources. Furthermore, if non-relevant criteria are used to exclude women from senior management positions, all employees may begin to believe that the same irrelevant factors would obstruct their future advancement within a firm. Women are more likely to have better chances at all organizational levels now that there are more women in leadership roles than males. However, there is still a long way to go before American enterprises and those who defend the status quo in American arenas of commerce can claim that women have equal opportunity in the workplace.

#### REFERENCES

- [1] H. Ibarra, “Personal Networks of Women and Minorities in Management: A Conceptual Framework,” *Acad. Manag. Rev.*, 1993, doi: 10.5465/amr.1993.3997507.
- [2] H. Ibarra, “Personal Networks of Women and Minorities in Management: A Conceptual Framework,” *Acad. Manag. Rev.*, 1993, doi: 10.2307/258823.
- [3] L. L. Divens and B. N. Chatmon, “Cardiovascular Disease Management in Minority Women: Special Considerations,” *Critical Care Nursing Clinics of North America*. 2019. doi: 10.1016/j.cnc.2018.11.004.
- [4] A. M. Morrison, “Women and Minorities in Management University of Southern California,” *Am. Psychol.*, 1990.
- [5] D. L. Corsun and W. M. Costen, “Is the glass ceiling unbreakable? habitus, fields, and the stalling of women and minorities in management,” *J. Manag. Inq.*, 2001, doi: 10.1177/1056492601101003.
- [6] J. P. Ferguson, “The control of managerial discretion: Evidence from unionization’s impact on employment segregation,” *Am. J. Sociol.*, 2015, doi: 10.1086/683357.
- [7] A. Budjanovcanin and D. E. Guest, “Understanding the unobserved influences on the careers of ethnic minority women: implications for human resource management,” *Int. J. Hum. Resour. Manag.*, 2021, doi: 10.1080/09585192.2021.1969586.
- [8] E. S. W. Ng and R. J. Burke, “Person-organization fit and the war for talent: Does diversity management make a difference?,” *International Journal of Human Resource Management*. 2005. doi: 10.1080/09585190500144038.
- [9] M. Parsons, L. Taylor, and R. Crease, “Indigenous environmental justice within marine ecosystems: A systematic review of the literature on indigenous peoples’ involvement in marine governance and management,” *Sustain.*, 2021, doi: 10.3390/su13084217.
- [10] G. San Martin, “Diversity management strategies for the retention of minority women in school administration: A post-intentional phenomenology framework for human resources management,” *Diss. Abstr. Int. Sect. A Humanit. Soc. Sci.*, 2020.
- [11] J. M. Madera, L. Ng, J. M. Sundermann, and M. Hebl, “Top management gender diversity and organizational attraction: When and why it matters,” *Arch. Sci. Psychol.*, 2019, doi: 10.1037/arc0000060.
- [12] H. W. Lee, P. J. Robertson, and K. Kim, “Determinants of Job Satisfaction Among U.S. Federal Employees: An Investigation of Racial and Gender Differences,” *Public Pers. Manage.*, 2020, doi: 10.1177/0091026019869371.
- [13] A. M. Morrison and M. A. Von Glinow, “Women and minorities in management,” *Am. Psychol.*, vol. 45, no. 2, pp. 200–208, 1990, doi: 10.1037/0003-066X.45.2.200.

- [14] R. Yazdanifard, "Women in workforce: The 'Glass Ceiling'. Are they being discriminated?," no. Icmsbe, 2011.
- [15] L. M. Hite, "Black and white women managers: Access to opportunity," *Hum. Resour. Dev. Q.*, vol. 15, no. 2, pp. 131–146, 2004, doi: 10.1002/hrdq.1094.
- [16] H. Batista Ferrer, C. L. Trotter, M. Hickman, and S. Audrey, "Barriers and facilitators to uptake of the school-based HPV vaccination programme in an ethnically diverse group of young women," *J. Public Heal. (United Kingdom)*, 2016, doi: 10.1093/pubmed/fdv073.
- [17] J. V. Furtado, A. C. Moreira, and J. Mota, "Gender affirmative action and management: A systematic literature review on how diversity and inclusion management affect gender equity in organizations," *Behav. Sci. (Basel)*, 2021, doi: 10.3390/bs11020021.
- [18] L. Yee, S. Taylor, M. Young, M. Williams, C. Niznik, and M. Simon, "Evaluation of a text messaging intervention to support self-management of diabetes during pregnancy among low-income, minority women: Qualitative study," *JMIR Diabetes*, 2020, doi: 10.2196/17794.

## CHAPTER 22

### STUDY OF VARIOUS TECHNIQUES TO ENHANCE THE SAFETY AND HEALTH OF EMPLOYEES AT THE WORKPLACE

---

Vivek Anand Singh, Assistant Professor,  
Department of Teerthanker Mahaveer Institute of Management & Technology, Teerthanker Mahaveer University,  
Moradabad, Uttar Pradesh, India  
Email Id- vivekanand.ima@gmail.com

**ABSTRACT:** *Most of a worker's time is now spent at workplace, and their activities at work that are economic, social as well as psychological help people to maintain their mental health. To ensure that workers have a safe and respectful working environment, hazards must be kept to a minimum. Nevertheless, many diseases, injuries, property damages, but also accidents occur in many jobs. It analyzes a number of potential risks and provides guidance on how to identify, evaluate, manage, or avoid them when they appear in a specific work environment. The workplace organization must guarantee that workers are exposed to a level of risk that does not jeopardize their bodily, emotional, or mental health in order to promote employee welfare and safety. Additionally, the company does not support any behavior that might interfere with the workers' ability to do business. Employees get the necessary training on their jobs as well as any safety precautions that may be taken to reduce workplace mishaps. This paper provides a comprehensive overview of how to manage the various risks that exist at workplaces in an effort to ensure safe or dignified work for employees. In the future this paper will aware the people about employee health safety at their workplace.*

**KEYWORDS:** *Employee, environment, Health, psychological, Workplace.*

#### 1. INTRODUCTION

It is both morally and legally required for companies and employees to promote workplace safety or health. Employee morale rises and job satisfaction increases, for instance, when they believe their working environment to be safe. They increase their productivity and efficiency as a result. Employers, on the other hand, gain from higher productivity since it improves their bottom lines. Additionally, creating a secure and healthy work environment aids in preventing compliance problems. This post covers five suggestions you can use right away to enhance worker safety and health at your company [1]–[3].

##### 1.1. *Types of Occupational Hazards:*

To effectively build and operate an occupational health or safety management system, it is vital to have a thorough awareness of the many types of workplace dangers or how to spot them. Any harm reduction approach should attempt to keep exposure to risk variables below the point at which they can be harmful. It is important to remember that risks simply reflect possible damage. Several factors, including the toxicity of the health danger, the amount of exposure, the degree to which risk factors are present, and the duration of exposure to risk factors, affect whether or not the damage actually occurs. The creation of preventive strategies requires understanding of the relationships between hazard, risk, & harm. Preventive strategies' components include both control and surveillance methods. The link between risks but also damages is supported by both theory and research.

The term hazards refers to aspects of the workplace that have the potential to cause injury or unfavorable outcomes, whether they are physical, psychological, or a mix of the two. It is a characteristic of things like chemicals, slick floors, working while standing, and working while standing on a ladder that have the potential to have serious effects. The damage is

defined as the kind and nature of the effects that workplace variables and circumstances have on employees' health. The damage may be immediate or cumulative, and it affects both psychological and physical functioning and results, as shown in Figure 1. Observed that there may be shared biological connections between the physical and psychological effects of occupational stress. Damage may also refer to consequences that have an influence on the company, such as illness absence, errors, and reduced performance efficiency.



**Figure 1: Illustrate the Major Types of Occupational Hazards.**

#### *1.1.1. Safety risks:*

These are the most prevalent and will occasionally be present in most jobs. Unsafe situations that can result in harm, disease, or even death are considered safety risks. They are the most typical elements seen in most workplaces. Ladders, scaffolds, rooftops, and other elevated work surfaces; unsecured machinery, together with moving machinery parts; missing ground pins, mechanical parts without protections or that a worker might accidentally contact, frayed wires or other electrical risks, poor wiring; spills on the floor or tripping hazards, such as wires crossing the floor or obstructed aisles; prohibited regions and potential dangers from using machinery.

#### *1.1.2. Biological hazards:*

These kinds of dangers can arise from working with people, animals, or infectious plant materials. When working in areas like schools, daycare providers, colleges and universities, emergency response, hospitals, labs, nursing homes, outdoor occupations, etc., people may be exposed to biological risks. Examples of the sorts of items that might pose biological risks include exposure to blood or other body fluids, fungi/mold, insect bites, bacteria and viruses, plants, and animal and bird droppings. These might lead to parasite infestations and diseases of different kinds, among other things. Physical risks are elements in the environment that can hurt the body even if they don't directly touch it [4], [5]. Temperature extremes, high exposure to ionizing and non-ionizing UV radiation; and sunlight. Hot and cold temperatures,

loud noise that never stops, inadequate lighting, inadequate ventilation, and naked electrical lines are all commonplace.

When a worker's body is put under stress by their job, their body postures, or their working surroundings, ergonomic hazards develop. They are the most challenging to recognize since it is sometimes impossible to instantaneously experience the impact on your body or the harm that these risks pose. While short-term exposure might induce sore muscles the day after or for days after, long term exposure may create serious long-term disorders. Ergonomic risks include, for example, improperly fitted workstations or seats, poor posture, frequent lifting, challenging motions, especially if they are repeated, performing the same tasks again, needing to exert too much effort, especially if you must do it frequently, or vibration [6], [7].

Chemical risks exist when an employee is exposed to any chemical preparation at work, regardless of its form (solid, liquid or gas). Despite the fact that some are safer than others, certain workers who are more sensitive to chemicals may experience health problems, skin irritation, or respiratory problems even while receiving standard treatments. Gasoline, solvents, or explosive chemicals are examples of combustible materials. Liquids include acids, paints, solvents, or cleaning agents. Acetylene, propane, as well as carbon monoxide are examples of combustible gases.

1.1.3. Psychological hazards:

The term “psychosocial risks” refers to situations in which the demands and skills of the workforce interact with the nature of the job, how it is organized and managed, and other organizational and environmental factors. Thus, workplace interactions of all kinds that negatively impact employees' health through their perceptions and experiences are referred to as psychological hazards as shown in Figure 2. Any risk that has an influence on a worker's mental well-being or mental health and might have a physical impact by overtaxing their coping mechanisms and impairing their capacity to operate in a safe and healthy way is considered a psychological risk.

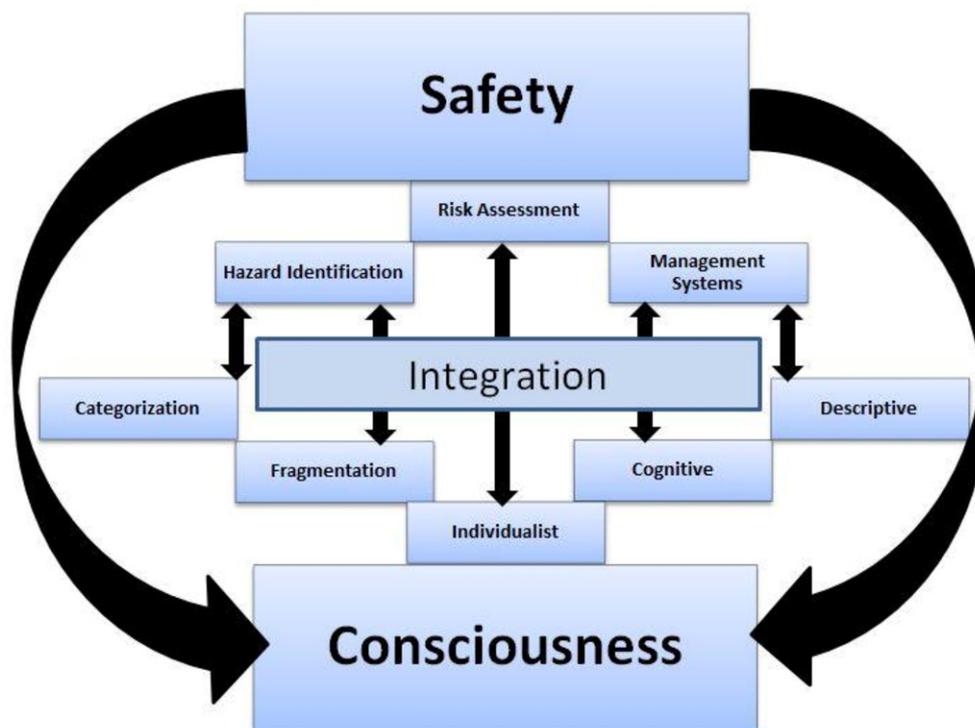


Figure 2: Illustrate the Proposed Safety Consciousness Framework.

### 1.2. *Welfare for employees*

- Welfare includes a variety of services, administrations, and improvements provided to professionals to improve their productivity, financial development, and competence.
- Welfare programs are offered in addition to conventional pay and other financial benefits that workers might receive as a result of agreement and collective bargaining.
- Work welfare policies are flexible and adaptable, and occasionally new welfare policies replace the older ones.
- The Company improves the physical and mental health of its employees, which contributes to a stable situation.
- By providing a welfare office, work is given a consistent work constraint.

### 1.3. *Boost workplace health and safety*

#### 1.3.1. *Educate your workers*

The first step in creating a safe culture in your company is to train your employees on workplace health and safety. Make sure the courses cover all bases, whether you choose live workshops or online safety training programs. The training's focus will change based on the type of your company. An office worker training program at a computer business will be very different from one for industrial or construction employees, for instance. Because of this, you must make sure the training is tailored to the requirements of your firm [8], [9].

#### 1.3.2. *Favor promoting Worker Safety:*

The greatest workplace safety and health standards alone will not ensure the safety of your personnel. Sometimes you have to keep an eye on them to make sure they're always adhering to the rules. Remind students to constantly be aware of their surroundings, use caution while handling equipment, or report any potentially dangerous situations they encounter. For example, if a piece of equipment is broken, they should not use it and should report it right away so that others are not put in risk while utilizing it. Additionally, you should do routine inspections of the equipment to make sure the technicians or handlers are taking good care of it. You can provide people who adhere to the safety rules rewards in order to promote a culture of safety [10], [11].

#### 1.3.3. *Ensure Work-Life Balance:*

Workers who don't have a healthy work-life balance are frequently stressed out and at danger of burnout. Employees who are under stress endanger not just themselves but also their coworkers. This is due to the ease with which they might become preoccupied and disregard safety and health laws.

- Make sure you have policies in place to control your staff's work schedules and set an example for them to follow if you want them to achieve a good work-life balance.
- Workspace clutter increases the risk of accidents. Additionally, unclean surfaces can cause falls and a host of other health issues. In order to ensure the safety and well-being of your personnel, the atmosphere must be kept tidy and uncluttered.
- Additionally, your employees' productivity will benefit from a tidy setting. They become more effective and productive since it improves their mood and focus.
- Encourage workers to maintain their safety and health. For instance, advise children not to carry big objects unless they have the right tools. In order to prevent stressing their body and stiffening their joints, they must also take frequent pauses.

## 2. LITERATURE REVIEW

Grace Katunge Jonathan studied about Health and Safety at Workplace. In order to better understand how teachers see their responsibility in maintaining occupational health and safety in secondary schools, a research was conducted. Although survey principles were a goal of the study, they weren't accessible at the time of data collection. The descriptive research design was used for this investigation. Data was collected using a questionnaire guide, and version 20 of the “Statistical Package for Social Science” (SPSS) was utilized for analysis. Frequency graphs and tables were used to present the data. The findings indicated that most of the teaching assistants did not take part in training courses that would have equipped them with knowledge about occupational safety. The bulk of them stayed out of conversations on workplace safety laws. This significantly compromised the safety of instructors at work, reducing their readiness for health risks and, consequently, their overall performance [12].

Glorian Sorensen, et al. studied about workplace safety, health and wellbeing. The purpose of this introduction is to describe the “Workplace Integrated Safety and Health” (WISH) Assessment, a method for evaluating the success of organizational policies, projects, and workplace procedures that are focused on creating safe, healthy, and happy workplaces. Iterative techniques, such as systematic cognitive testing, a thorough literature review, or a modified Delphi approach, were used to produce this assessment. Six important factors that have been identified as crucial to best practices for promoting and preserving worker safety, wellness, or health are evaluated in the evaluation: Compliance with state and federal laws, moral principles, all-encompassing or collaborative approaches, leadership commitment, engagement, and initiatives, policies, and procedures that result in favorable working conditions [13].

YanghoKim et al. studied about developing a culture of deterrence in the practice of occupational safety or health. Even if the prevalence of occupational diseases and injuries has further declined with the introduction of quality management systems, these systems are ineffective without a supportive safety culture at work. New issues with worker health have emerged as a result of the nature of work in the twenty-first century, including non-communicable diseases, new types of work-related disorders, and discrepancies in access to occupational health care. To address these fresh, escalating issues, the nation must establish a culture of preventive [14].

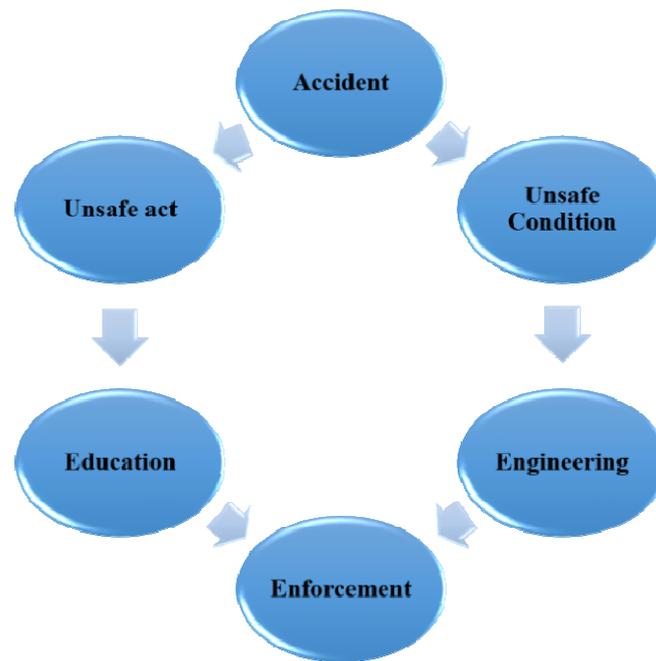
## 3. DISCUSSION

### 3.1. *Managing Risks in the Workplace:*

According to Pettinger, employers or safety practitioners have used the three E's (education, engineering, or enforcement) concept to direct their safety-related activities from the early 1900s to the present. To successfully and effectively address health and safety of employees, the three Es of safety focus on the following. Creating engineering solutions that lessen the likelihood that an employee will act in risky ways; educating and training staff about tools, environmental dangers, and procedures and procedures; as well as enforcing the rules governing the use of tools, the wearing of the appropriate PPE, and the handling of particular hazardous materials.

Another choice is the “Safety Engineering Model” (SEM), which is basically the three Es updated. Using this method, researchers showed that workplace health and safety risks are brought on by hazardous behavior (85%) and dangerous settings (15%). Figure 3 illustrates how the researchers claimed that although enhancing engineering practices and enforcing

them are the best approaches to prevent dangerous settings, education or enforcement are the greatest ways to prevent risky behaviors.



**Figure 3: Illustrate Model for Safety Engineering.**

The basic model integrates management and worker behavior with a focus on the following components: The promotion of safety and well-being as a value for both individuals and the business, the creation of good employee attitudes with an emphasis on behavior modification, as well as the implementation of ergonomic or human factor analyses are some examples of progressive labor practices. Additionally, the framework now places a focus on workplace occupational health. This placed a focus on protecting and advancing the strength of workers, with some of the key elements being the prevention and treatment of work-related illnesses and injuries the improvement of workers' psychological, physical, and social well-being, and to be sure the strengthening of workers to continue living useful lives on a social and financial level [15], [16].

Enforcement of health and safety laws and policies is also necessary. Stricter regulations, more oversight of the target behavior, or more reprimands issued for failing to follow company policy and procedures are some of the methods most frequently used to minimize at-risk behavior in the workplace. If done appropriately, the introduction of new safety regulations followed by punishment for breaking them may be a successful intervention [17]. Worksite wellness programs focus on people's lifestyle and behaviors that may occur on or off the job, while occupational wellness programs aim to reduce the vulnerability of delegates to occupational illness. Occupational safety, occupational health, as well as worksite health promotion all share a great deal of effort when it comes to safety-related interventions in the workplace. Healthy behavior is the main emphasis of workplace health promotion, occupational safety, and health, and both.

### 3.2. *Engineering Controls:*

The source is the object of the highest degree of control in the hierarchy of controls. Risks can be decreased with the use of appropriate engineering controls, such as efficient facility design and maintenance. Engineering controls, once developed and put into place, are not

under the worker's control because they are aimed at the source of the threat. Administrative Controls: As it is not always possible to eliminate or manage the risk at its source, administrative controls are frequently used for biological hazards in healthcare. Concentrating on making sure that the essential precautions are taken, the relevant work processes are recorded, administrative personnel is trained to use the necessary procedures, as well as their usage is enforced. Work schedules, occupational health programs, required hiring and training, codes of conduct, employee placement, or procedures and policies that specify performance criteria are all examples of administrative controls. Administrative controls are essential, including worker education and efficient communication techniques. For instance, coming into touch with a client's blood or other body fluids as a result of aggressive or violent conduct might expose you to biological dangers.

#### 4. CONCLUSION

To properly manage occupational health and safety, employers, management of businesses, and employees all collaborate. To keep undesirable elements as far away from the workplace as is practical, national policy must control the administration of occupational safety. To guarantee that everyone has a decent place to work, management and employers must also be dedicated to workplace health and safety. Additionally, it is the obligation of the employee to follow safety regulations. This publication, which has been reduced into a "how-to manual," provides advice and methods for identifying, assessing, managing, or controlling many kinds of threats when they exist in the workplace.

It is crucial to remember that failing to take action to ensure that workers and others in the workplace have good employment is ultimately very expensive. In light of this, it is essential that safety regulations and procedures be properly upheld. Supervisors, with assistance from management, are responsible for ensuring that those who fall under their purview follow safety work regulations and procedures. Health & security problems must be effectively communicated to everyone in the workplace, and workers must get appropriate education and training. Enhancing workplace health and safety protects both people and your company's interests. The first step in establishing a safe working environment is training your team to adhere to safety standards. By insisting on adequate safety measures, encouraging work-life balance and responsible conduct, as well as maintaining a clean and clutter-free atmosphere, people may help increase the safety of your firm. In order to guarantee that workers are able to perform their jobs safely or with dignity, this study offers a thorough review of how to manage the numerous hazards that may occur at workplaces. This paper will educate readers on workplace employee health and safety in the future.

#### REFERENCES

- [1] O. Morgan Morgan, W. Emu, C. Amadi, E. Okon, and P. Njama, "The mediating effect of job satisfaction on health and safety policy management and employee productivity in manufacturing firms," *Problems and Perspectives in Management*. 2021. doi: 10.21511/ppm.19(2).2021.09.
- [2] H. De Cieri and M. Lazarova, "'Your health and safety is of utmost importance to us': A review of research on the occupational health and safety of international employees," *Hum. Resour. Manag. Rev.*, 2021, doi: 10.1016/j.hrmr.2020.100790.
- [3] C. Umugwaneza, I. E. Nkechi, and J. B. Mugabe, "Effect of Workplace Safety and Health Practices on Employee Commitment and Performance in Steel Manufacturing Companies in Rwanda," *Eur. J. Bus. Manag. Res.*, 2019, doi: 10.24018/ejbmr.2019.4.5.84.
- [4] T. E. Rahmi And S. Wibowo, "The Effect of Physical Work Environment, Work Safety, Occupational Health and Work Discipline on Employee Productivity," *J. Res. Manag.*, 2019, doi: 10.32424/jorim.v1i4.56.
- [5] M. Busyairi, L. O. A. S. Tosungku, and A. Oktaviani, "The Impact of Health and Safety to Employee Productivity," *J. Ilm. Tek. Ind.*, 2014.

- [6] O. M. A. Nawwas, T. M. Ariff, N. Naing, M. M. Alglilat, M. A. I. Al-Hatamleh, and A. A. Baig, "Validation of a tool to measure occupational safety and health performance of employees," *Res. J. Pharm. Technol.*, 2018, doi: 10.5958/0974-360X.2018.00549.8.
- [7] A. Trmčić, E. Demmings, K. Kniel, M. Wiedmann, and S. Alcaine, "Food safety and employee health implications of COVID-19: A review," *Journal of Food Protection*. 2021. doi: 10.4315/JFP-21-201.
- [8] A. V. Yutuc, D. B. Olazo, and P. J. D. Sarmiento, "Business sectors' initiatives on health and safety protocols and vaccination program among employees during the COVID-19 pandemic," *J. Public Heal. (United Kingdom)*, 2021, doi: 10.1093/pubmed/fdab139.
- [9] S. Dwi Lestari, N. Putri, Y. Yuwono, and I. Amir, "Effect of Occupational Health and Safety, and Work Environment on Employee Performance with Working Satisfaction as Mediation Variable," *GATR J. Manag. Mark. Rev.*, 2021, doi: 10.35609/jmmr.2021.6.2(3).
- [10] A. O. Siagian, "Analysis Of The Effect Of Occupational Safety And Health On Employee Performance Of Pt. Wijaya Karya (Persero) Tbk. At The Nayumi Sam Tower Malang Project," *Int. J. Bus. Inf. Technol.*, 2020, doi: 10.47927/ijobit.v1i1.43.
- [11] E. A. Marom and B. S. Sunuharyo, "Pengaruh Keselamatan Dan Kesehatan Kerja (K3) Terhadap Kinerja Karyawan (Studi pada Karyawan bagian Produksi Perusahaan PT Lion Metal Works Tbk)," *J. Adm. Bisnis*, 2018.
- [12] M. R. Sim, *Copyright © 2017 American College of Occupational and Environmental Medicine. Unauthorized reproduction of this article is prohibited.*
- [13] G. Katunge *et al.*, "Maintaining Health and Safety at Workplace: Employee and Employer's Role in Ensuring a Safe Working Environment," *J. Educ. Pract.*, vol. 7, no. 29, pp. 1–7, 2016, [Online]. Available: [www.iiste.org](http://www.iiste.org)
- [14] Y. Kim, J. Park, and M. Park, "Creating a Culture of Prevention in Occupational Safety and Health Practice," *Saf. Health Work*, vol. 7, no. 2, pp. 89–96, 2016, doi: 10.1016/j.shaw.2016.02.002.
- [15] C. F. Rostina, D. Muhani, and T. Sinaga, "Occupational Health and Safety, Work Discipline, Leadership Style Affect Employee Performance," *Int. J. Soc. Sci. Bus.*, 2020, doi: 10.23887/ijssb.v4i4.28191.
- [16] A. Syarnubi, R. A. Sembiring, T. Siswaya, and R. Zuraida, "Performance, productivity, and safety & health among employee of oil & gas company in Qatar," 2018. doi: 10.1088/1755-1315/195/1/012075.
- [17] A. Ilić Petković, V. Nikolić, and D. Vasović, "Occupational Safety And Health Regulation At The Local Level—Comparison Of Legal Solutions In Serbia And Montenegro," *Facta Univ. Ser. Work. Living Environ. Prot.*, 2020, doi: 10.22190/fuwlep2003193i.

## CHAPTER 23

### A COMPARISON BETWEEN AUTOCRATIC AND DEMOCRATIC LEADERSHIP IN MANAGEMENT FOR BUSINESS

---

Vipin Jain, Senior Professor,  
Teerthanker Mahaveer Institute of Management & Technology, Teerthanker Mahaveer University, Moradabad,  
Uttar Pradesh, India  
Email Id- vipin555@rediffmail.com

**ABSTRACT:***An autocratic leadership style entails a situation in which one person makes all of the decisions and solicits little feedback from the remaining members of the group. It is a form of leadership where the group's members take part in decision-making. Any organization, whether it is a private corporation, a university, or the government, may benefit from this kind of leadership. Poor leadership may have a negative impact on the company's financial line and staff morale. Poor leadership results in low retaining employees and discourages the remaining staff, which lowers their productivity significantly. Hence the author comparing between the autocratic and democratic leadership in management for business. It was found that autocratic leadership works best when the subordinates or members of the group are submissive but not very educated or skillful. In contrast, whenever the members of the group are skilled, competent, and knowledgeable, Democratic leader is suitable. It that concluded that one of best leadership philosophies is democratic leadership. This happens because it gives entry-level workers a chance to practice using the power they will need to exert wisely in later roles. In the future, The Leadership Scope is a set of competences that empowers leaders to serve as coaches. It concentrates leaders on enhancing their team members' skills and capacities.*

**KEYWORDS:***Autocratic and Democratic, Decisions, Employees, Leadership, Members, Team.*

#### 1. INTRODUCTION

Autocratic leadership is defined as a guy having complete control over all organizational decisions. The man possesses the skills necessary to run the entire business [1],[2]. Authoritarian leadership is indeed the second word for autocratic leadership [3],[4]. One person has total authority; they decide what should be done and how it should be done. The group as a whole is subordinate to the leader [5],[6]. The helpers obey commands without questioning any decisions that have been made. For small organizations with a leader, the autocratic style of leadership is advantageous. In a crisis, it functions best [7],[8]. Decisions are made quickly and without delay. The business moves fast toward its objective. The team's communication improves, employee depression declines, an inexperienced crew is required [9],[10]. The team's contribution to the decision is minimal. Micromanagement results from autocratic management. When a boss has every team member report to him on every action, productivity suffers [11],[12]. A culture-based difference is produced by autocratic leadership [13],[14]. Regardless matter whether a leader's ethics are sound or not, everybody must abide by their regulations. Nobody is willing to contradict the leader. The leader deserves all the praise and recognition since he made the decisions. There is a lack of confidence in authoritarian rule. Creativity, profitability, and collaboration are hampered by the lack of trust between a team manager and the members. A management style known as autocracy involves one leader or team member making decisions on the organization's behalf. The majority of companies using this kind of leadership are small, employing fewer people.

Only in companies in which the nature of the tasks necessitates swift decision-making is this form of leadership effective. The choice and the result are entirely the management's responsibility. Although it is regarded as a flexible style of leadership, some might contend that it is now out of date. However, there are other traits of autocratic leadership, such as not

allowing input from those other group members, assigning all work and responsibilities onto group leaders alone, and not rewarding or praising staff in order to raise morale. Some analysts contend that because this leadership style mimics that of a tyrant, it might ultimately cause more harm than good. It causes low staff morale, which frequently results in attrition. There are, however, certain benefits to autocratic rule as well. It facilitates rapid decision-making and gives one authority over a company's operations and procedures. Autocratic leadership might be beneficial when a company is going through a crisis or a period of continual change. Compared to other leadership philosophies, it will be able to respond to the issue quickly due to its simplified organizational structure and speedy decision-making skills.

Democratic leadership is that in which most of the working people participate in management choices. Participatory management has been its other name. Plans and concepts are crucial for management. Every subordinate is properly consulted over every topic. The group members' opinions are taken into consideration when the leaders work. From the lowest of the organization towards the top, members are allowed to express their opinions. There is less of a communication barrier between team members. Ideas are exchanged and discussed under democratic leadership. Every member is expected to complete every duty. The leader permits the participants to participate in the decision-making body.

There is open conversation, correctly maintained tolerance, and even disagreement. Democratic leaders run the creative and nonprofit businesses. This leadership is an awareness-raising force. This leader may be developed in anybody. Republican leadership may lead to poor management. The distinction between group members as well as a leader is eliminated when there is ample freedom. It does not guarantee accomplishment of every assignment. The likelihood of a favorable outcome is lower if the populace makes the decision. Democratic leadership functions most effectively when group members are knowledgeable and motivated to contribute their expertise. It's crucial to give individuals enough time to input, formulate a strategy, and then vote upon that best way to proceed. Setting deadlines can help you collect everyone's feedback in time to act on it when there are so many individuals involved. Making clear whenever the group's participation will be sought and of which decisions management would make entirely on its own might be useful as well as setting expectations in advance.

The present paper is a study about the comparison the characteristics of autocratic and democratic leadership. This study is divided into several sections, the first of which is an introduction, followed by a review of the literature and suggestions based on previous research. The next section is the discussion and the last section is the conclusion of this paper which is declared and gives the result as well as the future scope.

## 2. LITERATURE REVIEW

A. T. Erdem [15] has explained that one of the primary factors affecting the success or failure of any business is its leadership. The author's study looks at how different leadership philosophies affect how well a company performs. Deep insights about styles of leadership have been revealed; democratic, innovative, bureaucracy, and autocratic governance have a beneficial impact on organizational performance, whereas charismatic and manipulation in order have a negative effect because they don't give employees the freedom and opportunities they need. The results indicated a bad association between performance of the organization and inspirational, bureaucracy, and transactional leadership role. It has been suggested that businesses employ a leadership style that strengthens employees' skills and competencies.

James Gerard Caillier [16] has explained the effect of leadership philosophies on public perceptions of public officials' performance. To close this gap, a hypothetical superintendent's

competence as superintendent of the school system was the subject of an online experiment poll to ascertain the influence of leadership styles upon respondents' impressions. The findings show that democratic leadership techniques improved the superintendent's performance assessments while autocratic techniques hurt them. The degree of public service motivation (PSM) among participants was also shown to positively influence the superintendent's performance reviews. Particularly, those with high PSM judged democratic leaders' performance as being better than those with low PSM.

Zlatko Nedelko and Vojko Potocan [17] has explained that a sizable amount of research examines how much a leader's personal behavior traits influence their conduct and the variables that account for these associations. This study's primary goal was to investigate, from the standpoint of sustainability, how leaders' personal beliefs affect their democratic conduct. Using different variants of the idea of fundamental values and the continuous of autocratic democratic establishment, we defined and evaluated the research model. Hierarchical regression and modeling of structural equations analyses were performed on 208 Slovenian and 196 Austrian leadership answers. The findings show that collectivistic attitudes significantly and favorably impact democratic leadership quality in both populations. In conclusion, individualistic principles have a considerable and detrimental impact on democracy leader behaviors in Austria while having a favorable but marginal impact in Slovenia.

Sevinç Peker [18] et al. has explained how economic activities, social events, and technical advancements all have an impact on the structure and relationships inside organizations. The purpose of the study is to determine if these leadership styles can accurately predict the degree of mobbing instructors encounter by examining the link between autocratic and democratic styles of leadership among school administrators and instructors' experiences of mobbing. 395 elementary school teachers in Greece's central districts near Mersin provided the study's data. Educators' mobbing status was assessed using the Mobbing Scale, while teachers and administrators' styles of leadership were evaluated using the Leadership Style Magnitude. The results showed that seniority accounted for a notable difference in obstacles related to work and profession and work engagement dimensions whereas gender accounted for a major difference with only interference in personal sphere of the five ambushing dimensions. In conclusion, both authoritarian and democratic leadership philosophies among school leaders foretell that all aspects of teacher mobbing would deteriorate, with the exception of job dedication.

Ahmet Tuncay Erdem [15] has explained how a misperception of organizational management, particularly when coupled with job alienation in the workplace, can cause issues with crucial work tasks. The main goal of this study is to ascertain if "alienation from work" acts as a mediator between the effects of unproductive conduct that may be brought on by democratic leadership and authoritarian leadership in companies. The relational scanning framework was modeled in the study after conventional scanning models. Research data were gathered from four companies producing heavy machinery inside the Ankara OSTIM Industrial Zone using the basic random sample approach. The results of the analysis of the research data show that while democratic establishment has a favorable impact on work estrangement, it has not had an impact on unproductive conduct. Finally, it has been shown that autocratic leadership has an effect on work alienation and unproductive conduct.

The above study shows the effect of leadership philosophies on public perceptions of public officials' performance. And also how economic activities, social events, and technical advancements all have an impact on the structure and relationships inside organizations. In

this study, the author discussed the characteristics of an autocratic and democratic leadership, and improve autocratic leadership skills.

### 3. DISCUSSION

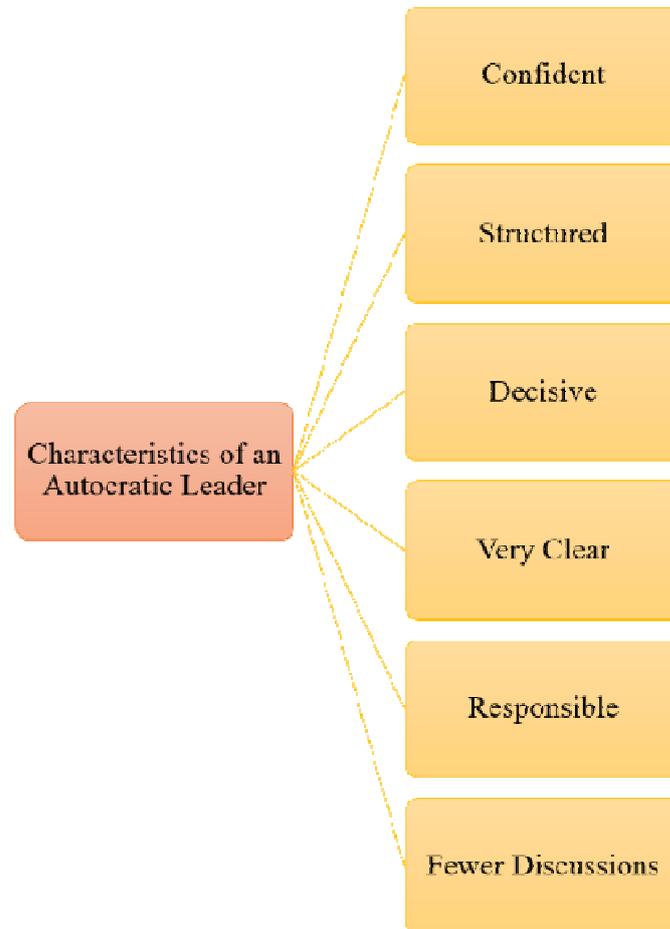
A leader must have the ability to motivate their team members to work freely toward the organization's goals. This is a talent that demands leadership. Different leadership philosophies are available for the organization to select from depending on its goals and subordinates. One of the leadership philosophies that involves centralizing the ability to make decisions is autocratic leadership, also known as monothetic leadership. In an autocratic leadership style, the leader gives instructions to the followers on what should be accomplished and how it should be done. The Democratic leadership, on the other hand, favors equal opportunity for all staff members to participate in decision-making. The comparison between the autocratic leadership and democratic leader in Table 1.

**Table 1: Illustrates the comparison between the autocratic and democratic leadership based on different parameters.**

S.NO.	Based on Different Parameters	Autocratic Leadership	Democratic Leadership
1	Meaning	A leader that practices autocratic leadership is someone who draws a clear line between himself and his following and makes all of the decisions.	Democratic leadership references to a style of management in which the leader defers to the members of the group for decision-making as well as other duties.
2	Suitability	Whenever the subordinates are untrained, illiterate, and submissive, it is appropriate.	Appropriate where members of the team are knowledgeable, skilled, and competent.
3	Control	High level of control	Low level of control
4	Authority	Centralized	Decentralized
5	Autonomy	Less	High
6	Behavior orientation	Task Oriented	Relation Oriented
7	Conceived from	Theory X	Theory Y
8	Applicability	Rapid judgments must be taken in businesses whose personnel have lower levels of education and training.	businesses with knowledgeable and experienced staff that control changes in the organization and address employee problems
9	Decision Making	Centralized	Decentralized
10	Style	Transactional leadership	Transformational leadership
11.	Credit	For leader	For the whole team

a. *Characteristics of an Autocratic Leader:*

In most instances in Figure 1, many autocratic leaders that adhere to the leadership style of autocracy are viewed as domineering or overbearing. This managerial approach could succeed in some circumstances but fall short in others. The several characteristics of an Autocratic Leader are:



**Figure 1: Illustrates the characteristics of an Autocratic Leader are generally considered dominating or bossy in most situations.**

i. *Confident:*

The majority of people will follow the actions and thoughts of a confident leader. Leaders must have self-assurance and trust in their abilities. When displayed properly, this attitude is incredibly appealing. Additionally, authoritarian leaders occasionally have a tendency to get overconfident and to have little space for debate or new ideas, which will negatively affect their subordinates and team members. This might significantly impact people's performance and have an adverse cultural impact, which could result in an organization's demise.

ii. *Structured:*

Autocratic leaders often tackle every work in an organized manner, because of the conservatism of the work environment's strict regimentation, this leadership style facilitates job completion fast. On the other hand, in an authoritarian company, the atmosphere might be extremely rigid. Team members may not be able to learn because they are afraid to make errors because their performance is continuously being watched. For some people, drive to learn is not best fueled by fear.

*iii. Decisive:*

One of the main characteristics of autocratic leadership is that decisions are made quickly because the leader makes the final choice. Making decisions quickly is crucial, especially in times of crisis. Every business, for instance, need leaders who might act quickly and weigh risks when the globe was unexpectedly struck by the corona virus epidemic, rather than relying on others.

*iv. Very Clear:*

They already understand who has authoritative leadership when it comes to important business decisions or how the company is run. To promote smooth operations and optimum efficiency, such leadership style clearly specifies the duties and responsibilities of each individual's work procedures. Not all people who thrive in such an atmosphere, nevertheless, feel excluded and have their creativity and engagement restricted. If the individual's ideas are not appreciated, they could leave the company sooner, which would result in high attrition rates that would harm the group and productivity.

*v. Responsible:*

Because they have total control over decision-making, authoritarian leaders are accountable for both failure and success. In any case, it is the leaders who must first deal with the results of their decisions. A trustworthy relationship is built between his subordinates as well as a responsible boss. However, certain team members may not receive credit where credit is due in certain situations, thus it is the leader's responsibility to be accountable and keep the team together.

*vi. Fewer Discussions:*

The majority of choices are made by the autocratic leader alone, as we have already established, and there is little space for discussion or input. Although it speeds up decision-making, it has a detrimental impact on team morale since team members frequently feel left off, especially when important choices are involved.

*b. Characteristics of democratic leadership:*

There are many different types of leadership, and they are all quite different from one another. If visitors want your team to participate in problem-solving and decision-making, then style of democratic leadership is optimal. Employees who are actively interested in both their position and the firm are more likely to remain invested, therefore the leader's primary objective with this strategy is to increase employee engagement inside those contexts.

*i. Encourage creativity and collaboration:*

Democratic leaders appreciate the free exchange of ideas and work to gather a variety of viewpoints. As a result, teams with any of these leaders often exhibit higher levels of invention and creativity. Before making a choice, people with this approach frequently provide chances for collaboration, lead brainstorming sessions, or solicit feedback from all group members.

*ii. Regularly ask for feedback:*

Democratic leaders solicit input and value many viewpoints, they might openly solicit input on a topic or test theories with both the group by outlining their proposed solution to an issue and then soliciting response.

*iii. Maintain a team player attitude:*

Because they appreciate cooperation, these leaders naturally respect teamwork and therefore will actively search for methods to both lead and assist their team and encourage others to share this perspective. This type of leader will provide direction and assistance during the course of a project, and they may check in with their subordinates to make sure nothing is preventing them from finishing their task.

*iv. Keep flexibility at the forefront:*

This kind of leadership gives the team the freedom to do their tasks as they see fit. This can be accomplished by giving their team the authority to make choices or by putting them in charge in specific circumstances. While these leaders let people make decisions, they are still responsible for the team's performance, therefore they could set up rules or guidelines to make sure everyone stays on course.

*v. Place high importance on transparency and communication:*

Democratic leaders share the information among their team and maintain open channels of communication. By doing this, a strong feeling of confidence is established, strengthening the culture as a whole. This kind of leader could inform their team about interesting new initiatives and solicit volunteers before delegating tasks.

*c. Improve Autocratic Leadership Skills:*

A leader might embrace a few characteristics to ensure that they autocratic leadership is successful and well-received by their workforce. The following guidelines might assist reader in developing an effective autocratic leadership style:

*i. Listen to others:*

Encourage those around you to participate in group conversations or morning meetings by paying attention to what they have to say. By doing this, company may inspire your staff, increase their self-assurance, and gain from their expertise. Based on the input they have received, make judgments.

*ii. Provide the right environment:*

By creating a pleasant work atmosphere, employers may inspire their staff to perform at a high level. Employee concentration on their task is improved by a positive work environment, and they are more confident in their boss.

*iii. Act responsibly:*

When people are watching someone, conduct yourself appropriately to leave a good impression. Their coworkers will trust you with the company's finances if you make wise judgments, consult others before making them, handle problems quickly, and allocate duties accurately.

*d. Advantages of Autocratic Leadership:*

This type of management might cause conflict. Some analysts argue that authoritarian leadership alone may enhance a company's atmosphere. Some experts disagree, claiming that this style of management fosters a sense of tyranny among the workforce and is bad for the workplace culture. The benefits and drawbacks of autocratic rule are many and include: Making decisions quickly is useful whenever a leader is in charge of a small team or

enterprise. Autocratic leadership can be helpful in cases when the organization might progress inside the firm since organization is essential to a well-operated corporation. A group becomes structured and makes considerable progress whenever a person in charge of it does so. When a firm is under pressure and requires someone to take command and leading from the front, autocratic leadership is even more helpful. A specific set of instructions helps everyone stay more focused upon their tasks. Additionally, it clears up any uncertainty regarding expectations. Control: A good leader is better equipped to exercise greater control over decisions. They can enforce conformity in the workplace and keep a careful watch on what other people are doing. This will guarantee that everyone is concentrating on their task and that the organization meets its goals. Discipline: Effective leadership will also guarantee the upkeep of workplace disciplinary norms. Maintaining order will keep the business going ahead.

*e. Advantages of the democratic leadership style:*

*i. Job satisfaction and commitment:*

Employees frequently feel more appreciated by their company when they participate in decision-making. This feeling of significance may promote greater productivity and fidelity to the business, which in turn may reduce employee turnover.

*ii. Multiple solutions generated:*

The discourse addresses several potential options when the decision-making process necessitates cooperation and a range of viewpoints. The group may examine more facets of a certain project and come up with ideas that more effectively meet the demands of the company.

*iii. Less absenteeism:*

The likelihood of absences increases for those who are happier in their occupations. Employees are more committed to meeting deadlines and working overtime whenever they feel appreciated, which benefits both the team and the business.

*iv. Team cohesion:*

Participating individuals in decision-making may support the company's vision. Everyone shares in the group's decision and therefore is aware of its underlying reasons. They are aware that they are pursuing the same objective. It encourages stronger group cohesiveness.

*v. Trust between group members:*

The level of trust between employees and management rises when they share the same knowledge and decision-making authority. Each member of the group is aware of the factors influencing their leader's choice and does not need to inquire about them.

#### 4. CONCLUSION

Democratic leadership outperforms authoritarian leadership in terms of efficacy. The immediate aim and subordinates can be taken into account while choosing between both the two leadership philosophies. Autocratic leadership styles work best when increasing productivity is the main priority and the subordinate's demand for independence is minimal. However, democratic leadership style is better since the short-term objective is often work happiness and the subordinates need a higher level of independence. Because group members are given a significant amount of liberty and are trusted to make wise judgments, this leadership approach is also not suited for circumstances when the business can't afford

blunders. Additionally, some group members can lack the knowledge, exposure, or experience necessary to provide valuable input on certain issues. This, together with the fact that several team members contributed ideas, may lead to some team members feeling like their opinions weren't taken into account. To build a balanced workplace or society, a leader must decide the best form of leadership for each scenario. Always keep in mind that making the right decision will help your team or subordinates feel good about themselves and have strong morale. But democratic leadership has developed a more powerful reaction compared to authoritarian leadership for decades now, giving it a significant advantage. It was suggested because both democratic and autocratic leadership are forms of authority. There is no flexibility for assistants to articulate themselves or make judgments under autocratic leadership. All participants are given the opportunity to voice their opinions and contribute in decision-making under democratic establishment.

## REFERENCES

- [1] S. Peker, Y. Inandi, and F. Giliç, "The relationship between leadership styles (autocratic and democratic) of school administrators and the mobbing teachers suffer," *Eur. J. Contemp. Educ.*, 2018, doi: 10.13187/ejced.2018.1.150.
- [2] A. S. and H. N. Iqbal N, "A Causal Relationship between Collaborative Leadership and Innovation," *Arab. J. Bus. Manag. Rev.*, 2018.
- [3] R. I. Ababneh and S. N. Athamneh, "Women's leadership styles and followers' commitment: The case of the Jordanian public sector," *Int. J. Organ. Divers.*, 2018, doi: 10.18848/2328-6261/CGP/v18i02/1-14.
- [4] M. Ali, "Impact Of Corporate Governance On Firm s Financial Performance (A Comparative Study Of Developed And Non Developed Markets)," *J. Bus. Manag. Econ. Res.*, 2018, doi: 10.29226/tr1001.2018.7.
- [5] J. Dyczkowska and T. Dyczkowski, "Democratic or Autocratic Leadership Style? Participative Management and its Links to rewarding Strategies and Job Satisfaction in SMEs," *Athens J. Bus. Econ.*, 2018, doi: 10.30958/ajbe.4.2.5.
- [6] G. Maalouf, "A Causal Relationship between Collaborative Leadership and Innovation," *Arab. J. Bus. Manag. Rev.*, 2018.
- [7] M. KARS and Y. INANDI, "Relationship between School Principals' Leadership Behaviors and Teachers' Organizational Trust," *Eurasian J. Educ. Res.*, 2018, doi: 10.14689/ejer.2018.74.8.
- [8] N. Drouin, R. Müller, S. Sankaran, and A. L. Vaagaasar, "Balancing vertical and horizontal leadership in projects: Empirical studies from Australia, Canada, Norway and Sweden," *Int. J. Manag. Proj. Bus.*, 2018, doi: 10.1108/IJMPB-01-2018-0002.
- [9] A. R. Zarinah, A. M. Nur Farhana, and A. H. Nadiyah, "Lean production and business performance: influences of leadership styles," *J. Fundam. Appl. Sci.*, 2018, doi: 10.4314/jfas.v9i5s.71.
- [10] S. Rehman, H. U. Rahman, M. Zahid, and M. Asif, "Leadership Styles, Organizational Culture and Employees' Productivity: Fresh Evidence from Private Banks of Khyber-Pakhtunkhwa, Pakistan," *Abasyn J. Soc. Sci.*, 2018, doi: 10.3354/meps125229.
- [11] H. K. Chee, N. M. Rasyid, R. Y. Tengah, and J. F. L. Low, "Relationship between leadership style and performance of Perak SUKMA athletes and coaches," *J. Fundam. Appl. Sci.*, 2018, doi: 10.4314/jfas.v9i6s.97.
- [12] C.-H. Bum and S. H. Shin, "The Relationships between Coaches' Leadership Styles, Competitive State Anxiety, and Golf Performance in Korean Junior Golfers," *Sport Sci. Rev.*, 2018, doi: 10.1515/ssr-2015-0024.
- [13] M. David, "Enhancing employee performance using selected leadership styles of middle-line managers in the hospitality industry in Mid-Western Uganda," *J. Hosp. Manag. Tour.*, 2018, doi: 10.5897/jhmt2018.0243.
- [14] Ö. Uzunsaf Yamak and S. Zihni Eyüpoglu, "Leadership Styles of Hotel Managers in Northern Cyprus: Which Style is Dominant?," *Int. J. Organ. Leadersh.*, 2018, doi: 10.33844/ijol.2018.60202.
- [15] A. T. ERDEM, "Demokratik ve Otokratik Liderlik Tarzlarının Üretkenlik Karşıtı İş Davranışına Etkisinde İşe Yabancılaşmanın Aracı Rolü: Ankara OSTİM Sanayi Bölgesinde Bir Araştırma," *OPUS Uluslararası Toplum Araştırmaları Derg.*, vol. 17, no. 34, pp. 873–902, 2021, doi: 10.26466/opus.839136.
- [16] J. G. Caillier, "Testing the Influence of Autocratic Leadership, Democratic Leadership, and Public Service Motivation on Citizen Ratings of An Agency Head's Performance," *Public Perform. Manag. Rev.*, vol. 43, no. 4, pp. 918–941, 2020, doi: 10.1080/15309576.2020.1730919.

- [17] Z. Nedelko and V. Potocan, "Sustainability of organizations: The contribution of personal values to democratic leadership behavior focused on the sustainability of organizations," *Sustain.*, vol. 13, no. 8, 2021, doi: 10.3390/su13084207.
- [18] S. Peker, Y. Inandi, and F. Giliç, "The relationship between leadership styles (autocratic and democratic) of school administrators and the mobbing teachers suffer," *Eur. J. Contemp. Educ.*, vol. 7, no. 1, pp. 150–164, 2018, doi: 10.13187/ejced.2018.1.150.