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**National E-Conference-2020
The Role of Management Practices
in Business Sustainability in as
Era of Technology Disruptionn'**

Organised by
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New Horizon College of Engineering,
Bangalore, Karnataka, India

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The Role of Management Practices in Business
Sustainability in as Era of Technology Disruption

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The Bubble, the Recession and the Bull Phase : 2020, A Year of Unprecedented Indian Stock Market Movements

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ABSTRACT

The Indian stock markets are witnessing a year that is completely filled with bewilderment. In the beginning of the year, Indian stock markets saw its maximum and then within a few months, as Covid 19 pandemic distended and the Indian economy shut down for the first time in history as did all the economies around the world; it swiftly tumbled down shifting towards its lowest in no time. However, at the moment the stock markets are mounting up once again, making record highs.

The objective of this paper is to study the reasons behind the steep fall in the stock markets in India after the Pandemic outbreak, and the factors responsible for the current ascendant trend. We will also study the effect of creeping recession, as the economic activities came to a standstill due to the lockdown in the economy, on the current stock market trends.

We conclude that there is always a relationship between the GDP rate and the stock market movements. Also from the analysis it is apparent that in the short run there may be a disconnection between the two, however in the long run there is always a positive correlation between GDP growth and the stock market movement.

Keywords: Stock Market, Covid 19, Bubble, Recession, Bull Market.

INTRODUCTION

We're in the early recovery phase of the cycle following the COVID-19 recession. In fact the GDP for the coming year implies an extended period of low-inflation, low-interest-rate growth, an environment that usually favours equities over bonds. But after such a rapid rebound from lower economic growth indicators to an optimistic market looking forward, an equity market pullback would not be surprising. This leaves us neutral on the near-term outlook, but moderately positive for the medium-term with slightly expensive valuations offset by the positive cycle outlook.

This early-cycle economy will succeed later-cycle valuations for the next year or two. The turning point could occur when economies hit full capacity. This will be when unemployment has fallen as far as possible and inflation pressures start to rise. Central banks will signal that higher interest rates are on the way and bond yields will move higher. The pandemic-driven decline in bond yields below 1% has allowed equity markets to trade at more expensive valuations in terms of price-to-earnings ratios. Rising bond yields will eventually place lofty equity market valuations under pressure.

March 12, 2020, is called the 'Black Thursday' because on this day financial markets across the world reported the greatest fall. The fall as measured in a single-day percentage was the highest since the stock market crash in 1987. The Indian market also reacted sharply to the crash, and the Nifty fell by around 8%. The next day, however, Nifty bounced back by around 5%.

REVIEW OF LITERATURE

Olokoyo FO. (2020) studies the impact of economic factors on the movement in stock market. He says that GDP growth rate has a positive correlation with the stock market and stock market performance and that both are linked in the long run. He says that when there is a deviation from the long-run relationship, it is the stock market, interest rate and foreign capital flows that adjust to ensure that the long-run link is restored.

In a study conducted by Mandal & Bhattachargee (2012) about the impact of 2007-08 recession on the behaviour of SENSEX, they said there existed substantial volatility after the recession though there was not much difference in average returns. After the recession they found a strong correlation between stock market returns and global business cycle fluctuations. The stock market volatility is so much affected by the international factors.

Another study conducted by Paramati & Gupta (2011) aimed at investigating whether the stock market performance leads to economic growth or vice versa, suggested that there is a long-run relationship between the stock market performance and economic growth. Findings of the study suggest that the economic growth plays an important role in determining the stock price movements and economic growth also tends to be more likely to stimulate and promote stock market development by adopting appropriate reallocation of resources.

Bhatt (2011) conducted a study to analyze the impact of recent global financial crisis on Indian economy. He said that the role of government is so crucial in maintaining the equilibrium in the economy. Also the RBI played an important role during the crises, providing sufficient liquidity in the market to manage the situation.

Reddy (2012) studied the relation between economic factors i.e. interest rate and inflation and the stock market movements. He said that a reduction in interest and inflation rate resulted in increased stock price and so the government should try to control inflation and improve the standard of living of its citizens.

The encumbering Recession

A recession is typically described as 2 consecutive quarters of negative growth. The National Bureau of Economic Research defines a recession as “a significant decline in economic activity spread across the country lasting more than a few months visible in real GDP, real income, employment, industrial production, and wholesale-retail sale”.

The World Bank said in its 'Global Economic Prospects' report of June 2020 that the world economy was facing its worst recession since World War II and that the growth was expected to shrink (negative) by 5.2% in 2021. It also pointed out that "the largest fraction of economies experiencing declines in per capita output since 1870". It projected that Indian economy will shrink by 3.2% in FY21.

**Statement 1: Quarterly Estimates of GVA at Basic Prices in Q1 (April-June) of 2020-21
(at 2011-12 Prices)**

Industry	₹ in crore				
	April-June (Q1)			Percentage Change Over Previous Year	
	2018-19	2019-20	2020-21	2019-20	2020-21
1. Agriculture, Forestry & Fishing	4,27,177	4,39,843	4,54,658	3.0	3.4
2. Mining & Quarrying	88,634	92,807	71,209	4.7	-23.3
3. Manufacturing	5,61,875	5,78,936	3,51,396	3.0	-39.3
4. Electricity, Gas, Water Supply & Other Utility Services	74,998	81,628	75,877	8.8	-7.0
5. Construction	2,49,913	2,62,828	1,30,750	5.2	-50.3
6. Trade, Hotels, Transport, Communication & Services related to Broadcasting	6,09,330	6,30,860	3,34,284	3.5	-47.0
7. Financial, Real Estate & Professional Services	7,57,850	8,03,322	7,60,491	6.0	-5.3
8. Public Administration, Defence & Other Services	3,87,589	4,17,483	3,74,656	7.7	-10.3
GVA at Basic Prices	31,57,366	33,07,707	25,53,320	4.8	-22.8

Source: National Statistical Office, MOSPI, GOI, Press note on estimates of GDP for the first quarter.

As per NSO, GDP at Constant (2011-12) Prices in Q1 of 2020-21 is estimated at 26.90 lakh crore, as against 35.35 lakh crore in Q1 of 2019-20, showing a contraction of 23.9 percent as compared to 5.2 percent growth in Q1 2019-20. It is the biggest contraction on record, as India imposed a corona virus lockdown in late March and extended it several times, halting most economic activities. Still, India remains the third worst-affected country in the world by the pandemic. Construction (-50.3%), hotels and transportation (-47%) and manufacturing (-39.3%) recorded the biggest falls. Mining and quarrying (-23.3%); finance, real estate and business services (-5.3%); and utilities (-7%) also declined while the farm sector grew 3.4%. On the expenditure side, gross fixed capital formation recorded the biggest decrease (-47.1%). Private spending shrank 26.7%, inventories fell 20.8%, exports went down 19.8% and imports sank 40.4%. In contrast, government consumption jumped 16.4% as the government implemented relief measures to help curb the impact of the pandemic. The first quarter saw an unprecedented closure of shops, markets, and industries, which forced the wheels of the economy to a standstill. Except for agriculture, almost all the corners of the economy were severely hit.

The GDP annual growth rate for the year 2019 as per World Bank records was 5%. GDP Annual Growth Rate in India for the year 2020 is expected to be -10.00 percent according to Trading Economics global macro models and analysts expectations. The State Bank of India has revised its projections about the GDP growth rate from a decline of 6.8 per cent to 10.9 per cent in the financial year 2020-21. This is the worst performance on record for GDP because of the countrywide lockdown imposed by the Centre on March 25, 2020 to staunch the spread of corona virus.

To control the economy going into deep recession, efforts by the government began. The Finance Minister announced a financial relief package of Rs 170,000 crores. In addition, the Finance Minister also announced that the Center will pay the Provident Fund requirements on behalf of both the employer and also the employee. The RBI announced a moratorium on EMI for the next 3 months and also cut the Repo rate by 0.75% to 4.4%. All this was aimed at increasing cash in the hand of an individual resulting in an increased demand which in turn may lead to stimulating the economy.

The Bubble Burst:

In the beginning of the year, when the Pandemic was in its initial stage, markets remained unaffected by the Coronavirus, despite the World Health Organisation (WHO) declaring it as an international emergency. Global market indices, including Sensex and Nifty were robust. It was because of the inordinate delay in considering the magnitude and effect of the pandemic over the society as none of us had seen such a situation in their lifetime. Markets all over the world failed to factor the standstill in the economies.

Both global production and consumption were negatively impacted by the crisis. Unexpectedly, as the circumstances became acute, stock markets entered the phase of panic selling. This downward spiral resulted in a sudden market crash. As a result, Sensex crashed by approx. 40% within a short span of 2 months. The Sensex was enjoying the benefits of a bullish market when it reached its maximum 42273.87 points in January and suddenly as the effects of Coronavirus spread began to increase, there was a steep crash and the Sensex was ranging at its 5 years low at 25638.9 in March 2020.

A stock market crash reduces the investors' confidence in the economy as the falling shares slowly wipe out investor wealth. Investors resort to selling off their holding at minimal costs. Due to lack of confidence investors also refuse to partake in the purchase of shares. With the diminished wealth of investors and the valuations of companies dropping, it makes harder for companies to raise capital and secure debt. Companies in bad financial shape lead to layoffs resulting in a fall in demand in the economy. As the decline continues, the economy contracts which results into recession.

Stock Market & Economy

The stock market movements never follow economic downturn or recovery. The disengagement between rallying stock prices and gloomy economic data is most noticeable in India. While the Indian stock market has been rising despite Covid pandemic in the present times, the economic data shows a grim inclination for the country.

GROWTH RATES AND COMPOSITION OF REAL GROSS DOMESTIC PRODUCT				
(At 2011-12 Prices)				
Sector	Percentage			
	2016-17	2017-18	2018-19	2019-20
GDP Growth Rate	8.26%^S	7.04%	6.12%	5.02%
Expenditure Side GDP				
1. Private Final Consumption Expenditure	8.2	7.4	8.1	5.3
2. Government Final Consumption Expenditure	5.8	15.0	9.2	11.8
3. Gross Fixed Capital Formation	8.3	9.3	10.0	-2.8
4. Change in Stocks	-48.2	21.2	4.8	1.9
5. Valuables	-18.9	27.4	-9.0	13.5
6. Net Exports	7.2	-263.1	-31.0	29.2
a) Exports	5.1	4.7	12.5	-3.6
b) Less Imports	4.4	17.6	15.4	-6.8
7. Discrepancies	239.7	42.3	-21.8	-25.6
8. GDP	8.2	7.2	6.8	4.2
GVA at Basic Prices (Supply Side)				
1. Agriculture, forestry and fishing	6.3	5.0	2.9	4.0
2. Industry	8.3	6.1	6.2	0.8
of which :				
a) Mining and quarrying	9.5	5.1	1.3	3.1
b) Manufacturing	7.9	5.9	6.9	0.0
c) Electricity, gas, water supply and other utility services	10.0	8.6	7.0	4.1
3. Services	8.1	7.8	7.7	5.0
of which :				
a) Construction	6.1	5.6	8.7	1.3
b) Trade, hotels, transport, communication and services related to broadcasting	7.7	7.8	6.9	3.6
c) Financial, real estate and professional services	8.7	6.2	7.4	4.6
d) Public Administration, defence and other services	9.2	11.9	8.6	10.0
4. GVA at basic prices	7.9	6.9	6.6	3.9
Source: National Statistical Office (NSO).				

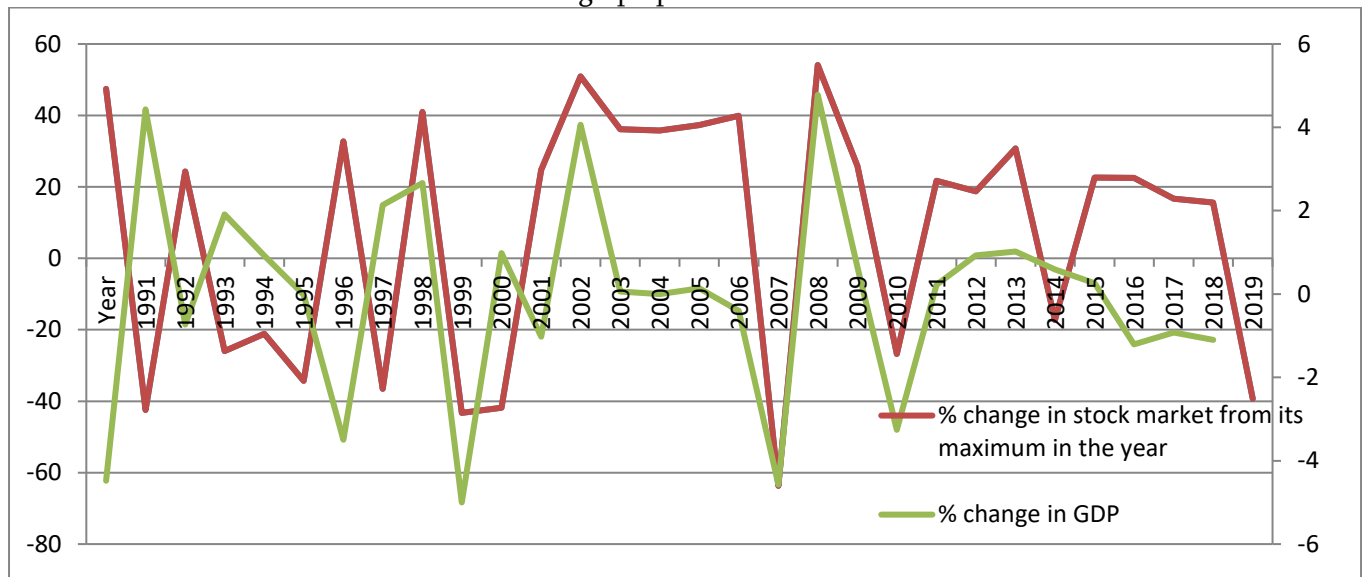
The above table clearly explains that the fundamentals of Indian economy are strong enough in the long run. The results are positive on the expenditure side as well as exports. The construction, Manufacturing and service sectors are all flourishing. It is only because the last quarter of 2019 was affected by the Pandemic that the growth rates are on a declining trend.

However, stock markets are always futuristic in nature. In simple terms, this means that the stock markets always crash at the slightest indication of economic downturn and latches on any positive sentiment/news to move towards recovery. As the lockdown was imposed on March 25, the economic activities came to a halt. Due to steep decline in manufacturing and services, the growth rate declined immensely. However, what

followed this decline was completely ironical as Indian stock markets witnessed a rise after a sharp decline. It means that markets respond immediately only to surprises and they have already responded to the “Bad News” in March.

Therefore the current rise in stock market is firstly due to strong fundamentals of the companies. As we can see in the above table the performance of different sectors is randomly changing and there is not much change in growth rates in different sectors. Secondly, the decline was primarily due to unprecedented circumstances that arose in the beginning of the year and even positive news such as introduction of vaccine can create optimism. Another major reason for the sudden recovery was the injection of liquidity by the government into the economy and the lowering of interest rates.

From the given chart it is very much clear that the GDP rates and the stock market movements are interrelated. Although at times there may not be a visible direct relationship, however there is always a positive association between the two. A stock market crash does not necessarily result in recession but a recession always results in a stock market crash and this is clear from the graph presented below.



When the global economy is sinking due to the pandemic shutdown, the stock markets are booming. This has allowed those at the top of the economic pyramid make wealth when billions of people are losing their money.

CONCLUSION

Historical trend suggests that we are still in a bear phase as the economy is still under downturns. However, the current economic recovery factors, government intervention and medical advancements suggest that the current downturn will not last like the earlier ones.

It is equally important to have a sector specific and a stock specific view rather than assuming that the recessionary trend has inverted. It is particularly feasible that hospitality or entertainment industry will take time to revive. Similarly, banking and financial sector may have higher NPAs that may impact their future profits. Hence, it is imperative to adopt a combination of fundamental and technical parameters while making new investments and not just a number driven technical view.

The GDP of an economy and the stock market gains are incompatible in the short run and, in fact, there is little comparison between the two. The major reason for this discrepancy is the difference in the size of the two markets. The economy depends on millions of factors that can have both a positive and negative impact, while the stock market is only affected by one factor, the supply and demand of stocks. Therefore the investors in the stock market should focus on fundamentals and invest with a long term perspective.

REFERENCES

1. Acharya, D., Amanulla, S., and Joy, S., "Financial Development and Economic Growth in Indian States: An Examination" *International Research Journal of Finance and Economics*, 2009 ISSN 1450 Issue 24, pp. 117-130.
2. Agarwal, S., (2001) "Stock Market Development and Economic Growth: Preliminary Evidence from African Countries" (<http://www.jsd-africa.com/Jsda/spring2001/articlespdf/ARC%20-%20Stock%20Market%20Development%20and%20Economic%20Growth.pdf>)
3. Felicia O. Olokoyo, Oyakhilome W. Ibhagui & Abiola Babajide | David McMillan (Reviewing editor) (2020) Macroeconomic indicators and capital market performance: Are the links sustainable?, *Cogent Business & Management*, 7:1, DOI: 10.1080/23311975.2020.1792258
4. Forbes, K., Rigobon, R., "No contagion, only interdependence: measuring stock markets comovements", *Journal of Finance*, 57 (5), 2002, pp. 2223-2261
5. Jang, H., Sul, W., "The Asian financial crisis and the co-movement of Asian stock markets", *Journal of Asian Economics*, 13(1), 2002, pp. 94-104.
6. Sharma, J.L., Kennedy, R.E., "A Comparative Analysis of Stock Price Behavior on the Bombay, London, and New York Stock Exchanges", *Journal of Financial and Quantitative Analysis*, 12(03), 1977, pp. 391-413.
7. Mandal A. & Bhattacharjee P., "The Indian Stock Market and the Great Recession", *Journal of Theoretical and Applied Economics*, Volume XIX (2012), No. 3(568), pp. 59-76.
8. Paramati S R. & Gupta R., "An Empirical Analysis of Stock Market Performance and Economic Growth: Evidence from India, *International Research Journal of Finance and Economics*", 2011, ISSN 1450-2887 Issue 73.
9. Reddy DVL. (2012), *International Journal of Advanced Research in Management and Social Sciences* ISSN: 2278-6236, Vol. 1, No. 6.
10. Bhatt, "Recent Global Recession and Indian Economy: An Analysis", *International Journal of Trade, 2011, Economics and Finance*, Vol. 2, No. 3.



How HR Organisations can Build Organisational Resilience in an Uncertain World – A Study in the Backdrop of Covid-19

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ABSTRACT

The future is uncertain, and the best way to thrive in an uncertain world is to anticipate change and prepare the organisation for it. With changing times, corporate strategies too should be continually adapted. For better coping and preparedness, HR organisations in companies must bring the organisation together to prepare and respond strongly to such events as the Covid-19 pandemic. This paper aims to understand the ways in which HR units in companies can become resilient and rebuild for agile operations. The HR department stands as a driving force for the development of strategic management plans for quick revival. Preparing the workforce for adapting to new strategies with a robust and positive psychological framework is essential. This descriptive study finds that employees who received organisational and social support were much more resilient and reported lesser levels of stress. Organisations should provide continual mental and social support to make the workforce feel secure. Alternative work plans, upgrading software/databases, providing personal work laptops, investing in technology, salary-cuts instead of layoffs/retranchments can be some ways in which companies nonmotivated workforce and ease the workflow for better productivity. It should have complete understanding of operations and supply chain activities. HR professionals should continually work on upgrading personal and professional capacity for anticipating and responding to threats and opportunities for the benefit as well as survival of the organisation.

Keywords : Resilience, Human Resources, Mental health, Support, New Normal.

INTRODUCTION

Resilience can be generally defined as the ability to recover from difficult time so situations. It is the ability to withstand or bounce back and grow despite uncertain situations. Resilience cannot be compared to a trampoline utilisable and time-consuming process. People experience various kind so adversities in life, such as illnesses, loss of loved ones, abuse, financial instability, etc. Also, there is the shared reality of disturbing events such as terrorism, violence, natural disasters, and mass shootings. These demand people to learn coping mechanisms in order to work through these challenging life experiences.

Resilience theory refers to the idea of how people are affected by certain crisis and adapt to adversities and risks. Being resilient not only means that people do not experience distress, emotional instability and suffering but it is equated with mental toughness. Being resilient includes working through suffering and emotional pain. An organization that thrives despite experiencing surprising and uncertain conditions makes it possible for it to achieve the ability to respond strong when they strategically manage the human resource to create

competencies among the employees, that when aggregated at an organizational level, an organization's capacity of being resilient is developed.

Building on definitions of Resilience of organization, employee resilience is conceptualized as the capacity of employees supported by the organization to efficiently utilize the resources to optimistically cope, adapt and flourish as a response to changing work situations. Measures of resilience are considered as individualistic in nature, as opposed to associating it with something that is empowered by organisation. In a constantly interconnected world, it is difficult for a company to survive as an independent entity as well as to retain its competitive position. As Research suggests, individuals who are more resilient cope better with change. There are recent developments on employee-centric measures to enable the empirical investigation of resilience on the employee level. Recent episodes have taught us that emergencies, disasters and calamities occur frequently than anticipated. Japan's post-tsunami crisis and tornadoes of the Southern and Mid-Western US show the vulnerability of present-day foundations to the forces of nature. The most recent crisis faced by the world is the Covid-19 Pandemic of Coronavirus in the year 2020. The outbreak was identified in Wuhan, China, in December 2019 and over 210 countries and territories worldwide are affected.

Human resilience can be considered as a personality trait which can help the communities and organizations learn to develop a "culture of resilience" which can manifest itself in the form of psychological immunity in the organisations. It is observed that in over three months, the US economy went from boom to recession. The businesses are closing nationwide. According to the survey which incorporates first hand perspective of HR heads of over hundred organizations across all the sectors in India, the impact will be felt by 72% of the organization even after six months.

The financial market has faced vulnerability about the future course and impact of Covid-19. The economy grew at a six-year low rate of 4.7% in the third quarter of the current financial year. In the second week of March 2020, there was a fall of Sensex and an estimated Rs. 10 lakh crore of market caps was reportedly wiped off. There are multiple problems hitting the business community from multiple direction and the companies are finding it difficult to sustain in such an environment. The companies are forced to implement stringent rules and take tough decisions such as deducting salaries and issuing pink slips to employees and also implementing other cost-cutting measures.

Impact of Covid-19

The outbreak of the Covid-19 coronavirus pandemic has presented new road blocks for the contractual and daily waged workers especially for the Indian workforce. The shutting down of factories and industries have delayed the supply of goods from China which has impacted a number of manufacturing sectors which source their requirement of final product from China.

Coronavirus has hampered the demand supply chain in the country and with this it can be seen that the aviation, hospitality and tourism sectors are among the worst hit and are facing the hardest times. Shutting down of theatres and shopping malls have affected the retail sector. This has impacted the consumption of discretionary as well as the essential items. There is a great impact on the workforce when the consumption of any product or service goes down. Considering the current situation, it can be seen that the employees are at risk.

Being resilient is to confront the risks that can adversely impact the strategic objectives of the organization. The world economy went to a threatening recession in just three months through the Pandemic. MNCs and other large- and small-scale industries are seeking advice on -what should the businesses do to maintain continuity and how to find opportunities for competitive advantage for the New Normal.

Bigger questions that needs to be addressed are – Are the industries and businesses prepared for a New Normal? Can the businesses survive the pandemic which demands them for a work-from-home situation? It seems to be that the companies, considering organisations in an Indian setting, are not prepared; which leads us to discuss the ways in which Human Resource management and planning can be boosted by the businesses to maintain efficiency and survive the pandemic.

The fact that Covid-19 has majorly impacted the businesses worldwide, it leads to us finding innovative solutions, one such solution is to build organisational resilience for an uncertain world with a focus on Human Resource capacity building.

BACKGROUND

Historically, Human Resource Management perhaps was the earliest management function pre-existing other functions like accounting, finance, and marketing. Although unrecorded, the real overseeing of HR without a doubt has happened since the primary association of individuals into working units such as tribes. Regardless of whether management happened through natural functioning of the market and allocation of roles or the human resource management of a tribal leader, HRM emerged.

In the late 18th century, Industrial revolution began in Europe and gradually spread to the United States. The revolution that took place during this era completely changed the way individuals earned their living. This also led to a shift from agriculture to industrial and manufacturing society. The management showed minimal concern regarding the safety or welfare of workers. It is important to note that workers were controlled with force and fear. This approach was continued until the end of the 19th century.

Around 1800, Robert Owens, an English factory owner, altered a number of aspects of employment relationship and developed “welfare to work” systems. This was done in order to improve both social and working conditions for workers. New systems and strategies were designed and implemented to promote good management and worker relations to increase productivity. Even today, these practices lead to many of the employee benefits that are used to motivate and retain workers.

LITERATURE REVIEW

Covid-19 anxiety among front-line nurses: Predictive role of organizational support, personal resilience and social support–LJ Labrague, 2020.

This study aims at examining the relative influence of personal resilience, organizational and social support in reducing anxiety. Those nurses that perceived high organizational and social support and were resilient in nature reported lower anxiety related to Covid-19 than the nurses who did not receive or perceive social and organizational support. This may be addressed through various interventions such as increasing and assuring social and organizational support, providing psychological and mental support services and stress management interventions.

Proactive and Reactive Role of Human Resource Professionals in an Aftershock Management, 2017.

This study emphasizes the importance of Human Resources management department of the companies. It has been perceived that natural or human-made disasters, in any form, impact the operations of a business significantly and they affect the workers' job and family as well. This paper recognizes the part of HR administrators corresponding to such events. The study shows that HR has enormous task to carry out. Initially, the main focus was on recuperating business and its activities, however, presently the need and significance of individuals have been regarded as valuable human assets. It is quite obvious that every company will face unique problems post a disaster and this paper reveals the different ways or guidelines that can be extremely contributively to natural-disaster management.

PURPOSE OF THIS STUDY

Based on the literature “Covid-19 anxiety among front-line nurses: Predictive role of organisational support, personal resilience and social support–LJ Labrague, 2020” this study aims to understand if the same can be applied to a corporate setting where employees are provided with various interventions and support by the Human Resource department of the company to yield similar results.

The purpose of this study is to evaluate the importance of employees' mental health for a resilient corporate organization.

RESEARCH METHODOLOGY

This research paper is a descriptive study based on secondary research. Information on the topic was gathered from seventeen different sources comprising academic journal articles, books, papers from think-tanks, etc. This study mainly focuses on organisations in India.

KEY FINDINGS

In spite of challenging situations, organizational objectives can be attained by acquiring human resources, developing their skills, motivating them for high performance and ensuring their commitment and loyalty towards high performance.

Many of the leading enterprises are already planning for the end of this crisis. There are ways in which the companies can fortify their business model – review the alignment of the business strategy, business model and core processes. The entire value chain is expected to work in harmony while facing shifts in the business environment. By implementing a comprehensive risk framework, the organization could proactively monitor and mitigate risks in their global environment.

The organisations should also consider or be resilient of three main domains of resilience– operational, supply chain and information. Operational resilience is where the organization is completely aware of its working conditions and environment and is ready to face any kind of challenge that may occur in the factory setting. Supply chain resilience is the ability of the company to quantify the risks that may occur during the procurement, manufacturing, transportation and other process like sales. Information resilience is the ability of the organization to safeguard all the sensitive information of the company and think of more innovative ways in which it can be secured.

For such a resilience to be achieved, it was found that employees need clear communication and understanding of the working environment and it is the duty of HR department to make employees feel the oneness which is necessary for the organisation in order to become strong and resilient. The employees can be considered as the back-bone of organisations so the more resilient they are, the stronger the organisation will be.

One of the concerns which is lately being acknowledged as a grave concern that the HR department of every company is expected to fulfil is the issue of Mental Health. Employees who are the not-so-headstrong and are completely disregarded with the layoffs might resort to extreme resolutions. There are high chances for them to give up or even commit suicide.

ANALYSIS AND DISCUSSION

Of the 325 nurses who were involved in the study- COVID-19 anxiety among front-line nurses by LJ Labrague, 2020, 37. 8% were found to possess dysfunctional levels of anxiety. Using multiple rectilinear regression analyses it was found that social support ($\beta = -0.142$, $p = .011$), personal resilience ($\beta = -0.151$, $p = .008$) and organisational support ($\beta = -0.127$, $p = .023$) predicted Covid-19 anxiety (Labrague, 2020) which gives us data to substantiate the importance of organisational support for resilience in workforce.

Taking Toyota as an example, after the two disruptive events that occurred- factory fire in 1997 and earthquake in 2011, they learnt to modify their JIT (Just-in-Time) system to allow specialized components of a month. Toyota re-strategized their operations and further created a database called RESCUE. They trained their

employees on the ways to react during disasters as well and very soon, Toyota could proactively manage the risks that occurred(Li, 2020).

Setting up a central, cross-functional, rapid- response team to make clear decisions and monitor or take control of the situation will also help the company to quickly pivot and adapt. It is also important to identify critical processes and key resources and set up daily rapid response meetings to provide fact-based analysis to enable fast, high quality decision making. Investing in technology can be another possible way to make the transition from traditional work-life to New Normal hassle-free, for example, if an organisation considers investing in software development or databases to ease workflow, providing incentives to employees to be able to afford faster internet, providing standard laptops for convenient working, etc. It is also said that the demand for digital solutions across cloud services and consumer-facing businesses has gone up significantly during the pandemic (Majumdar, Banerjee, 2020).

CONCLUSION

In times like this, corporations should look after the needs of the employees in distress. A Human Resource professional must work on bringing the humane back into the organisational environment. The decisions taken by the HR department impacts the livelihood of the employees and the entire workforce. This includes their ability to earn money to pay for essentials and other expenses. All of these are at a risk for a few months or a year.

Outbreaks such as Covid-19 may be inevitable looking at the current state of healthcare- lack of preparedness and its impacts. With proper directions and guidance, the administration behind each organization can be instructed about the risks so as to support and provide assistance for the same. Through effective health security insurance and strategic management of human resource, the companies can alleviate the crippling aftermath of workforce as well as their own survival and growth.

Hence, for the benefit of both company and its employees, the HR department can negotiate for salary-cuts instead of layoffs until the company revives. Also, it is very essential to ensure that all the employees have the right mind-set to perform their tasks for uninterrupted productivity or workflow which means that the company has and adapt to new strategies for the New Normal. This study can be extended to further areas of variable population and there is scope for further research in this field.

REFERENCES

- [1]. Sequoia, Sequoia. "Coronavirus: The Black Swan of 2020. " Medium, Sequoia Capital Publication, 5 Mar. 2020, medium.com/sequoia-capital/coronavirus-the-black-swan-of-2020-7c72bdeb9753.
- [2]. Lengnick-Hall, Cynthia A. , et al. "Developing a Capacity for Organizational Resilience through Strategic Human Resource Management. " Human Resource Management Review, JAI, 25 Aug. 2010, www.sciencedirect.com/science/article/abs/pii/S1053482210000355.
- [3]. Mukherjee, Siddhartha, et al. "What the Coronavirus Crisis Reveals About American Medicine. " The New Yorker, 4 May 2020, www.newyorker.com/magazine/2020/05/04/what-the-coronavirus-crisis-reveals-about-american-medicine.
- [4]. A, Gurjant. "Scope of HRM: Top 10 Scope of Human Resource Management. " Economics Discussion, 28 Sept. 2019, www.economicsdiscussion.net/human-resource-management/scope-of-hrm/31876.
- [5]. Everly, George S. "Building a Resilient Organizational Culture. " Google, Google, 24 June 2011, www.google.com/amp/s/hbr.org/amp/2011/06/building-a-resilient-organizat.

- [6]. Hasan, Abid. "Covid 19 Impact Will Be Felt beyond 6 Months, Shows EY Survey. " Google, Google, 26 Mar. 2020, www.google.com/amp/s/m.economictimes.com/news/company/corporate-trends/Covid-19-impact-will-be-felt-beyond-6-months-shows-ey-survey/amp_article/show/75084037.cms.
- [7]. Hassan New York, Omar. "Coronavirus Will Bankrupt More People than It Kills - and That's the Real Global Emergency. " The Independent, Independent Digital News and Media, 12 Mar. 2020, www.independent.co.uk/voices/coronavirus-deaths-trump-stock-market-pandemic-economy-bankrupt-italy-a9394891.html.
- [8]. Smith-Bingham, Richard, et al. "This Is the Impact of the Coronavirus on Business. " World Economic Forum, www.weforum.org/agenda/2020/02/why-is-coronavirus-a-global-business-risk/.
- [9]. Hamouche, Salima. "COVID-19 and Employees' Mental Health: Stressors, Moderators and Agenda for Organizational Actions. " Emerald Open Research, vol. 2, 2020, p. 15. , doi:10.35241/emeraldopenres.13550.1.
- [10]. Zeegen, Erik N. , et al. "After the COVID-19 Pandemic: Returning to Normalcy or Returning to a New Normal?" The Journal of Arthroplasty, 2020, doi:10.1016/j.arth.2020.04.040.
- [11]. Rousseau, Denise M. "Making Evidence-Based Organizational Decisions in an Uncertain World. " Organizational Dynamics, vol. 47, no. 3, 2018, pp. 135–146. , doi:10.1016/j.orgdyn.2018.05.001.
- [12]. Iyer, Aparna, director. <https://www.livemint.com>. <https://www.livemint.com>, Livemint, 23 Apr. 2020, www.livemint.com/market/mark-to-market/Covid-19-pandemic-poses-a-threat-to-india-s-steady-flow-of-remittances/amp-11587664670498.html.
- [13]. Majumdar, R. ; Banerjee, P. (2020, July 10). Digital investments will help companies become resilient. Retrieved October 30, 2020, from <https://www.google.com/amp/s/www.livemint.com/companies/news/digital-investments-will-help-companies-become-resilient/amp-11594345558970.html>
- [14]. Li, P. (2020). Organizational Resilience for a New Normal: Balancing the Paradox of Global Interdependence. *Management and Organization Review*, 16(3), 503-509. doi:10.1017/mor.2020.30
- [15]. Duchek, S. Organizational resilience: a capability-based conceptualization. *Bus Res* 13, 215–246 (2020). <https://doi.org/10.1007/s40685-019-0085-7>
- [16]. Labrague, Leodoro J. , and Janet Alexis A De los Santos. "COVID-19 Anxiety among Front-Line Nurses: Predictive Role of Organisational Support, Personal Resilience and Social Support. " Wiley Online Library, John Wiley & Sons, Ltd, 21 Aug. 2020, onlinelibrary.wiley.com/doi/full/10.1111/jonm.13121.
- [17]. Chakraborty, Tanusree, and RaiswaSaha. "(PDF) Proactive and Reactive Role of Human Resource . . ." <https://www.researchgate.net/Directory/Publications>, 2017, www.researchgate.net/publication/317608067_Proactive_and_Reactive_Role_of_Human_Resource_Professionals_in_an_AfterShock_Management.



The Role of E-Leadership Style in Digitalized World for Organization Sustainability

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ABSTRACT

Evolutionary theory states sustainability relies on knowledge turnover. The digital era has drastically scaled high in sharing digital knowledge and skills throughout organization. The role of E-Leadership and its practices is emphasized to enhances the work relationship between organization and employees mediated by technology. Implication of new technology need good strategy integration, for the continuous flows of work. The objective of the study is to identify the role of e-leadership in organization sustainability and how important is Virtual leaders or digital leaders towards organizations during technology disruptions. The study based on empirical research focus in identifying the literatures of past four years to insight the conventions about virtual leaders and derive the outcomes for understanding the strategies. Finally, the study concludes E-leadership as innovation, performance oriented, motivates virtual teams, enhances emotional intelligence for better organization performance and sustainability in digitalized world

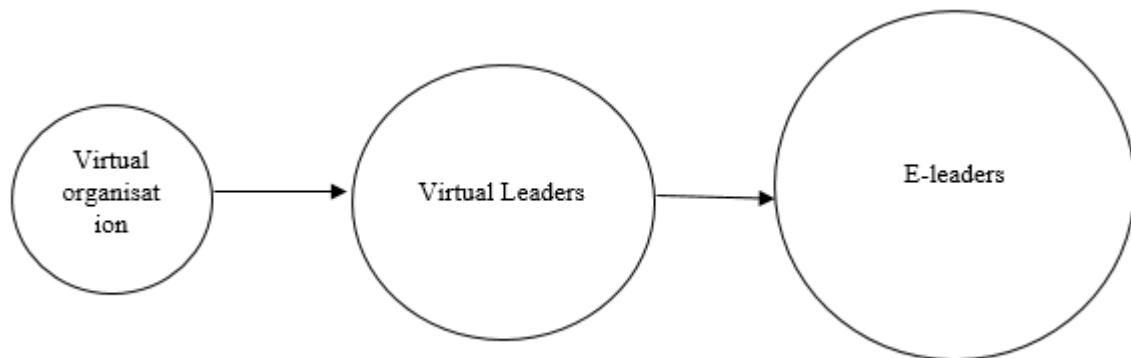
Keywords: E-Leadership, Digital Leaders, Virtual Teams, Digital Skills and Technology.

INTRODUCTION

World has evolved phase by phase, humans transformed the entire life style, the urge of customers towards innovative products is extended beyond expectations. Every organization tries to identify a new state of being successful in competitive edge resulting innovative notions in products, business growth rate, implementation of new strategies on all 3Ms like men, machine and material. Apparently, this is all possible when organization compress itself into industrial revolution. As we know four industrial revolution which were the major turning point for the development of technologies. And many of the innovation technology emerged in Great Britain. Industrial 4.0 materialized IoT (Internet of Things) machine to machine communication (M2M) integrated intensified to automation leading to diagnose problems and swift solutions. To incorporate technology and human together for successful vision, leaders are very most important element. We have come across many definitions about leadership and its different styles in particular. Most of the organization follows traditional leadership style and modern leadership style. In digital era lot many technologies have given birth to new buds of digital technologies such like Artificial intelligence, cloud technologies, data analytics, dashboards and so on. Business have moved in real time where leaders have to take quick decision in nanoseconds by using effective technologies, therefore we need leaders who have confidence, ability and knowledge to react spontaneous to problems faced. The introduction of new digital technologies constructs new business models give rise to

modification of organization structure and change management. Increase in usage of communication technologies give rise to digital disruptions. The blend of digital disruptions evolves organization swifts in products, service, customers, cost reductions, individuals' expectations, external environments, internal policies. This conditional leads to emerge E-LEADERS. The digital transformation has disrupted in all the sectors like health care, IT, ITES, government and public sectors

e-leader are those who can combine the traditional managerial skills with the management of information coming from ICT. Avolio at al.,2014:107 sates the definition of E-Leadership “ a social influence process embedded in both proximal and distal context mediated by AIT that can produce a change in attitudes , feelings ,thinking Behaviours and performance .This definitions gives the abstract ideas about how a e-leader mediates by ICT .E-leadership skills needs both business knowledge and appropriate utilization of ICT knowledge as well as understand both languages of business and IT . This creates and builds dialogue between people coming from business and IT to drive them towards innovations in markets. E-leadership differentiates and distinguish from successful firm to unsuccessful firms. Firms with e-leadership use IT for development of new application in technologies that is more important for agile and being more competitive. ICT helps in communicating virtual leaders in real time with help of instant messaging, voice over IP, video conferencing, social networks like Facebook, Wass up and Instagram communication networks like internet, cellphones, wireless network and other communication moderators.



Can e-leaders use all the ICT for better communication and accomplish the task? Off course not. All communications transforms cannot be used, leaders have to focus the appropriate communication technology for dialogues systematically. Usage of time, what type of teams, locations and the very importantly the digital technology, all these dimensions should be kept upfront for any accomplishment of work. E-leaders creates a valuable based virtual team during digital disruptions. Virtual teams are also known as geographical dispersed teams. This are group of people who are geographically dispersed, communicate and work together using the medium of digital tools such as video conference, email, FAX, teleconference. Communication plays a very important role, selecting the right task force for a leader to assign and get the work done is a major task. Virtual teams can induce agile leaders, who adapt and change quickly the quality of work as per customer feedback. As virtual teams work cross-functions it is a biggest challenge for e-leaders to design the culture, envision and find the sweet and spice spots of employee to take organisation to the next level. The relationship between e-leadership style and virtual teams are very compatible but in today's digital competition there is lack of e-leadership skills, most of the organisation are working virtual and digital leaders are to be focused a lot. Organisations must understand the e-leaders 'skills for longevity run and revamp the policies on them

The main objective of the studies focuses on

- 1.The identify major role of E-leadership towards organisation sustainability
2. The importance of virtual leaders or digital leader in digitalized world

LITERATURE REVIEWS

How E-leaders emerged?

Khawaja Mohammed (2009) The emerging new leaders for the virtual organisation. When organisation has new form of work culture using digital give rise to virtual organisation and the new work environment is called as virtual environment, the emerging leader from e-environment is called as E-Leaders. The logic of emerging e-leaders is from e-environment. The evolution of IT has passed four phase the first is data processing era, MIS era, strategic information era and last e-technology era .The research study conveys e-technologies such as MIS, fax , data processing ,internet ,video conferencing all this forms has given way to form a new organisation structure materialized to E-organisations or E-teams ,both e-tech and e-organisation consecutively creates an new work environment that is called as E-environment . New work environment is where organisation process turns into new applications of digital technologies, new digital work culture. Handling the process of digital work demands a leader for the continuity of business is called e-leadership. The study postulates the evolution of information technology in organisation has passed four stages. The MIS developed the technologies from mainframe to its microprocessor created an operations disruption. Further development of computers aided to use technologies, this remained as a strategic avenue for organisation sustainability. The study brings out an apprehension how e-environment emerged leading to e-leadership. Now its important to know the need of e-leaders in e-environment

E-environment disseminates huge information data and it has to release appropriately to take right decision by the leader. All raw facts to be converted into comprehensive and allocate data for future needs. This needs e-leaders and also e-work environment brings greater work connectivity across the globe. As there is spatial distance, physical face to face communication restricted. It is a biggest challenge to coordinate the work globally, assign work, get the task done, solve problem with spontaneous solutions. E-leaders should manoeuvre on training, apply knowledge and better emotional intelligence is a prerequisite to develop and produce a good virtual team.

Skills and Importance

P.Das Gupta (2011) E-leadership -an literature review states a leaders has same goal to perform , in vast internet facility leader have same goal too no changes , but how effective and efficiently a leader shall communicate using various mode of communication technology to get quality work .What quality inputs needed for e-leader to inspire and enthusiastically work with new employees who have dispersed globally .The study identified few very important skills a) strong networking skills b)communication skills c)written skills d) understanding the state of mind in simple term emotional intelligence e) technological sound. Walvoord et al.,2008; Zaccaro & Bader (2003) employee – employee interaction is emphasized, a better motivation among the virtual teams, create, understand and interact. Interaction skills was identified by Walvoord, more the interaction more the ideas are generated by brain storming. Coerdery et al., (2009) explains some of the skills, like traditional leader skills is also a way to coordinate. Traditional leader traits are using human powers influencing them to tackle decisions. This process of handling team results poor performance because, if leader influences his power teams'

members have short band width to share their ideas or knowledge. The team gets confined with limited ideas and thus accepting all the words said by leaders.

In current scenario traditional leader trait fails to adapt digital work culture. In today's world all the working organisations are transformed to be agile and becoming agility that is quick adaptation of work according to the feedback from customer without any delay in fractions.

Avolio, Kahai and Dodge (2003) the use of E in E-leadership term was represented by the author and defines e-leadership as – a social influence process mediated by AIT (Advanced information technology) to produce a change in attitudes, feelings, thinking, behaviour and or performance with individual, groups and or organisation. The study involves Adaptive Structuration Theory (AST) to understand how leadership adapt themselves to new technologies and their implications. New technologies are said to be competitive weapons, how this weapons to be used by the leaders their implementation a challenge to solve digital problems. Gordon Schmidt (2014) Virtual leadership: An important leadership context. Virtual leaders are looked as improvised communication environment by using social medias some other modes are pictures sharing, google doc, Facebook, skype, google hangouts. Virtual leaders help these processes to happen in encouraging communication, sometimes internal organisation communication network also helps virtual leaders, for instant IBM already have robust internal social networking sites, this site helps virtual leaders to communicate any time, any location among virtual teams. The capabilities of leaders lie how and which type of communication network to be used.

Romanichal Aggarwal (2014) E-leadership -A new and modern style of leadership. Development of information technology has created a barrier to have direct interaction. Leaders have to disseminate information for distance, not only distance employees, but inside the organisation too. The major skill to inculcate a proper training on the current technology has to be given to create a social and economic environment over the internet. A right leadership model yet to establish globally. The study also identifies a global model skill for e-leadership is not suitable for all the business across the world.

Ercan Oztemel & Samet Gursev (2018) Literature review of industry 4.0 and related technologies. Industry 4.0 is also a major part where new digital technologies emerged. Manufacturing industry have rolled the dice from machine manufacturing to digital manufacturing some technologies are machine learning, robotics, 3D printers, self-decision-making systems. The digital transformation has evolved the entire manufacturing industry and comparative to IT field, manufacturing is the toughest part to handle the virtual team. Participative and strategic planning skills is major role played by the leaders.

4.0 leadership style - matrix

Birgit Oberer & Alptekin Erkollar (2018) Leadership 4.0: Digital leaders in the age of industry 4.0 .The fourth industrial revolution rapid transformation made organisation to invest on data ,connectivity ,analytics and intelligence .The study creates the 4.0 leadership matrix for digital leaders and digitalization leads to the transformation of process, structure, methods, production, innovative approaches and smart devices .In order to adopt and adapt the new technologies ,design thinking skills can foster the digital culture .The study exhibits 4.0 leadership style matrix which is a behavioural style . This matrix tell that technologies not only influences data but how the business is managed and what type of leadership style used. company which is in to digital it doesn't mean that their leaders are digital, the digital leaders are determined by the type of leadership style used. There are many leadership theories came out like. The Leadership Grid Theory (Blake & Mouton, 1964), The trait theory, the behavioural theory and so on. Some of the essential elements of e-leaders are identified

organisational objectives, objectives are the both medium- and short-term goals that an organisation seek to accomplish. the second element is people, people are the employee working for the same goal who are in same company as well as dispersed globally.

E-leader should have people skills the essential element, when information or data passed to organisation people the capability of leader is to make them understand, make people to accept the data and process for the work. Leader should communicate each and every minute with appropriate network. Each country people have different culture, leaders have to match up those culture. There go a saying people talk about something until it actually happens. The next element is change, change means the movement of process, desire, technology, methods undergo a paradigm shift to the expected performance. Change cannot happen even ever the organisation thinks, it can happen strategically, as industrial revolution brought a big change in industries process from data to digital. This change creates a border wave length in all aspects of the organisation from product to service, from manufacturing to delivery, from employee to customer. The next element is output, when there is a proper input of data to people give away right output. Output is the result, the performance and satisfaction. The other few elements are mistake and conflicts, between input and output there is a gap for performance. All humans are not perfect until and unless they do mistakes. Mistake correct the method of doing things. Conflicts between virtual team members is becoming a big task, there is no direct face to face communication to convince people better, the digital method has created a barrier to resolve the conflict effectively. Conflicts can be resolved digital but it is a slow process. Conflicts make a e-leader to utilize all type understanding and knowledge, interpersonal skills, people skills, decision making skills and other skills too.

The 4.0 leadership matrix was developed based on two dimensions ,on x-axis concern for innovation and technology and on y-axis concern for people ,fresh leader focus on less concern for people and mainly believe in traditional technology having low notion on innovation technology ,Technological leader has high concern on new technology and low concern on people ,Social leader having high concern on people and low concern on technology . Digital leader falls on fourth quadrant, who has high concern on both people and technology and innovations. The 4.0 leadership style for digital leaders are said to be cross-functionalities oriented and cooperative approach with strong innovation.

(Bauer et al.,2015; Singh & jayraman ,2013; Ibarra et al.,2017; Kiel et al.,2017) identified there are four key success factors in industry 4.0 they are innovation, collaboration, integration and interoperability. (castorena et al.,2014; prem,2015; dim & ezebasili,2015; wang & lu,2016; Harshan 2017) Digital transformation relies on how firms innovate their business model. Erich prem (2015) A digital transformation business model for innovation, research states the characteristics how an organisation can digital transform itself. First is analysing the data, value adding activities, networking previously independent system and direct customer access. Arvind Malhotra, Ann Majchrzak and Benson rosen (2007) Leading virtual teams identifies six leadership practices for an effective team performance. As we know virtual teams are globally dispersed with different culture to establish good relationship between leaders and the teams the research identifies this six practices and they are a) create a trust with the help of communication technology b) leader should create a bond with this diversity teams by understanding and appreciating their work c) Managing virtual work life cycle this includes meetings, discussions, brain storming , taking other idea into consideration d) Leaders have to monitor the work performances and identify the gap ,in order to increase team progress using technology e)enhance the visibility of virtual members within team and outside in the organisation f)Each member in the virtual team should be benefited from the team generated for the accomplishment of goal. If this practice followed by the leader, organisation sustains in competitive digital world. Result can be obtained until and unless the teams have the

cooperation and understanding towards the work culture and enthusiastically take the challenge with appropriate route map to achieve.

CONCLUSION

Based on various literature review, the study concludes, digital leaders play a very important role in technology or digital disruptions. Digital disruption refers to change in new digital technology, organisation model change from the existing to heights of product and service. The virtual teams who are dispersed globally need a pathway to get the work done. This situation leads e-leader to exist and play different role to sustain business globally. E-leaders become successful when they make use of ICT and accomplish work globally in delivering quality result. Some of the important role identified from various literature review identify structural change at workplace, strategic digital innovation, assessing data, disseminate information's, feedback, engage employees. T-model is used to describe e-leadership. The horizontal line represents the breadth of the knowledge and the vertical line of T model describes the depth of expertise or knowledge. E-leader role has to scale up when new digital technology is bloomed in the market by upgrading his skills. people skills, interpersonal skills, communication skills, are the traditional skill been followed, digital skills are the new core competency to acquire in as well as digital role to play in. World has completely transformed digital, from manual work to digital work. As the revolution takes place organisation should transfigure when required in order to sustain business.

REFERENCES

- [1]. Khawaja Mohammed (2009) The emerging new leaders for the virtual organisation. Published by Journal of Managerial Science Vol III.
- [2]. P. Das Gupta (2011) E-leadership -a literature review. Published by Emerging Leadership Journeys, Vol. IV Iss. 1, pp. 1- 36. ISSN 1930-806X.
- [3]. Gordon Schmidt (2014) Virtual leadership: An important leadership context. Published by Cambridge university -industrial and organisation psychology. Vol VIII.
- [4]. Kissler GD (2001) E-leadership. Organizational Dynamics, 30(2):121-133.
- [5]. Avolio BJ, Kahai S (2003) Adding the -e6 to e-leadership: How it may impact your leadership. Organizational Dynamics, 31(4).
- [6]. Ercan Oztemel & Samet Gursev (2018) Literature review of industry 4.0 and related technologies. Published by Journal of intelligent manufacturing. 127–182(2020)
- [7]. Birgit Oberer & Alptekin Erkollar (2018) Leadership 4.0: Digital leaders in the age of industry 4.0. Published by International Journal of Management Leadership.
- [8]. Erich prem (2015) A digital transformation business model for innovation. Published by ISPIM innovation summit, Brisbane.
- [9]. Arvind Malhotra, Ann Majchrzak and Benson Rosen (2007) Leading virtual teams. Academy of management. Vol II.

The New Normal and the need to Reinvent HRM in Schools - An Analysis

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ABSTRACT

Covid-19 has changed the economic, social, cultural, and educational scene of the entire world. The optimistic idea that this pandemic will be soon controlled, and life will be normal again has given way to the bitter reality that we have to accept the 'new normal'. Closure of schools is a monumental crisis as it affects the cognitive and social development of children. The Human Resources Management associated with schools will now have to look at major challenges: lack of physical presence of educators and learners; dependence on virtual, on line classes; emphasis on parents and home environment to facilitate e-learning; layoffs of staff due to closure of schools; training of teachers to adjust to new ways of teaching; retaining staff and ensuring good morale of the staff in the absence of actual interactions; changed role of Corporates who were supporting school system; need for NGO partners in education to adapt new ways of service- to mention a few. Post pandemic period will pose myriad challenges for HR teams. Planning and redesigning new management practices, understanding remote working practice, formulating strategies for talent management, training programs and systems of performance evaluation will take new formats unlike in the traditional HR practice. This theoretical paper analysis available reports to examine how HRM has to reinvent itself to be effective in the 'new normal'.

Keywords: HRM in schools, Covid-19 and school system, New normal and HR, HRM

INTRODUCTION

Every few years a new word gets added to our vocabulary. 'New normal' is one such word which is often paired with another word Covid-19. New normal is defined as 'The current state of being after some dramatic change has transpired. What replaces the expected, usual, typical state after an event occurs' (Urban dictionary, 2009). This describes very well what is happening with the spread of Covid-19. Everyone will agree that Covid-19 is not just dramatic but a chaotic event that is creating havoc in our lives. World is preparing itself to adjust to the multiple challenges that is threatening all the systems- health, economic, social, educational, familial and cultural. The optimism that medical sciences will quickly contain this pandemic and things will be back as usual has given way to bitter realization that there are no quick solutions. Educational system is hit hard by the pandemic and is facing the uncertainty of when and how it will start functioning. Working environment of schools present a challenge to HR managers who must be in the forefront of creating a new work culture.

India, in its goal to provide elementary education to every child, had launched ' Sarva Shiksha Abhiyan'. This scheme of universalization of education for all provided free and compulsory education for children between 6

and 14 years. As an outcome of such efforts, the number of students in the age group who are not enrolled in primary schools had come down to 2.8% in the academic year 2018 (ASER,2018). Since Indian Government provides free basic education, 80% of all recognized schools at the elementary stage are government run or supported, making it the largest provider of education in the country. However, all these dreams of India achieving its dream of achieving total literacy received a jolt with the spread of Covid-19. Schools are shut and there is no clarity about how and when schooling will resume. Children, their parents, the teachers themselves, education providers are facing the heat ever since the government at the Centre declared Covid-19 as a “notified disaster”.

Closure of schools and disruption of education has a serious impact on children. Elementary schooling is essential for the cognitive and social development of children. Government is supported by various organizations under the CSR act in improving the quality of education in Government schools. This activity is also disrupted as Companies are diverting funds earmarked for educational programs to health and Covid- 19 care related services. Non-Governmental Organizations (NGO) working with schools have also either reduced or stopped their activities in schools.

In such a scenario, the role of HR managers in education sector also gets redefined. Instead of traditional functions, they have to reinvent themselves to meet new challenges. This paper examines some such issues that are relevant to HRM in schools today.

Brief review of related literature.

To provide the context to this paper, briefly the changes in society due to Covid-19 is reviewed. He and Harris (2020) point out that like other global events with planet-wide impact, Covid-19 could potentially change how we see the world, the ways in which we think, and how we conduct our lives. Cahapay (2020) suggests that the Covid -19 effect on different dimensions should be tackled in research and emerging studies should better prepare education system in the new period of human history. On a positive note, Chan (2020) opines that this unprecedented change is providing unprecedented opportunities.

United Nations (2020) in its report released in March 2020, states that this global health crisis is unlike any in the 75-year history of the United Nations - one that is killing people, spreading human suffering, and upending people’s lives. But this is much more than a health crisis. It is a ‘human crisis’ that is keeping millions of children away from school. UN calls upon the international community to support governments not only in providing distance learning solutions that use multimedia approaches to ensure learning continuity, but also in supporting teachers, parents and caregivers in adapting to home schooling modalities. The UNDP brief (2020) on socio economic framework for COvid-19 states that there are nearly 1.2 billion learners (or 68% of the total students enrolled) are affected by school closures. 144 countries still have nationwide closures in place and nations are facing the dilemma of ‘unlocking’.

Global EY organization (EY,2020) in its report highlights the fact that all the stakeholders in education- students, teachers, parents, administration are facing hardship due to Covid-19. Learning disruption caused by shutdowns (particularly for young learners in crucial cognitively formative years) and Lack of familiarity with online learning are major challenges for schools. Education providers are already switching over to technology

driven methods to keep their activities alive. Scrinini (2020) adds that the current working environment presents a challenge to all, but HR must be in the forefront of creating new work culture and leadership model. That means HR leaders need to commit to the way they work with data so that it's possible to plan for the uncertain future. HR leaders can respond to market changes and pave the way for a return to good people management even amid such uncertainty.

Present Study: In the present analysis, this paper examines the changes in HR practices and challenges that HR managers will face in the near future. It also describes some of the suggestions that several authors have come up to guide HRM to effectively manage the crisis.

Challenges to HRM:

McElgunn (2020) warns that there are five ways in which Covid-19 will transform HR. the crisis is forcing almost every business to adapt new work policies and procedures. Even after things return to 'normal' there will be five effects. They are; remote work will be a permanent feature for more organizations.; Nurturing culture gets more challenging in dispersed workplaces (Emotional needs of workers may not be easily met); Talent acquisition and retention remains critical; engaging a remote workforce (How to keep up morale and enthusiasm) and Accommodation and compliance (Concerns about employment laws).

Writing about challenges, Tulsiani (2020) suggests that HR leaders should think beyond maintaining productivity and figure out how and when they get the remote workforce back into the physical setting while boosting their morale. They are formulating impactful strategies for talent management in the post-pandemic era. Instilling a new era of people management is needed.

Major challenges for HRM are:

- I. Identification of key talent: Impact of Covid-19 has been disastrous as employee separation in both teaching and non-teaching staff can be seen. This could be seen in certain cases where the staff has decided either to go back to their domicile to be with their families or has refused to accept an offer from a school that has been declared as a containment zone. In the case of government schools, the offer of employment could be in the form of a transfer order. Private school managements can think of remote interviewing methods to fill in vacancies whereas that may not be possible in the case of government one's. In either case, school management have to look for a range of effective and efficient platforms for hiring and assessing the right candidate.
- II. Workforce optimization: It is certain that there will be a shift in the roles of employees in post Covid era. Management in schools should start making plans to reassess their roles, identify and analyze them. Online and offline tools and platforms will have a key role to play to realign the performance systems.
- III. Effective Reward and Recognition system: The outbreak of the Covid-19 pandemic has seen to professional aspirations of workers being disrupted. This could be in the form of promotions, transfers, increments etc. Managements in schools, whether government or private, need to design such R&R systems that are aligned to the goals of the management and the educational department. For this, they have to be transparent enough to let the staff know what they expect in return from them.

- IV. Delivering positive employee experience: Right interventions have to be used to create a sense of job security for staff, whether new or old. Policies have to be realigned to ensure that there is continued productivity and engagement in staff.
- V. Focusing on post-pandemic growth: Emergence of new technology to cope with present situation poses a problem. The role of Human Resources Management should be played by the school management. They should ensure that they are able to recognize the new skillsets needed and ensure that staff adapt to them. Teachers will have to be given opportunity to get proper training.

This is not just applicable to industries or business organization. It applies to the education system also. Management whether of a factory or school is affected by the changes and it needs to adapt to the new scenario. Smith (2020) states that once the current outbreak comes to an end, the world will be entering a new phase – what research firm McKinsey calls the “next normal.” To adapt successfully, HR will need to begin preparing the workforce now. Smith (2020) provides several suggestions as to how to prepare workforce for the next normal. They are Long term health measure, effective remote working methods, and strategic talent management.

Some HR suggestions specific to School system:

Writing on ‘Schooling in the post Covid era: Challenges ahead’, Pandey and Kumar (2020) report that despite lack of awareness and clarity, the first four weeks of the school lockdown witnessed teachers reaching out to the students with creative responses to deliver learning online. Yet, a vast pool of vulnerable students were missed which exposes the digital-divide. They are optimistic that learning from both our successes and limitations in managing this crisis, we can make education thrive and not just survive. Reconstruction in school education is, therefore, vital to support continuity in learning, human capital formation, and well-being that can significantly add to long-term economic and social prosperity. A clear blueprint is required as we navigate from everyday survival to reconstruct and lead by example.

Mehta’ report on ‘Coronavirus: 5 Ways Learning Will Change In Post-Crisis Era’ (2020) states that though in the post-Covid era, schools will still be around, education technology companies in India will collaborate with schools, teachers, parents and students to improve the overall learning experience of students and the efficacy of the education system. Schools will be forced to adopt technology, teachers will be empowered through technology, tuitions will be disrupted, data-based personalization will make teaching more student-centric, and this pandemic provides humanity an opportunity to understand importance of nature and ecology. Authors like Yan (2020) feel that this unprecedented crisis will lead to unprecedented opportunities and change in human behaviour and technology.

These warning provide a guideline for HRM to manage people in the next normal. The way HRM functions will definitely change. HRM should realize that health will be a major concern during the post pandemic period also. Child and school safety will be major concerns and will attract several regulations and scrutiny. Managers need to prepare themselves for this new task of focusing on long term health issues of students and staff. This may involve working with multiple sectors to improve workplace health and safety.

E- learning and remote learning are already becoming a reality. HRM need to focus on factors such as remote performance evaluation, and remote teacher management techniques. They also have to familiarize themselves with psychological impact of such practices and how to support students and staff in this regard.

HR departments need to gear themselves to virtual digital workplace. There will be a second wave of epidemic which will see loss of work for teachers. It is not productive and yet staff has to be paid and maintained. This period may be used effectively to upskill, reskill teachers. Training them to cope with new situation and implementing changes in schools that were necessary would be good options.

Managing schools in the post-Covid era may be different. HRM need to cultivate a workforce that survive and thrive during the period. Hiring new talent, borrowing short term teachers, building existing talent through training, and hiring selectively are some ways of dealing with the situation.

CONCLUSION

This theoretical paper analyses the challenges that HRM faces in schools due to Covid-19 pandemic and its aftermath. New way of recruiting, training and retaining teachers and upgrading their skills will be part of HRM.

REFERENCES

- [1]. ASER (2018). Annual status of education report. ASER centre. New Delhi.
- [2]. Cahapay, M.B (2020). Rethinking Education in the New Normal Post-COVID-19 Era: A Curriculum Studies Perspective .AQUADEMIA 2020, 4(2), ep20018 ISSN 2542-4874 (Online) <https://www.aquademia-journal.com/>
- [3]. EY (2020). EY-Parthenon. COVID-19: Assessing the impact on the education sector and looking ahead. <https://www.ey.com/Publication/vwLUAssets/ey-COVID-19-Assessing>
- [4]. He, H and Harris, L (2020) The impact of Covid-19 pandemic on corporate social responsibility and marketing philosophy . Journal of Business Research journal, 116, pp. 176-182. homepage: www.elsevier.com/locate/jbusres
- [5]. McElgunn, T (2020) 5 ways the Covid-10 crisis will transform HR's role. H.R Mornings. March 24, 2020.
- [6]. Mehta, S (2020). Coronavirus: 5 Ways Learning Will Change In Post-Crisis Era. Entrepreneur India. April 15, 2020
- [7]. Pandey, A and Kumar, A (2020). Schooling in the post Covid era: Challenges ahead. Financial express July 1, 2020.
- [8]. Scrini, N (2020) , Instilling a new era of people management is the key to post-crisis recovery.HR Zone, 18th September. 2020.

- [9]. Smith, C (2020). How HR Can Prepare the Workforce for the Next Normal. Posted in Organizational change, May 24, 2020.
- [10]. Tulsiana, Y (2020) Covid-19: Reinventing talent management practices to drive business. India Today, 26th August. 2020.
- [11]. United Nations (2020). Shared responsibility, Global solidarity. Responding to the socio-economic impacts of COVID-19 .
- [12]. UNDP (2020)). Brief #2. Putting UN framework for socio economic response to covid-19 into action. A brief prepared by the UNDP.
- [13]. Urban dictionary (2009) . <https://www.urbandictionary.com/define.php?term=New%20normal>
- [14]. Yan, Z. (2020). Unprecedented pandemic, unprecedented shift, and unprecedented opportunity. Human Behavior and Emerging Technologies. <https://doi.org/10.1002/hbe2.192>



Educating Design Managers for Strategic Role

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ABSTRACT

In the current VUCA world, businesses need to create an opportunity out of uncertain, tangibility out of intangible and also create worth and means out of the constraints. This is possible only if your business is reinvent, renovate and design the business strategies, techniques and tools. The future of the enterprises depends on the competitiveness of the business, ability and quickness, creativity and innovations and how dynamically realigns the modes of operations. The success or failure is mainly depends on their ability to detect and deliver in the minds of the customer by being able to sense and serve not only what customers are expecting but also what might be required in the future in order to fill the current needs. Keeping this view in mind researchers try to identify the roles and responsibility of the managers to sustain in the business.

Keywords : Design Thinking, Business, Strategies, Roles, Responsibility

I. INTRODUCTION

Effective managers mainly concentrating on what is important for the business. They try to make the highest level decisions on conceptual understanding. As an effective manager they try to identify the constraints of the problem before it occurs rather than solving the problems. They are, therefore, not overly impressed by speed in decision making; rather, they consider genius in manipulating a great many variables an indicator of slapdash thinking. They want to know what the decision is all about and what the underlying realities are which it has to satisfy. They want impact rather than technique. And they want to be sound rather than clever. Effective managers know when a decision has to be based on principle and when it should be made rationally, on the merits of the case. They know the trickiest decision is that between the right and the wrong cooperation, and they have learned to tell one from the other. They know that the most time-consuming step in the process is not making the decision but putting it into effect. Except a decision has degenerated into work, it is not a decision; it is at best a good intention. This means that, while the effective decision itself is based on the highest level of conceptual understanding, the action commitment should be as close as possible to the capacities of the people who have to carry it out. Above all, effective executives know that decision making has its own systematic process and its own clearly defined elements.

The roles and responsibility of the managers to sustain in the business

Set strategic goals and develop policies:

Every company needs to have goals that direct its operations. The business manager is the person in charge of determining the company's position with the market and setting goals for future growth. Within a larger company, this task may take place on the departmental level and therefore vary between managers.

In a small business, it may actually be the company owner who functions in this strategic role. Because they are "doing it all," the tasks are varied and may include:

- Determining the company's mission.
- Setting quarterly sales goals.
- Deciding on appropriate credit terms.
- Selecting venues for marketing the company's products.

Oversee Production Processes

Business managers are also in charge of overseeing daily operations within the company. That may mean solving a problem on the production floor or directing an employee on how to handle a disgruntled client. Managers may also oversee the following:

- Ensure that the company operates with sufficient materials.
- Maintain production levels to meet demand.
- Identify areas for potential growth.
- Look for opportunities to expand into new markets.

Manage Financial Data

Another primary responsibility of a business manager is the regular analysis of the company's financial status. It is essential to understand the company's profitability and identify problem areas. Managers create budgets, either for the company at large or for the department(s) under their care. Regular analysis keeps the company on track and allows the manager to either cut spending, if necessary, or develop ideas for expansion.

Sales forecasting and plans for marketing are also part of managing the overall financial picture. A savvy business manager is also aware of the industry at large through forward thinking that:

- Stays on top of trends and financial forecasts.
- Maintains awareness of advancements in production techniques or operations that may benefit the company.
- Seeks to develop relationships with possible business partners or vendors.
- Keeps an eye on the competition.

Manage Human Resource Functions

- In smaller organizations, the business manager also performs many tasks associated with human resources. These duties may include:
- Making sure the company has enough skilled workers to maintain productivity.
- Determining when additional staffing is needed.
- Providing training and directly overseeing employees' work.
- Making sure workers have the necessary resources to perform at peak efficiency.

- A good manager also provides regular employee evaluations that identify areas for growth and improvement, as well as identify which processes are working well.
- In a larger company with a dedicated human resource department, the business manager will work together with HR representatives to hire new personnel. Rather than handle the details of hiring, on boarding and managing payroll details for new workers, they only get involved with determining personnel needs, creating job descriptions and selecting appropriate candidates.

Oversee Regulations and Policies

While maintaining efficient operations, business managers must also be sure that the company is operating within legal guidelines and in compliance with federal, state and local regulations. Depending on the company, this could include updating background checks on personnel, meeting appropriate parameters on certain pieces of equipment, adhering to non discriminatory hiring practices or maintaining safety standards.

Conclusion

In the competitive world the business people have to be very careful in balancing the business in order to survive in the business world. The effective business leader who can take higher level of decision in the business activities, they can lead the business better when compared to others. The effective business manager has to concentrate on strategic roles and responsibility, production process, financial management, human resource management, promotional activities and regulations and policies which were framed by the government. If any individual can balance all the factors those can lead the better management.

References

- [1]. Cohen MD, March JG & Olsen JP, 1972, A garbage can model of organisational choice, reprinted in: March JG, 1988, Decisions and Organizations, Basil Blackwell, Oxford.
- [2]. Courtney JF, 2001, Decision-making and knowledge management in inquiring organizations: Toward a new decision-making paradigm for DSS, Decision Support Systems, 31, pp. 17–38.
- [3]. Das TK & TENG BS, 1999, Cognitive biases and strategic decision processes: An integrative perspective, Journal of Management Studies, 36(6), pp. 757–778.
- [4]. Huber GP, 1981, The nature of organisational decision making and the design of decision support systems, Management Information Systems Quarterly, June 1981.
- [5]. Keen PGW & Scott Morton MS, 1978, Decision support systems: An organisational perspective, Addison-Wesley, Reading (MA).
- [6]. Klein G, 1998, Sources of power: How people make decisions, MIT Press, Cambridge (MA).
- [7]. Krabuanrat K & Phelps R, 1998, Heuristics and rationality in strategic decision making: An exploratory study, Journal of Business Research, 41, pp. 83–93.
- [8]. Kreitner R & Kinicki A, 2001, Organizational behaviour, 5th Edition, Irwin McGraw Hill, Burr Ridge (IL).
- [9]. Lindblom CW, 1959, The science of muddling through, Public Administration Review, 19(2), pp. 79–88.
- [10]. March JG, 1988, Decisions and organizations, Basil Blackwell, Oxford.
- [11]. Mitroff II & Linstone HA, 1993, The unbounded mind, Oxford University Press, New York (NY).
- [12]. Pfeffer J, 1981, Power in organisations, Pitman Publishing, Marshfield (MA).

- [13]. Russo JE & Schoemaker JH, 2002, *Winning decisions: How to make the right decision the first time*, Piatkus, London.
- [14]. Simon HA, 1977, *The new science of management decision*, 2nd Edition, Prentice Hall, Englewood Cliffs (NJ).
- [15]. Simon HA, 1979, Rational decision making in business organisations, *American Economic Review*, 69(4), pp. 493–513.



Credit Risk Modelling - Basel Norms for Banking Regulation

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ABSTRACT

Banking is one of the key drivers of the Indian Economy. Banks provide a safe place to deposit savings on which they pay interest and lend the deposits of public as well as the money raised from the market to its borrowers after meeting reserve requirements. This intermediation activity exposes the bank to a variety of risks, primarily the credit risk. The term CREDIT RISK encompasses two key components: Default Risk which is the risk that a borrower is unable to meet his commitment and the Portfolio Risk which arises from the composition or concentration of the bank's exposure to various sectors. The effective management of credit risk therefore becomes a very critical component of risk management in banks which becomes important in the wake of RBI's intervention. Credit Risk Management is the practice of mitigating losses by understanding the adequacy of a bank's capital and loan loss reserves. Credit risk modeling is an effective tool of credit management strategy which enables prediction of default rate of obligors as well as assess the financial position of firms in order to make faster and accurate decisions. The Basel Norms are a set of agreements formulated by the Basel Committee on Banking Supervision which primarily focuses on banking risks in order to ensure that banks have enough capital in order to meet obligations and absorb unexpected losses. This conceptual paper focuses on the study of the Basel Accords and modeling of the integral components of credit risk (PD, EAD and LGD) as recognized by the Bank of International Settlements.

Keywords : Banking, Credit Risk, Credit Risk Management, Credit Risk Modeling, Basel Norms, PD-LGD-EAD Modeling Techniques.

I. INTRODUCTION

Banks lend to different types of borrows and each carries its own risk. Banks lend the deposits of the public as well as money raised from the market equity and debt. The intermediation activity exposes the bank to a variety of risks. Therefore banks have to keep aside a certain percentage of capital as security against the risk of non-recovery. The Basel committee has produced norms called Basel norms for banking to tackle the various risks. BASEL 1 was formed with the main objective of enumerating a minimum capital requirement for banks. BASEL II was established to introduce supervisory responsibilities and to further strengthen the minimum capital requirement and Basel III specifies an additional buffer of equity to be maintained by banks to absorb losses.

Through improving risk management and bank transparency, the international accord hopes to avoid a domino effect of failing financial institutions. These Basel accords thoroughly discuss what are the inputs to the predictive credit risk models, how the outputs should be defined and also how the outputs should be combined in order to determine the capital and provisions set by the bank.

II. LITERATURE REVIEW

[1] Chintan Arunkumar Vora, Dr. A A Attarwala, (2019), in the paper titled 'Credit Risk Management With The Implementation Of Basel Norms In Indian banks' explores whether the IRB advanced approaches under the Basel Regime would entail changes in the balance sheet philosophy from deposit taking to lending, from investments to diverse ancillary business, from pricing to capital allocation ,etc. and emphasizes on the use of appropriate models in business decision making and creating a risk sensitive framework to align capital more closely with underlying risks so that banks correctly assess the capital cushion that would protect them from business risks.

[2] M. Jayadev, (2013), has conducted a study on 'Basel III implementation: Issues and Challenges for Indian Banks' in which the context of Basel III norms have been laid out and the views of senior bank executives of Indian banks regarding risk management and the challenges of implementing Basel III framework in areas of credit, maintenance of liquidity standards , strengthening of the risk architecture , deposit pricing etc. is captured.

[3] Mingfu Wang Mingfu Wang, Hyejinku, (2021), in paper 'Utilizing Historical Data for Corporate Credit Rating Assessment' highlights the credit rating assessment, as one of the crucial problems in credit risk management and focuses on the prediction of credit rating by using artificial intelligence techniques. The paper reiterates that even a small improvement in the credit rating prediction accuracy can lead to significant loss reduction in the industry and proposes new learning analytical methods to enhance prediction accuracy.

[4] Viani B. Djeundje , Jonathan Crook , Raffaella Calabrese , Mona Hamid ,(2020), in the paper 'Enhancing Credit Scoring with Alternative Data' evaluates the predictive accuracy of models using alternative data, that may be used instead of credit history, to predict the credit risk of a new account. The paper showcases a model that contains email usage and psychometric variables, as well as demographic variables, can give greater predictive accuracy than a model that uses demographic data only , which predicts a credit score.

[5] Yuelin Wang, Yihan Zhang, Yan Lu, Xinran Yu, (2020), in the paper titled 'A Comparative Assessment Of Credit Risk Model Based on Machine Learning - A case Study on Bank Loan Data', focuses on comparing various statistical techniques and machine learning techniques to evaluate individual credit information. The performances of Naive Bayesian model, Logistic regression analysis, Random forest, decision tree and K - Nearest Neighbor Classifier are evaluated and assert that random forest performs better than others in terms of precision.

[6] Erika Spuchľáková, Juraj Cuga, (2015), in the paper titled, 'Credit Risk and LGD Modelling', affirms that accurate LGD estimation is important for lending, provisioning reserves for credit losses, determining fair value

for any credit risky obligation and calculating risk. The paper focuses on reduced form modeling which has proven to be a useful tool for analysing the dynamics of credit spreads.

[7] Maria Misankova, Erika Spuchlakova, Katarina Frajtova Michalikova, (2015), has conducted studies on 'Determination of Default Probability by Loss Given Default' wherein it is confirmed that the expected credit losses provided by banks through the analysis of loan defaults can be quantified by analysing multiple variables like PD and LGD.

[8] Edward N.C. Tong, Christophe Mues, Lyn C. Thomas (2016), in their paper 'Mixture cure models in credit scoring: If and when borrowers default', estimates a mixture cure model predicting time to default on a personal loan portfolio and compares its performance with the Cox proportional Hazards method and standard logistic regression. Discrimination performance of all three models were found to be highly competitive, whereas calibration performance for the survival approach, was found to be superior to logistic regression.

[9] Edward N.C. Tong, Christophe Mues, Lyn C. Thomas, Iain Brown, (2016), has conducted empirical studies on 'Exposure at Default Models with and without the Credit Conversion Factor', where EAD estimation is calculated by using two different models -an OLS model and the Zero Adjusted Gamma model (EA taken as response variable) and compared with the CCF formulation. The paper proposes a combination of Direct EAD and CCF based models to drive further performance uplift.

[10] Andre Lucas, Pieter Klaassen, Peter Spreij, Stefan Straetmans, (2016) in the paper 'An Analytic Approach to Credit Risk of Large Corporate Bond and Loan Portfolios', has derived an analytic approximation to the credit loss distribution of large portfolios by letting the number of exposures tend to infinity and has indicated that portfolio features like the degree of systematic risk, credit quality and term to maturity has an affect the distributional shape of portfolio credit losses.

PROBLEM FORMULATION : Risks are an inevitable part of banking operations, particularly credit risk and banks need to protect their own treasury from unreliable borrowers. Also, banks have to keep aside a certain percentage of capital as security against the risk of non-recovery. Hence estimation of risk parameters becomes necessary, depending on which provisions for capital has to be made.

OBJECTIVES OF THE STUDY : To study the concepts behind development of data driven risk models which calculates the probability of default of a borrower, how much amount he owes at the time of default and how much the lender would lose from the outstanding amount. In other words, the paper aims to achieve a comprehensive understanding of how to build risk parameters : Probability of Default (PD), Loss given Default (LGD) and Exposure at given Default (EAD), as per the IRB Approach under Basel Norms -III.

III. DATA COLLECTION

The sources of secondary data include : Manual of Instructions on loans and advances, Books, Articles and Research Papers, Internet, Regulatory prescriptions on managing solvency , the RBI guidelines on credit issuance and risk modelling , Basel Literature on capital adequacy requirements, publications available from

Financial Stability Institute, Bank for International Settlements, Guidelines on estimation of parameters issued by European Banking Authority (EBA), International Journals in Finance and other related publications. The data collected from various sources are presented as follows in the following sections.

IV. BASEL NORMS FOR BANKING REGULATIONS

The BASEL norms is an effort to coordinate banking regulations across the globe, with the goal of strengthening the international banking system. It is the set of the agreement by the BASEL Committee of Banking Supervision (BCBS) which focuses on the risks to banks and the financial system. These set of agreements are called Basel norms/ accord. The purpose of the accord is to ensure that the financial institutions have enough capital on account to meet obligations and absorb unexpected losses. In 1974, the Bank for International Settlements situated at Basel, Switzerland, moved by the collapse of the Herstat bank formed the BCBS committee consisting of 13 members of G10. In 1988, they met at Basel and released guidelines on Capital adequacy. The committee was later expanded in 2009 to 27 jurisdictions, including Brazil, Canada, Germany, Australia, Argentina, China, France, India, Saudi Arabia, the Netherlands, Russia, Hong Kong, Japan, Italy, Korea, Mexico, Singapore, Spain, Luxembourg, Turkey, Switzerland, Sweden, South Africa, the United Kingdom, the United States, Indonesia and Belgium. These guidelines were implemented in India by the RBI, with effect from 1992 on the recommendations of the Narasimham committee.

4.1 BASEL 1:

In 1988, BCBS introduced the first official pact: a capital measurement system called the Basel capital accord, also called BASEL-1. It focused entirely on credit risk and introduced the idea of Capital Adequacy Ratio also known as the capital to risk assets ratio.

The capital adequacy ratio (CAR) is the minimum capital requirement of the bank which was fixed 8%. This means that the capital maintained should be more than 8% of the risk weighted assets. The term capital is an aggregation of Tier 1 capital and Tier 2 capital where Tier 1 capital, the primary funding source of the bank, includes shareholder's equity and retained earnings. Tier 2 capital comprises of subordinate loans, revaluation reserves, undisclosed reserves and general provisions for losses. The terms risk weighted assets refers to assigning risk weights to the various categories of assets on a scale of 0 to 100. Assets of banks were classified and grouped into 5 categories carrying out risk weights of 0% for debt like govt. Guaranteed advances, cash and bank balance, 20% for mortgage backed securities rated AAA, 50% for mortgages, 100% for corporate debt and non mortgage exposures. India adopted the Basel I norms in 1999.

4.2 BASEL II

In 2004, the Basel II guidelines were published by the Basel Committee on Banking Supervisions which were considered to be refined and reformed versions of Basel I accord. The guidelines are based on three parameters:

a) Minimum Capital Requirements: Banks should continue to maintain a minimum capital adequacy requirement of 8% of risk-weighted assets. However, the definition of capital adequacy ratio was refined. Risk weights are allotted on the basis of the rating of the borrower. Also, Basel-II divides the capital into 3 tiers. Tier-3 capital includes short-term subordinated loans which are repaid after other debts in case of bank liquidation.

b) Supervisory Review Process: This pillar mandates that the Board of Directors and the management teams will have the primary responsibility to ensure that the bank has adequate capital to commensurate with the risk

profile. Banks were required to develop and use better risk management techniques in monitoring and managing all the three types of risks that a bank faces, viz. credit, market, and operational risks and supervisors will be charged to evaluate whether or not the banks are assigning capital requirements properly in relation with their risk. If necessary, the supervisors will intervene to mandate higher capital requirements for a specific bank. Other risks like liquidity risks and reputation risks and other external factors like business cycle effects are captured under this pillar.

c) Market Discipline: This pillar increased disclosure requirements. Banks need to mandatorily disclose their CAR, risk exposure, etc to the central bank. This pillar emphasises that market discipline supplements the regulations, i.e., monitoring of banks and Financial institutions are not only done by regulators but equally so by the financial markets and the stakeholders within the bank.

The main innovation of Basel II in comparison to Basel I is that it takes into account the credit rating of assets in determining risk weights. The higher the credit rating, the lower the risk weight.

d) Capital requirements for Credit Risk : In Basel II, there are two broad methodologies to banks to calculate capital requirements for credit risk, namely: Standardised approach and Internal Rating based Approach. The IRB approach is further classified into Foundation IRB (FIRB) Approach and Advanced IRB (AIRB) Approach.

i) Standardised Approach: Under the standardised approach, credit risk is measured based on external credit assessments i.e., Risk rating will be done by credit agencies. Four rating agencies are approved for external rating: CARE, FITCH India, CRISIL, ICRA

ii) IRB Approach: The IRB Approach allows banks, subject to the approval of RBI, to use their own internal estimates for some or all of the credit risk components (PD, LGD, EAD, M) in determining the capital requirement for a given credit exposure. IRB approach to capital calculation for credit risk is based upon measures of Unexpected Losses (UL) and Expected Losses (EL). The key risk components of credit risk and risk-weight functions (equations by which risk components are transformed into capital requirements and risk weighted assets) help to calculate capital requirements for the UL portion. For EL, the bank must compare the sufficiency of eligible provisions against EL amounts (generally for corporate, sovereign, bank and retail exposures) and adjust the regulatory capital accordingly.

- **Foundation IRB Approach :** Under FIRB, PD is estimated internally by the bank while LGD and EAD and M are prescribed by the regulator.
- **Advanced IRB Approach :** PD, LGD, EAD can be estimated by the bank itself.

4.3 BASEL III

This accord, finalised in December 2017, has incorporated several risk measures to counter issues which were identified and highlighted in the 2007-09 financial crisis. It emphasizes on revised capital standards such as leverage ratios, stress testing and tangible equity capital which is the component with the greatest loss absorbing capacity.

a) Capital Adequacy : The Basel III accord raised the minimum capital requirements for banks from 4% to 6% for Tier 1 Capital Ratio, 2% to 4.5% for Core Tier 1 capital (equity + retained earnings) and Tier 2 capital which was 4% under Basel II was brought down to 2% in Basel III. Tier 2 capital comprises undisclosed reserves, hybrid instruments and provisions for loan losses. As a measure to amplify precautions, the concept of Capital Conservation Buffer of 2% was introduced by the Basel 3 guidelines. If this capital is not set aside, the bank cannot distribute dividends and must transfer such earnings towards this. Furthermore, the concept of Counter

Cyclical Buffer ,ranging between 0-2.5% ,additional capital is required to be set aside by banks.This reflects the capital to be held over and above the minimum level of Tier 1 capital.

b) Leverage risk :Banks can also pile on debt like other companies. This increases the risk in the system. The Basel III norms limit the amount of debt a bank can owe even further. This is called the Leverage Ratio. This is especially applicable for banks that trade in high-risk assets like derivatives.A leverage ratio is the relative amount of capital to total assets (not risk-weighted).

c) Liquidity :Capital is money that is invested in assets like equity or government bonds. This money, therefore, is not readily available for day-to-day activities. Moreover, during a crisis, the value of investments can fall suddenly. This means, the capital a bank holds can fall during times of need. This is why the BASEL III norms ask banks to hold liquid money. This is measured by the Liquidity Coverage Ratio (LCR), a ratio of the liquid money to total assets. This should equal the banks' net outflows during a 30-day stress period.The Net Stable Funds Rate (NSFR) requires banks to maintain a stable funding profile in relation to their off-balance-sheet assets and activities. NSFR requires banks to fund their activities with stable sources of finance.

V. CREDIT RISK COMPONENTS DEFINED UNDER BASEL II and III

The concept of building internal models and external ratings for estimating the key risk components : PD, LGD and EAD remains the same as it was in Basel II.

a) Probability of Default (PD):represents the likelihood or probability that a borrower will default on debt over a year and is a number between 0 and 1 which is usually expressed as a percentage.All exposure to a single borrower is assigned a single PD. To estimate PD, banks use data on internal default experience to map internal grade to a scale used by a rating agency which is then quantified.

b) Loss Given Default (LGD): represents the amount outstanding that is expected to be in loss.It is a ratio of loss or exposure due to default of a counterparty to the amount outstanding.

$$LGD = \{(EAD - \text{Present value (Recovery)} - \text{Present value (Cost)}) / EAD\} \text{ or } \{1 - \text{Recovery Rate}\}$$

LGD is usually expressed as a percentage of EAD,should a default occur.LGD is exposure specific and depends upon the type and amount of collateral and proceeds from sales of assets.LGD which reflects economic downturn is called downturn LGD.

c) Exposure at Default (EAD): represents the amount the borrower has to pay the bank at the time of default in the case of fixed exposures and represented in currency.This is usually not estimated unless otherwise there is an undrawn commitment that will be drawn and outstanding at default as in the case of credit cards.In this case the term will be expressed as a percentage and called credit conversion factor or CCF.

d) Effective Maturity (M) :the effective maturity is 2.5 years (exception is repo style transactions where it is 6 months) under FIRB and the greater of 1year and effective maturity of instrument under AIRB.

e) Expected Loss (EL): represents the long term average loss calculated by $PD * LGD * EAD$ which determines the provisions that have to be set aside in the capital.

f) Unexpected loss (UL) : is a function of PD, LGD and EAD and is quantified according to a formula written in the Basel accords implemented using Var. This formula explains a linear relationship of UL with LGD and EAD.

VI. DEVELOPMENT OF A CREDIT RISK MODEL

The phases in the development of a credit risk model includes :

- LEVEL 0 : PREPARE AND PREPROCESS THE DATA (Data sourcing , Data preprocessing and Variable Selection and Definition)
- LEVEL 1 :CREATE THE MODEL (Model Discrimination, Performance Testing)
- LEVEL 2 :CALIBRATE THE MODEL(Model Calibration and Performance testing)
- LEVEL 3 :IMPLEMENT and MONITOR THE MODEL(Model Implementation, Backtesting, Benchmarking and Model refinement)

6.1 MODELING PD

a)Level 0 : collect the data from internal and external sources required for PD modelling.Internal data includes demographic data - applicant's age, employment status, no.of years at job, etc of applicants taken from within the bank.External data includes the credit bureau variables like delinquency history, bureau score, amount of credits, inquiries, etc.Qualitative data is then extracted from experts who help steer the development of the model in the right direction. All the data collected is preprocessed (outlier detection, treatment, filtering) and the appropriate variables are chosen.The dependent variables are then clearly defined.

b)Level 1 : with the help of data collected, develop scorecards models which classify the existing customers and new customers into two groups based on their creditworthiness.There are mainly two types of scorecards-

i)Application Scorecard : output scores generated helps to grab new applicants based on their credit worthiness.This score helps to generate new credit applications.

ii)Behavioural Scorecard : monitors the ongoing repayment behaviour of the existing customers.This scorecard output is used to set a credit limit , that is, increase or decrease the credit limit. Scorecard Model Development uses a statistical technique -logistic regression.Sophisticated techniques like neural networks, SVM, random forests , etc. can be used.The outputs of scorecards are credit scores which is a number that helps classify customers based on the credit worthiness.

c)Level 2 : In the regulatory environment introduced by Basel, we need a probability.So the scores are mapped to risk ratings(groups of obligors with similar risk) which are subsequently accompanied by PDs. For each risk rating there is a depicted default rateMapping is done by clustering scores into pools or homogenous grouping of obligors in terms of default risk.Pools can be defined by mapping to an agency rating scale. Decision Trees are tools which help mapping scores into pools.Further , for each pool, event probability is calibrated using Time Series Analysis (ARIMA, VAR), Markov chains, simulations and so on. Also the volatility of pools, i.e. rating volatility, which is directly reflected in the rating philosophy is analysed and transitions between pools are modelled.The two main rating philosophies ,PIT(Point in Time) and TTC(Through The Cycle), are quantified depending on the pool stability.Basel III requires PDs to be TTC.

d)Level 3:Further these models are monitored or checked for any degradation in performance and the reasons are to be diagnosed. Quantitative monitoring refers to backtesting and benchmarking.Qualitative monitoring is done by checking data quality, model design and documentation , corporate governance, etc.

6.2 MODELLING LGD:

a) Level 0: LGD is exposure specific i.e., each defaulted facility is treated as a distinct observation. LGD explanatory variables are loan to value ratio, degree of collateralization, measure of default risk. Data corresponding to each observation is collected. The scope of data necessary for proper LGD estimation is very broad and entails not only the date of default and all cash flows and events after default. For calculating the realised LGDs, institutions should take into account all material direct and indirect cost related to the recovery process. Direct costs should include the costs of outsourced collection services and Indirect costs should include all costs stemming from the running of the institution's recovery processes.

b) Level 1 : LGD statistical Models using Linear regression (OLS) can be built which helps estimate LGD Models on the basis of historical LGD data. Expert Based Models of LGD can also be built typically using scorecards. The output at this level are the regression LGD scores. The discriminative power of LGD models can be measured using ,Lorenz curves, Gini coefficients, etc.

c) Level 2 : To estimate LGD, institutions may group the types of collaterals that are homogeneous in terms of recovery patterns , taking into account both the average time of the collection process and the recovery rates on these types of collaterals. For the purpose of considering the possible adverse change in economic conditions during the expected length of the recovery processes , which has an impact on LGD estimation , the macroeconomic variables like GDP, inflation rate , etc. are brought into the scenario at this level. After obtaining the functional relationship between the logistic regression scores and LGD ,it is possible to assign an estimated LGD to each individual score. LGD scores are then calibrated and quantified. The following calibration tests were used to validate the LGD models: –Spearman's Rank Correlation ,Mean Squared Error, Wilcoxon Signed-Rank Test

d) Level 3 : Further the models are implemented, monitored and refined.

6.3 MODELLING EAD:

a) Level 0: For fixed exposures such as residential mortgages and personal loans, the estimate for EAD can be simply taken from the current on-balance amount whereas for credit cards , the revolving nature of the credit line poses challenges to predicting the exposure at default time. As credit card customers may borrow more money in the months prior to default, taking the current balance for non-defaulted customers would not produce a conservative estimate for the amount drawn by the time of default. The EAD could partially be driven by current or recent customer behaviour (i.e. credit usage, drawn, undrawn amounts, changes to undrawn amounts over time).

b) Level 1 : Two distinct behaviour groups are developed using OLS regression : some customers, classified as transactors, who tend to pay off their entire balance at the end of each month while others, termed revolvers, who tend to pay off only part of the monthly balance and hence incur interest charges. To estimate the EAD for credit cards or other forms of revolving credit, the Basel II/III Accord has suggested the use of historic data to evaluate the Credit Conversion Factor (CCF), i.e. the proportion of the current undrawn amount that will likely be drawn down at time of default. Once a CCF estimate is produced for a (segment of) variable exposure(s), the EAD is then given by:

$EAD = \text{Current Drawn Amount} + (CCF \times \text{Current Undrawn Amount})$. To evaluate discriminatory power, the Pearson r and Spearman's ρ correlation computations can be used.

c) Level 2: At this level, Macro economic variables are brought into picture to segment credit usage after which data is calibrated and quantified. Calibration performance can be assessed with the mean absolute error (MAE)

and the root mean square error (RMSE).

d) **Level 3** :Further the models are implemented, monitored and refined.

6.4 REQUIREMENTS OF A ROBUST CREDIT RISK MODEL

Statistical performance, Interpretability, Justifiability, Operational Efficiency and Regulatory Compliance

VII. FINDINGS

1. Performance of the model can be improved by using complex modelling techniques like neural networks and SVMs.
2. Sophisticated models can be highly accurate, they could lead to outputs which are not easily interpretable.
3. Model performance can be enhanced through collection of additional data. Data can be enriched by collecting external data from the credit bureaus.
4. Data quality is of prime importance to build accurate models.
5. A complete assessment of model performance should take into consideration both Discrimination and Calibration. It is believed that discrimination is more important than calibration.
6. Lastly, domain knowledge is more important than statistical techniques to model risk.

VIII. CONCLUSION

The implementation date of the Basel III standards, finalised in 2017, originally set to be implemented by 2019, has been deferred to January 1st, 2022, as part of the changes in the measures endorsed by GHOST (Groups of Central bank governors and Heads of Supervision, Basel committee). But in India, in view of the coronavirus pandemic, Basel III has been deferred by another year, Jan 1st, 2023. The implementation of Basel III by the Indian Banks still remains a challenging task as banks should be able to raise sufficient capital to maintain capital adequacy requirements. Expansion of this capital will affect the returns on the equity of these banks, reduce their lending capacity (which is the biggest source of profits) and further stressing the balance sheets. Credit risk models are analytical models which are subject to the regulations prescribed by the Basel accords. These Basel accords thoroughly discuss what are the inputs to the predictive credit risk models, how the outputs should be defined and also how the outputs should be combined in order to determine the capital and provisions set by the bank. SAS is the most widely used software in risk analytics. Despite the huge popularity of R and Python these days, banks and other financial institutions still use SAS for building credit risk models. And above all, the best way to improve performance of a credit model is not to look out for sophisticated modelling techniques but rather to concentrate on data quality.

IX. REFERENCES

- [1]. Chintan Arunkumar Vora, Dr. A A Attarwala, (2019), 'Credit Risk Management With The Implementation Of Basel Norms In Indian banks', UGC Approval NO: 40934, CASS-ISSN: 2581-6403, Vol. 3, Issue 1
- [2]. M. Jayadev, (2013), 'Basel III Implementation: Issues and Challenges for Indian Banks', <http://dx.doi.org/10.1016/j.iimb.2013.03.010>

- [3]. MingfuWang,Hyejinku, (2021), 'Utilizing Historical Data for Corporate Credit Rating assessment' ,<https://doi.org/10.1016/j.eswa.2020.113925>
- [4]. Viani B. Djedje, Jonathan Crook, Raffaella Calabrese, Mona Hamid(2020), 'Enhancing Credit Scoring with Alternative Data', <https://doi.org/10.1016/j.eswa.2020.113766>
- [5]. YuelinWang,YihanZhang,YangLu,XinranYu,(2020), 'A Comparative Assessment Of Credit Risk Model Based on Machine Learning-A Case Study on Bank Loan Data' , <https://doi.org/10.1016/j.procs.2020.06.069>
- [6]. ErikaSpuchlakova, JurajCug, (2015), 'Credit Risk and LGD Modelling', <http://creativecommons.org/licenses/by-nc-nd/4.0>
- [7]. MariaMisankova, ErikaSpuchlakova,Katarina Frajtova Michalikova ,(2015), 'Determination of Default Probability by Loss Given Default', [https://doi.org/10.1016/S2212-5671\(15\)00815-1](https://doi.org/10.1016/S2212-5671(15)00815-1)
- [8]. Edward N. C. Tong,ChristopheMues, Lyn C. Thomas,(2011), 'Mixture Cure Models in Credit Scoring: If and When Borrowers Default', <https://doi.org/10.1016/j.ejor.2011.10.007>
- [9]. Edward N. C. Tong, ChristopheMues, IainBrown, Lyn C. Thomas (2016), 'Exposure at Default Models with and without the Credit Conversion Factor', <https://doi.org/10.1016/j.ejor.2016.01.054>
- [10]. AndreLucas,Pieterlaassen, PeterSpreij, StefanStraetmans,(2016), 'An Analytic Approach to Credit Risk of Large Corporate Bond and Loan Portfolio' , [https://doi.org/10.1016/S0378-4266\(00\)00147-3](https://doi.org/10.1016/S0378-4266(00)00147-3)

Content Marketing – An Ordinance of Digital Era Marketing

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ABSTRACT

“Content Marketing – An Ordinance of Digital Era Marketing” is the torch bearer of company’s digital marketing tactics. With the usage of consumer views in social media content marketing is helping the companies to build a strong relationship by engaging them in content. The consumer need for information and entertainment made content marketing a platform to promote various products and services with such infotainment. The paper focuses to the study the awareness of content marketing in consumers. The study also reveals that content marketing helps the marketers to deliver the tangible benefits to customers and their customers by providing solutions to the problems. The paper suggests that companies should be clear about the concept and use more creativity which makes the content more attractive and influencing.

Keywords : Content Marketing, Digital Marketing, Information, and Customers’ Awareness

INTRODUCTION

According to the Content Marketing Institute, “Content marketing is a marketing technique of creating and distributing valuable, relevant and consistent content to attract and acquire a clearly defined audience – with the objective of driving profitable customer action.”

Content marketing is one of the most powerful tactics for all the business owners and marketers. It has become a leading marketing technique in digital marketing communication and uses the point of view of consumers to build relationships by creating and sharing engaging content in social media that enhance their daily lives. It is not a new strategy but more enterprises begin to engage in content marketing gradually. Existing research on social media communities has focused mainly on social media marketing and virtual brand community perspectives while content marketing’s valuable and unobtrusive role in social media content communities has largely been overlooked. The information provided by content marketing seeks to focus on consumers' need for information and entertainment, instead of focusing on the brand.

Content can be present in a variety of formats including blogs, infographics, slide decks, case studies, white papers, e-books, videos, quizzes, memes and images, etc. The most widely used content marketing tactics by B2C companies were **social media, articles on the company website, e-Newsletters, blogs and videos**. However, the tactics believed to be more effective are not those most widely used by B2C marketers, for example videos are believed to be more effective than social media but marketers use this tactic less.

The focus has been on User Generated Content (UGC), which includes social media and consumer reviews, and video in tutorial form. Internet users tend to spend, on average, 2 or more minutes on websites when they contain videos. Consumers are turning to video for demonstrations and product reviews when making purchase decisions. It has been predicted that 64% of consumers are more likely to buy a product after watching a video about it. Video was the second most popular type of content used across channels and had the largest increase of any content marketing action.

User-generated content refers to information and material that is produced and posted by Internet users. It has many forms in social media, from Twitter tweets, Facebook posts, to consumer-produced reviews and advertisements, etc.

UGC produced by consumers is any positive or negative statements made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet. It consists of emails, forums, reviews, social networks, chats and blogs. Products that can easily evoke an emotional response will garner more posting than less inspiring products. Likewise, products of very high or low quality, or price, will have achieved more postings than average price and quality products.

The content marketing tactic chosen becomes relevant since the message source that consumers perceive as most credible will have a strong positive impact on their attitude towards the message.

NEED OF THE STUDY

The focus of this study is to determine the impact of content marketing on consumers. The rapid use of content marketing tactics under social media is changing the way organizations respond to consumer's needs and wants and changing the way they respond to their competitors. The digital customer must, therefore, rely on the quality of the information available to them online to infer on the quality of the product they are looking to purchase, prior to making the online transaction. Content of sufficiently high-quality information is of particular interest to the user, as even the most beautiful and well-designed website may not be satisfying to the user unless it contains information of interest. Perceived usefulness refers to the level of convenience, usefulness, relevance and benefit in using the content. Perceived ease of use is here defined as the degree to which the content tactics on the product page make the shopping experience easier.

This report will identify the factors that influence the response of customers to buy off of content advertising and their post-purchase behavior, the presence of information on social media and company websites and how it affects customers' perceptions towards these companies. The scope of the study includes content marketing concepts, and consumer buying factors, attitudes and purchase behavior.

OBJECTIVES OF THE STUDY

1. To study the awareness of content marketing in consumers.
2. To determine the factors that engage and motivate buyers to purchase the product or use the service based on the content available.

3. To analyze the satisfaction levels of products purchased due to content advertising.

METHODOLOGY AND TECHNIQUES OF STUDY

A sample of 50 responses were selected based on Convenience Sampling Technique. The primary data is collected by mailing questionnaires to the respondents. These questionnaires were recorded and analyzed. Percentages, chi-square, tests, and other graphs will be used to interpret the data received by the questionnaire distributed.

SCOPE AND LIMITATIONS OF THE STUDY

1. The paper focused on the role played by content marketing in influencing consumers. This will help in exploring content marketing in relation with models and theories about consumers.
2. The study will be based on information received by only the people who answer the questionnaires and cannot be generalized to the entire population.

Many responses of the consumers may need to be deleted as there is a chance of incomplete information.

FINDINGS

In the Sample of 50 respondents, 46 % were male and 56 % were female. It shows that females are more interested in content marketing compared to men. Majority of the respondents are between 25 to 30 years i.e., 26, 12 from 15 to 20 years, 10 from 20 to 25 years and 2 members above 30 years. The marital Status of respondents was 7 married people and 43 unmarried respondents i.e., 14 % are married and 86% are unmarried. Most of the people are unmarried who are aware of content marketing and are curious about it.

Educational qualification were of the respondents are students i.e., 42% while there are many people who are employed. We can even notice that there are 16% of business owners who have shown interest whereas 16% are unemployed and must be housewives. The majority salary was between 40,000 to 60,000 i.e 8 respondents, 4 respondents have a salary above 60,000, 6 respondents have salaries between 20,000 to 40,000 and 5 respondents have 20,000 as salary.

	Never	Rare	Depends	Frequently	Regularly
Total No of Respondents					
50	2	10	28	7	3

From the above chart, we can conclude that many of the respondents i.e. 28 depend on reading promotional content and 10 rarely read promotional content whereas 2 never read,7 frequently read and 3 regularly read promotional content.

No of responses	Blogs	Articles	Reviews and testimonials	Newsletters
50	8	27	9	6

From 50 respondents, 8 people read blogs usually, 27 among them read articles present on the websites, 9 people go through the reviews and testimonials and 6 others are interested and read newsletters regularly. We can see that many are interested in reading articles.

No of responses	Highly unsatisfied	Unsatisfied	Neutral	Satisfied	Highly satisfied
50	3	4	20	21	2

From the above chart, it is clear 3 answers are highly unsatisfied with the reviews of products on the company website. 4 answerers are unsatisfied with reviews. Whereas, 20% said the reviews of the product don't affect their purchasing and 21 are satisfied and 2 people are highly satisfied.

No of responses	Never	Rare	Depends	Frequently	Regularly
50	6	13	16	12	3

From the above chart, it is clear that 6 people never depend on blogs for a product. 3 people regularly depend on blogs to research about the product. 13 people rarely depend on blogs for a product. Whereas, 16 people depend on blogs and 12 people frequently depend on blogs for a product.

No of responses	Blogs	Reviews	Testimonials	Content website
50	14	28	4	4

From above we can conclude that around 14 respondents depend on blogs, 28 respondents on reviews and 4 respondents on testimonials. Whereas, 4 depending on the content website to purchase a product.

No of responses	Yes	No
50	37	13

To the question “Do the products you utilize and the services you avail match the level of content delivered on websites, many people have answered in an accurate manner”. The respondents answered were 37 yes and 13 no, that do think product or service match the content present on the particular website.

No of responses	Highly valued	Knowledge about the product	Reliability	Usage
50	5	27	13	5

The table clears that the main reason behind reading the descriptions and reviews of a product is that 5 answers said its highly valued, 27 answerers said that we get the Knowledge about the product, 13 answerers said its reliability and 5 answers said to get to knows it's the usage.

No of responses	Yes	No
50	24	26

The respondents when asked “Have you bought anything by just reading the promotional content present on social media platforms or official company websites? “, 24 people said that yes and 26 people said no.

	Very unlikely	Unlikely	Neutral	Likely	Very likely
No of responses					
50	2	10	27	10	1

The respondents when asked “How likely you get influenced by the testimonials and articles written about a product?”. 10 people unlikely and 2 very unlikely get influenced by the testimonials and articles written about a product.10 people likely and 1 very likely get influenced by the testimonials and articles written about a product. Whereas, 27 people have said it’s neutral.

No of responses	Yes	No
50	42	8

The respondents when asked “Does the content make it easier to understand the product and service?” From the above chart, we can conclude that 42 answers said yes that content makes it easier to understand product and service. Whereas, 8 answerers said no.

No of responses	15 minutes	30 minutes	1 hour	More than 1 hour	Not at all
50	14	18	5	2	11

The respondents when asked “How much time do you spend in a day reading blogs?” The responses were, 14 people spend 15 minutes a day reading blogs. 18 people read blogs for 30 minutes in a day, 5 spend 1 hour in reading blogs and around 2 read blogs for more than 1 hour. Whereas, 11 people not at all spend time in reading blogs.

No of responses	Neutral	Agree	Disagree	Strongly disagree	Strongly agree
50	18	8	19	4	1

To the question: Do you consider content marketing as an old method of promoting products? 8 agree with it, 1 strongly agree with it, 19 disagree with it and 4 strongly disagree with it. Whereas, 18 said it’s neutral.

No of responses	I will buy it	My thoughts about the product will change	I will consider it an alternative option for buying the product	it will not affect me
50	10	19	18	3

To the question: If the products have more positive reviews, how do you think it will affect you? The results interpret that 10 people will buy the product if it has more positive reviews. 19 people said that their thoughts about the product will change and 18 people said they will consider it an alternative option for buying the product. Whereas, 3 people said it will not affect them.

To the question: Most of the content on websites sometimes are not relevant or appropriate?

No of responses	Neutral	Agree	Disagree	Strongly disagree	Strongly agree
50	23	14	7	4	2

Around 14 people agree and 2 strongly agree that most of the content on websites sometimes is not relevant or appropriate. 7 people disagree and 4 strongly disagree that most of the content on websites sometimes is not relevant or appropriate. Whereas, 23 people have said it's neutral.

No of responses	Yes	No	Maybe
50	22	9	19

To the above question does content marketing make it easier to shop rather than direct marketing? 22 people said yes, 9 people said No. Whereas, 19 people said maybe

To the question: How often do you compare the product by reading several articles and blogs on different websites?

No of responses	Neutral	Agree	Disagree	Strongly disagree	Strongly agree
50	26	11	7	2	4

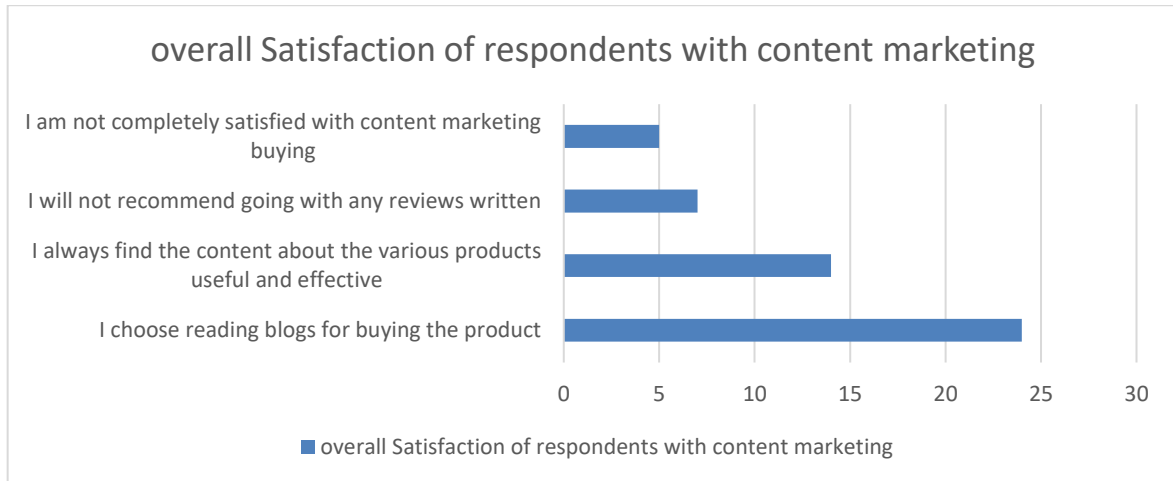
Around 11 people agree and 4 strongly agree that they compare the product before buying it by reading several articles and blogs. 7 people disagree and 2 strongly disagree that they didn't compare the product before buying it. Whereas, 26 people have said it's neutral.

To the question: What is your opinion on the quality of content?

No of responses	Readable and understandable	Accurate	Detailed information required	Easy to find
50	19	15	9	7

Through the chart, we interpret that 19 respondents said that the quality of content should be like that it must be readable and understandable. 15 respondents said it must be accurate and 9 respondents said it must be detailed information required. Whereas, according to 7 respondents it must be easy to find.
 To the question: Overall assessment of satisfaction with content marketing buying?

No of responses	I always find the content about the various products useful and effective	I would always choose reading blogs for buying the product	I will not recommend going with the any reviews written	I am not completely satisfied with content marketing buying
50	14	24	7	5



From a total of 50 people, around 24 people said that they would always choose reading blogs for buying the product, 14 people said that they always find the content about the various products useful and effective and 7 people said that they will not recommend going with any reviews written. Whereas, 5 said that they are not completely satisfied with content marketing buying.

CONCLUSION

The awareness was studied through a linear scale question and majority of the population were aware of the content marketing and the products and services advertised through it. Many people agreed with the fact that content marketing increases their awareness of brands and their products and services. Content marketing plays a major role in increasing customers' awareness and undoubtedly changed their perception about the products and various brands. It was found that most of the people were influenced by the reviews and testimonials left by the customers on the company websites. Customers find content marketing as time-saving and the range of choice and access to various brands. The also reveals that the respondents were likely to be influenced by the information provided on various company websites and blogs. Advertising through content leaves a great impact on customers mind and many of them depend on it for purchasing products and availing services. Therefore, content marketing has a great impact on the customer's purchase which is used as an ordinance of digital era marketing.

SUGGESTIONS AND RECOMMENDATIONS

There are many companies that might want to advertise their products using content marketing tools so they make the content more innovative and informative which leaves a good impact on customer's minds.

- The information given should be accurate and relevant and easily accessible to the consumers.

- They should even add good products and information related to it so that the consumers can get a clear idea of the product and services and can easily make comparisons with other products, also giving the company a competitive advantage in turn.
- The company should be clear about the concept and use more creativity which makes the content more attractive and influencing.
- It is also seen that there are many negative reviews on the company websites which leaves a bad impression and thus it is important to work on it.
- There are various blogs that may not be informative and creative enough so the companies can even make it readable and interesting.
- The products and services should be exactly the same as the content delivered. Also, they could take the suggestions of the customers or interact with them to make the content more reliable and curious.
- One of the greatest benefits that really shows the importance of content marketing is the reputation building qualities of great content. In today's busy digital marketplace, it's vital that businesses work to build trust with their leads and customers.
- There are some recommendation for the companies who use content marketing for advertising the products and services
 - It is better to use the social media platform to deliver the content
 - Use creative content to attract more customers
 - Being in touch with customers to improve the content
 - Writing more valuable and influential and informative blogs
 - Understanding the customers need and writing an accurate and relatable content
 - Providing transparency while branding and describing products and services.

REFERENCES

- [1]. Kotler, P. and Keller K (2007) Marketing Management, 12 th edition, Prentice Hall India ltd.
- [2]. Ramaswamy V.S. and Namakumari S (2004), Marketing Management, 3 rd Edition, MacMillan India Ltd.
- [3]. Rogar Cox and Paul Brittain, Retailing: An Introduction, 5 th edition, Pearson Education, Ltd.
- [4]. Saxena R. (2006) marketing management, 3 rd edition, Tata Mc Graw-hills companies.
- [5]. Sims J. Taylor and Herbert E. Brown, Increasing the role of direct mail marketing in industrial marketing strategy, Industrial Marketing Management, Volume 8, Issue 4, November 1979.
- [6]. Young Ae Kim, Hee Seok Song and Soung Hie Kim, A new marketing strategy map for direct marketing, Knowledge-Based Systems, Volume 22, Issue 5, July 2009.
- [7]. <http://www.team-bhp.com/forum/indian-car-scene/137212-may-2013-indian-car-sales-figures-analysis.html>
- [8]. http://www.just-auto.com/store/samples/2009_aroq_india_auto_review_sample.pdf
- [9]. <http://www.livemint.com/Industry/HU7llhF0ShjUhhkVuhEPOO/Utility-vehicles-likely-to-gain-more-traction-in-car-market.html>
- [10]. <http://auto.indiamart.com/cars/sport-utility-vehicle.html>
- [11]. <http://economictimes.indiatimes.com/topic/Indian-utility-vehicles-segment>



Relationship between Working Capital Management and Profitability of the Real Estate Sector in India: Evidence from Panel Data Analysis

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ABSTRACT

Working capital represents the amount of capital used by the businesses in its day to day activities to meet the short term obligation. Administering it is considered as one of the most crucial element of business management especially in a capital intensive sector. This attracts the attention towards exploring the working capital of real estate sector as most of the funds of these companies are invested in current assets and they take more time to get converted into cash. This paper examines the relationship between working capital management and profitability of 10 real estate companies representing the Nifty Realty Index (NSE) for the period 2007-2018. Earnings before interest and tax is considered as dependent variable for measuring the profitability and current ratio, quick ratio, debtor turnover ratio, inventory turnover ratio, creditor turnover ratio, working capital turnover ratio, cash sales to total sales, current asset to total assets, current liability to total asset, size of company are considered as independent variables for assessing the working capital management.

In order to establish the statistical relationship the study employed correlation and balanced panel data technique, the results were estimated using fixed effect and random effect models. Estimates of random effect model were considered for the analysis based on hausman test statistics. The results shows that current ratio, quick ratio, creditor turnover ratio, working capital turnover ratio, cash sales to total sales, current liability to total asset, and size of company are found to have significant impact on profitability of the selected companies. Creditor turnover ratio and cash to total sales are found to have significant positive impact of profitability. The study also revealed that the profitability of the firm decreases with increase in liquid assets. Hence, the results for the study recommends that companies should manage their short term finances efficiently to make sure a sound bottom line for the real estate companies.

JEL Classification: C23, R30, L25

Keywords : Working Capital Management, Profitability, Panel Data, National Stock Exchange, Real Estate Sector

INTRODUCTION

Globally, the real estate sector is one of the most recognised sectors. This sector is primarily divided in four sub sectors namely, housing, retail, hospitality, and commercial. The growing demand for residential and office space in urban and semi-urban locations contributes to the growth of this sector. In terms of direct, indirect

and induced effects in all sectors of the economy, the construction industry ranks third among the 14 major sectors (Chitnis, 2018) and it is one of the capital intensive sector.

Government of India has been taking lot of initiative to provided great support to the real estate sector in recent years. In the period of 2006-17, investments in retail projects in Tier 1 & 2 cities reached \$6.19 bn. Since 2014, residential sector have attracted investment worth Rs. 59,000 crore, approximately 47% of the total invested money in real estate. During 2015, Union Cabinet approved 100 Smart City Projects in India and Government of India also approved 100 per cent FDI in real estate projects within the Special Economic Zone (SEZ). In 2017, private equity and debt investments in real estate increased by 12 per cent year-on-year across 79 transactions. The sector is found to be more organized post GST, making warehousing and logistics destinations of the country attractive for foreign investors (CREDAI-JLL, 2018). Pradhan Mantri Awas Yojana (PMAY), an initiative by Indian government had sanctioned 6,028,608 houses by September 2018. The scheme is expected to push affordable housing and construction in the country and give a boost to the real estate sector. During Jan-Sep 2018, office absorption in top Indian cities is observed to be increased to 26 per cent year-on-year to 36.4 million square feet (Bhasin, 2018). The warehousing space is expected to reach 247 million square feet in 2020 and see investments of Rs 50,000 crore (US\$ 7.76 billion). With Delhi-NCR contributing the most to this demand, grade-A office space absorption is expected to cross 700 million square feet by 2022. By 2025, government of India's "Housing for All" initiative is expected to bring US\$ 1.3 trillion investments in the housing sector (IBEF, 2018)

Every business requires money and investment; also it is a gradual process which keeps on increasing over a span of time. The value of these investment comprised of long term and short term assets which are finance using short and long term sources of funds. A comprehensive financial planning is required to make proper use of assets. To meet the day to day financial requirements and obligation companies need to focus on short term financial planning, considering this it was felt important to study the role of working capital in the companies.

Working capital management plays an important role in maintaining the financial health of the firm. Working capital management helps to maintain an appropriation proportion of current assets and current liabilities in the firm. . A good working capital ratio is considered anything between 1.2 and 2.0. A ratio of less than 1.0 indicates negative working capital, with potential liquidity problems, while a ratio above 2.0 might indicate that a company is not using its excess assets effectively to generate maximum possible revenue.

Supervision of Working capital is particularly vital for capital concentrated company, as a significant part of their working capital is parked in their rolling task, which may take time to convert into cash, as result companies may confront a dearth of swift money. It is very crucial for them to maintain an appropriate amount of working capital in business in order to meet up their regular obligations. Against this background, this study aims examining the relationship between working capital management and profitability of 10 real estate companies.

LITERATURE REVIEW

Working Capital Management is among the one of the most crucial financial decisions for any company. It primarily deals with procurement of short term finances from various sources and usage of it in an effective

manner in order to minimize the cost and enhance the liquidity. Post financial crisis many companies have faced lot anguish, due to which WCM has gained significant attraction from the researchers. In the literature, there are many studies focusing on analyzing the relationship between WCM and firm performance. Below presented are the researches which have been found to be extremely helpful in our research:

The research by Deloof (2003) highlight that using working capital is controlled in an efficient way certainly impacts the profitability of Belgian firms, explaining that by ensuring the certain level of working capital enhances the profitability. This finding of Deloof (2003) are similar to the study accrued out by Lazaridis and Tryfonidis (2006), who focused on analyzing the relationship between the working capital and profitability of firms listed in Athens Stock Exchange. They have used cash conversion cycle, accounts receivables and accounts payables days and inventory days as proxy for measuring working capital and then were regressed with gross operating profit.

A similar study by Azhagaiah Ramachandran and Muralidharan Janakiraman (2006), analysed the relationship between working capital management efficiency and earnings before interest and taxes of 30 companies listed on Bombay stock exchange during 1997-1998 to 2005-2006. For ascertaining the relationship between cash conversion cycle, account payable days, account receivable days, inventory days and fixed financial asset ratio, financial debt ratio and size were regressed with EBIT. The finding revealed that adequate amount of working capital is essential to have a direct impact on EBIT and liquidity.

Another study by Kesseven Padachi (2006) examined the trends in working capital management and its impact on 58 small manufacturing firm's performance using return on total assets as dependent variable and inventories days, accounts receivables days, accounts payable days and cash conversion cycle as independent variable. The findings proved that high investment in inventories and receivables is associated with lower profitability. The study carried out by Zubair Arshad and Muhammad Yasir Gondal (2013) to examined the impact of working capital management on profitability of Pakistani cement sector with 21 listed companies of Karachi stock exchange during 2004-2010 highlighted that profitability of the undertaking may be increased by shortening of inventory periods.

Zbigniew Gołaś, Dorota Czerwińska-Kayzer and Anna Bieniasz (2011) in their study examined the effect of working capital management on the manufacturing companies in Poland during two sub periods: 2001-2008. The results revealed that having enough working capital for an increasingly long period have a positive impact on working capital management.

Pankaj K. Agarwal and Sunil Kumar Verma (2013) and Nobanee, H. E., Ellili, N. O. (2015) both expressed that large firms are efficient in managing its working capital which in turn reduces the need of costly external financing. An increase in operating cycle affects is negatively while profitability increases with lengthening the creditor's payment period. Another study by Steven Lifland (2011) revealed the same results by examining the impact of working capital upon the Enterprise Value Option of 222 firm during 2004-2009. The study concludes that there was a significant negative relationship between the net working capital cycle and the enterprise value for both long-cap and mid-cap firms.

Anupam Mehta (2014) emphasized on investigating the Working Capital Management and Profitability Relationship in real estate and construction companies listed on Abu Dhabi stock exchange during 2007-2010 by employing correlation and regression. The study concludes that there is a significant negative relationship between the profitability and the firm's cash conversion cycle. The findings suggests that UAE's real estate and construction companies can significantly increase their profitability by giving due focus on management of the working capital and shortening the length of the cash conversion cycle by effectively managing the working capital components especially the payables and Inventories. John Kwaku Menash Mawutor (2014) analysed the relationship between Cash Conversion Cycle, Average Collection Period, Average Payment Period, Inventory Turnover Days and the profitability of listed trading companies on 4 companies listed on the Ghana Stock Exchange for a period of 2006 and 2010. The results presented that there is a negative correlation between the average collection period and return on assets, while it is positively associated with growth. The study concludes a negative relationship between the working capital management and its profitability.

Research work done by Jeena Ann John (2015), Sukhmani Bhatia and Navdeep Barwal (2015), Jyoti Mahato and Uday Kumar Jagannathan (2015), Sukhmani Bhatia and Navdeep Barwal (2015) and Sumathi A and Narasimhaiah T (2016) emphasized on establishing the relationship between working capital management and profitability. The results highlighted that the companies with high percentage of current assets and the inventory have highly negative impact on the profitability of the firms.

Basman Al Dalayeen (2017) emphasized on analysing the relationship between working capital management and profitability of real estate industry in Jordan during 2000-2015 using correlation coefficient and regression analysis. The sample consist of three companies namely Jordan Decapolis Properties, Al-Tajamouat for Touristic Projects Co Plc, Real Estate Development of Jordan. Debtors turnover ratio in case of Jordan Decapolis Properties and current ratio in case of Al-Tajamouat for Touristic Projects Co Plc is found to be positively correlated with profitability and having a significant impact. However, it is also found that rate of inventory turnover is very low in all the companies. Navena Nesa Kumari and M. Victor Louis Anthuvan (2017) studied the impact of the working capital management on profitability of 10 automobile companies listed on S&P CNX 500 during 2006-2012. The results of regression analysis highlighted that net operating profit of the firms is mainly affected due to the inventory turnover period. Overall the results reflected that the automobile companies should concentrate in managing and reducing the inventory turnover days in order to maximize profitability and to survive the competitive market.

Jakpar S, Tinggi M, Siang TK, Johari A, Myint KT and Sadique MS (2017) analysed the effect of working capital management on firm's profitability based on a sample of 164 manufacturing firms listed on the Main Board of Bursa Malaysia, during 2007 to 2011 using correlation and regression analyses. The empirical evidence found that there is existence of significant positive relationship between independent variables, the average collection period, inventory conversion period and firm's size and its dependent variable, which is firm's profitability. Simranjeet Kaur and Harwinder Kaur (2017) examined the relationship between working capital management components and profitability of 40 steel manufacturing companies in India during 2004-2016 by employing correlation and regression analysis. The results from regression analysis reflected working capital variables have significant impact on net profit and return on asset. The study also reveals that steel manufacturing companies should reduce their Cash Conversion Cycle keeping working capital components at an optimum level, since

cash conversion has significant negative relationship with net profit by shortening the receivable collection period and expediting the process of converting the inventory into sale.

Joseph Kwadwo Tuffour and John Adjei Boateng (2017) in their study analysed the effect of working capital management on performance of six manufacturing firms in Ghana listed on the Ghana stock exchange during 2008-2014. The study reveals that current ratio, financial leverage, firm size, growth in sales, financial asset to total assets have negative impact on profitability. Both inventory conversion and cash conversion cycle have a significant negative effect on performance.

Shah B and Arif M. (2018) analysed the association between working capital firm value of 49 registered firm on Karachi Stock Exchange during 2004-2016 using regression Analysis. The results from analysis observed that constrained firms pay higher dividends on average and investment in working capital is more sensitive. The results also highlight the importance of efficient working capital in the evaluation of the firm. The study concludes that FC forms are found to have true association between working capital management and firm value where it is insignificant in non-constraint firms.

Though a number of studies have been carried out in this area but in relation to working capital few researches are available on the real estate industry in Indian context. Majorly ROA have been used as the dependent variable, whereas the current study used EBIT as a dependent variable. EBIT have been chosen as the proxy of profitability as it highlights the profit earned by the business from its core operation line. Without considering the presence of heterogeneity among the companies, most of the reviewed studies have used regression analysis to assess the relationship between working capital and profitability. It is indispensable to select a suitable methodology for the pragmatic estimation. Keeping this in mind, the present study employs panel data regression to estimate the statistical relationship between working capital component and EBIT, which is more apt while having a sample of large number of companies which are heterogeneous in nature.

Data and Methodology

The main objective of current study is to examine the relationship between working capital management and profitability of 10 real estate companies for the period 2007-2018. The period is selected mainly because real estate sector in India has been highly volatile during the study. The selected companies represent the Nifty Realty Index (NSE), which are resulting in great margins of real estate sector of the economy. Out of 43 real estate companies listed on NSE, ten companies representing the Nifty Realty Index are selected as sample, as they represent 75.64% of total real estate sector listed companies as on 20th Jan 2019¹, making the sample more comprehensive. Secondary data have been used to carry out the analysis and the relevant data has been sourced from CMIE Prowess, NSE website, audited financial reports, research reports, journals etc.

Methodology - Panel Data

Existence of heterogeneity is quite possible while studying large number of companies over a span of time. Panel data regression, which considers both cross sectional and time series data, is more suitable to deal with such heterogeneity. Keeping this in mind, the current study employs panel data model to estimate the

¹ Based on the author's calculation using market capitalization of real estate companies listed on NSE.

relationship between working capital components and profitability of companies. Panel data set represents of both time series and cross section data.

Panel data equation can be written as:

$$Y_{it} = \beta_{1i} + \beta_2 X_{2it} + \dots + \beta_n X_{nit} + v_{it} \quad \text{----- Eq. 1}$$

Where 'i' stands for cross-sectional unit and 't' for the tth time period and it is assumed that the X's are non-stochastic and the error term follows, $E(v_{it}) \approx N(0, \sigma^2)$. The above model is known as the fixed effect model (FEM). The term 'fixed effects' indicate that, intercept may differ across banks, each bank's intercept does not vary over time; that is, it is time invariant.

Fixed effects model can be inconclusive if there are several cross-sectional units. If the intercept of different cross-sectional unit represents a lack of knowledge about the original model, it can be observed through disturbance term v_{it} . This approach is called error components model (ECM) or random effect model (REM).

Instead of treating β_{1i} as fixed, it is assumed that it is a random variable with a mean value of β_1 .

Intercept value for a cross section unit is represented as, $\beta_{1i} = \beta_1 + \varepsilon_i$, where ε_i is the random error term.

Therefore, the random effect model is represented as,

$$Y_{it} = \beta_1 + \beta_2 X_{2it} + \dots + \beta_n X_{nit} + \varepsilon_i + v_{it} \quad \text{----- Eq. 2}$$

$$Y_{it} = \beta_1 + \beta_2 X_{2it} + \dots + \beta_n X_{nit} + \omega_{it} \quad \text{----- Eq. 3}$$

where $\omega_{it} = \varepsilon_i + v_{it}$

The Equation 3 assumes that the individual error values are not correlated with each other and there is no auto-correlation. Hausman test statistics used to choose between fixed and random effect model. The null hypothesis under the Hausman test statistics is that there is no significant difference between random effect and fixed effect estimator. Fixed effect model is considered to be more appropriate over the random effect model, if the null hypothesis is rejected.

EBIT is considered as a proxy to measure profitability and the following model was estimated accordingly

$$EBIT_{it} = \beta_1 + \beta_2 CR_{it} + \beta_3 QR_{it} + \beta_4 ITR_{it} + \beta_5 DTR_{it} + \beta_6 CTR_{it} + \beta_7 WCTR_{it} + \beta_8 CSR_{it} + \beta_9 CATA_{it} + \beta_{10} CLTA_{it} + \beta_{11} Size_{it} + v_{it} \quad \text{----- Eq. 4}$$

Where,

- Current ratio (CR) is calculated as current assets to current liability. A company with high ratio of current assets indicate that company is moderately liquid and able to payout its liabilities on time.
- Quick ratio (QR) is a ratio of liquid assets to current liabilities. It shows the company's liquid position to pay off its short term liabilities in a financial year.
- Inventory turnover ratio (ITR) is the ratio of cost of sales to average inventory of the year. A company with high ratio indicates that how efficiently inventory is used to generate sales during the period.
- Debtors turnover ratio (DTR) is the ratio of net credit sales to average debtors. It shows how well a company generates its sales by offering its finished goods on credit.
- Creditor turnover ratio (CTR) is the proportion of net credit purchases to average creditors. A higher payable turnover ratio is favourable to the company which purchases generally on credit.
- Working capital turnover ratio(WCTR) is the ratio of net sales to working capital. A company with good working capital turnover depicts company is efficiently using its working capital to generate enough sales.

- Cash to sales ratio (CSR) is the ratio of cash to sales. The ratio defines the cash generated from the sales made by the company. Enough of the cash shows the liquidity and effectiveness of the company.
- Current assets to total assets ratio (CATA) is the proportion of current assets to total assets. It indicates the level of current assets involved in the total assets of the company.
- Current liability to total asset (CLTA) is the proportion of current liabilities to total assets. The higher the ratio, the more the company employs its current liabilities to fund its total assets.
- Size is calculated by taking the natural log of total assets which is used as a measure of profitability.

EMPIRICAL RESULTS AND DISCUSSION

Descriptive Statistics

The descriptive statistics helps to define the basic structure of data. Table 1 represents the descriptive statistics for all companies considered in this study. Among all selected the predicting variables, the minimum value of current ratio and size is found to be positive, whereas maximum value of only current asset to total asset is negative. The mean value of quick ratio is 4.22 indicating that companies have high amount of liquid assets to pay off their short term debts. The average inventory turnover ratio of 0.203 indicates a significant scope of improvement. The average of ability to generate cash from the sales is negative depicting that selected companies are not able to make enough sales in cash.

Table 1: Descriptive Statistics

Variables	Min	Max	Mean	S.D.
EBIT	0	7.62	4.040	1.037
CR	.33	4.74	.784	.777
QR	-2.04	4.74	4.222	1.038
ITR	-3.22	6.61	.203	1.623
DTR	-1.26	4.47	1.482	1.432
CTR	-1.04	5.24	1.221	1.184
WCTR	-6.54	1.87	-1.368	1.758
CSR	-4.73	3.79	-1.759	1.614
CATA	-2.87	-.03	-.662	.538
CLTA	-5.38	2.53	-1.408	.964
Size	2.56	9.93	7.714	1.553

Source: Author's own calculation

Autocorrelation Test

Following the submission made by Wooldridge (2002), there is possibility of problem of autocorrelation in time series data. Autocorrelation represents the degree of similarity between a given time series data and a lagged form of same data over a span of time. The error of autocorrelation occurs mainly in the time series model where the influence of the error term from one period to other period is plausible. The current study uses the model which is based on using the residual from the regression in first differences to identify the existence of autocorrelation. Under this test the null hypothesis is that there is no autocorrelation.

Table 2: Wooldridge Test Results

Dependent Variable: EBIT

Wooldridge Test Score	2.086 (0.1825)
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Source: Author's own Calculation using Stata 12

The results from table 2 represents that the p-value is 0.1825 explaining that there is no autocorrelation.

Heteroskedasticity Test

Heteroskedasticity refers to a situation when the variance of the residual term or error term is not constant. Thus, heteroscedasticity is the absence of homoscedasticity. The current study uses likelihood ratio test for accessing the presence of heteroscedasticity. A significant chi-square statistics exhibits the presence of heteroscedasticity otherwise the model exhibits the assumption of homoscedasticity.

Table 3: LR Test Results

Dependent Variable: EBIT	
LR Chi2	118.91 (0.4850)

Source: Author's own Calculation using Stata 12

The results of LR test from table 3 exhibits that the p-value is 0.4850 which is greater than 0.05 expressing that data set is free from heteroscedasticity.

Panel Regression Results

The estimated results of panel regression results are reported in table 4. The result from hausman test statistic suggests that fixed effect model is more appropriate for estimating the relation between components of working capital and profitability of selected companies.

The predicting variables in the model are able to capture the variance to the extent of 67.94% in the dependent variable. The result reveals that quick ratio, creditor turnover ratio, and cash to sales ratio are found to have significant positive impact whereas, current ratio, working capital turnover ratio, current liability to total asset and size are found to have significant negative impact on profitability of the firms. A significant positive relation between quick ratio and profitability indicate that companies are effectively using their highly liquid assets and a positive association between creditor turnover ratio and profitability indicates that the companies are paying their suppliers at a speedy pace; hence it is strengthening the financial position. Cash to sales ratio indicates the proficiencies of firm's credit and collection policies, the results from the analysis expressed that the selected real estate companies have sufficient cash as buffer for unexpected delays in cash collection.

Table 4: Panel Regression Results

Independent Variables	Fixed	Random
Constant	4.905	4.816
CR	-.804 (2.5)**	-0.998 (3.75)*
QR	.296 (1.33)	0.433 (2.63)**
ITR	.062	0.028

	(1.41)	(0.74)
DTR	.805 (0.90)	0.038 (0.84)
CTR	-.012 (0.16)	0.112 (2.11)**
WCTR	-.104 (1.42)	-0.203 (3.5)*
CSR	.180 (3.51)*	0.199 (4.17)*
CATA	-.044 (0.17)	-0.05 (0.25)
CLTA	-.475 (2.27)**	-0.535 (3.07)*
Size	-.130 (1.18)	-0.141 (3.01)**
R²	.6228	.6794
No. of Obs.	120	120
No. of Companies	10	10
Time Periods	12	12
Hausman Test Statistics	6.47 (0.7741)	

Note: (i) Figures in parenthesis indicates t-statistics for fixed effect model and z-statistics for random effect model.

(ii) *, **, ***, indicates 99%, 95%, 90% significance level respectively

(iii) Figures in parenthesis corresponding to Hausman test statistics is $\text{prob} > \chi^2$.

Current ratio is a relationship between current assets and current liability. It expresses the company's ability to meet its short term obligations. A significant negative relation between current ratio and profitability indicate that the company is not able to make productive use of their funds, hence their liquid funds are not put to best use which is adversely impacting the profitability. Working capital turnover ratio indicated the effectiveness of a company in employing its working capital, the results indicates that the companies are not able to use their short term funds efficiently which is in turn negatively impacting the profitability. CLTA maintain significant negative relation with profitability indicating that companies have used short term sources of funds to finance their assets. The regression result reflects that bigger companies are not necessarily having good working capital management. All other variable are found to be insignificant with profitability.

CONCLUSION AND SUGGESTION

Real estate sector is very impulsive and booming sector. Working capital management occupies an essential role in the day to day operations of this sector. Likewise, it becomes necessary for a company to oversee its working capital at a desired level where it can incur certain margins. Abundance of working capital may lead to

too much liquidity and vice-versa. The results concluded that there is significant relationship between components of working capital management and earnings before interest and taxes for the company. Collectively, the variance of 67% in EBIT is explained by the selected variables. Quick ratio, creditor turnover ratio, and cash to sales ratio are found to have significant positive association with EBIT. The study proposes that, in order to augment the working capital the companies should emphasis on enhancing the level of current assets.

Apart from the particular research area, there are many areas which need to be studied thoroughly for making out the best use of working capital. The sources of working capital can be considered as one of the research areas as internal working of the company which may or may not affect the profitability of the company. This study does not contain the non-listed or small companies prevailing in the real estate sector which can be surveyed in order to show the effectiveness of small companies on the entire sector of the economy.

REFERENCES

- [1]. Agarwal, P. K., & Varma, S. K. (2013). Working capital management and corporate performance: Evidence from a study of Indian firms. *Int. J. Indian Culture and Business Management*, 07(04), 522-571.
- [2]. ARSHAD, Z., & Gondal, M. Y. (2013). Impact of working capital management on profitability a case of the Pakistan Cement Industry. *Interdisciplinary journal of con temporary research in business*, 05(02).
- [3]. Bhatia, S., & Barwal, N. (2015). Study of Efficiency of Working Capital Management Practices and the Effect on the Profitability of the Firm: A study of Real Estate Sector of India. *Indian Journal of Accounting*, 47(1).
- [4]. Bhatia, S., & Barwal, N. (june, 2015). Study of efficiency of working capital management practices and the effect on the profitability of the firm: a study of real estate sector of India. *Indian Journal of Accounting*, 47(1), 0972-1479.
- [5]. Chitnis, A. (2018). A Quick look at the real estate sector. Retrieved from www.outlook.com/outlookmoney/real-estate/a-quick-look-at-the-real-estate-sector-2018-1-2802
- [6]. Dalayeen, B. A. (2017). Working Capital Management and Profitability of Real Estate Industry in Jordan: An Empirical Study. *Journal of Applied Finance & Banking*, 2(7), 49-57.
- [7]. Gołaś, Z., Kayzer, D. C., & Bieniasz, A. (2011). Working Capital Management in Manufacturing Enterprises. *Financial Internet Quarterly „e-Finance”*, 07(04).
- [8]. Jakpar, S., Tinggi, M., Siang, T., Johari, A., Myint, K., & Sadique, M. (2017). Working Capital Management and Profitability: Evidence from Manufacturing Sector in Malaysia. *Journal of Business & Financial Affairs*, 6(2), 255th ser. doi:10.4172/2167-0234.1000255
- [9]. John, D. A. (2017). Working Capital Management of Manufacturing Companies Listed in GCC. *International Journal of Science and Research (IJSR)*, 06(10).
- [10]. Kumari, D. N., & Anthuvan, D. L. (2017). A Study On the Impact Of The Working Capital Management On The Profitability Of The Leading Listed Automobile Companies In India. *International Journal of Scientific Research and Management (IJSRM)*, 05(08), 6744-6757. doi:10.18535/ijssrm/v5i8.23
- [11]. Lifland, S. (2011). The Impact of Working Capital Efficiencies on the Enterprise Value Option: Empirical Analysis from the Energy Sector. *Advances in Business Research*, 2(1), 57-70.
- [12]. Mahato, J., & Jagannathan, U. K. (2015). Impact of Working Capital Management on Profitability: Indian Telecom Sector.

- [13]. Mawutor, D. M. (2014). Working Capital Management and Profitability of Firms: A Study of Listed Manufacturing Firms in Ghana. *Research Journal of Finance and Accounting*, 05(22). Retrieved from www.iiste.org.
- [14]. Mehta, D. (2014). Working Capital Management and Profitability Relationship-Evidences from Emerging Markets of UAE. *International Journal of Management Excellence*, 2. doi:10.17722/ijme.v2i3.73
- [15]. Nobanee, H., & Ellili, N. (2015). Working Capital Management and Performance of Kuwait Construction Companies. *Corporate Ownership & Control*, 12(2), winter, 349-355. doi:10.2139/ssrn.2970057
- [16]. Padachi, K. (2006). Trends in Working Capital Management and its Impact on Firms' Performance: An Analysis of Mauritian Small Manufacturing Firms. *International Review of Business Research Papers*, 2(2), 45-58.
- [17]. Ramachandran, A., & Janakiraman, M. (2009). Relationship between working capital management efficiency and EBIT. *Managing Global Transitions*, 7(1), 61-74.
- [18]. Shah, B., & Arif, M. (2018). Working Capital Efficiency and Firm Value: Evidence from Pakistani Firms. *Journal of Business & Financial Affairs*, 07(01). doi:10.4172/2167-0234.1000320
- [19]. Singh, S., & Kaur, H. (2017). Working Capital Management and Profitability: Evidence from selected Steel Manufacturing Companies in India. *Indian Journal of Commerce & Management Studies*, 08(02). doi:10.18843/ijcms/v8i2/10
- [20]. Sumathi, A., & Narasimhaiah, T. (2016). A Study on the Effect of Working Capital on the Profitability of Infosys. *Ictact Journal on Management Studies*, 02(03). doi:10.21917/ijms.2016.0047
- [21]. Tuffour, J. K., & Boateng, J. A. (2017). Is Working Capital Management Important? Empirical Evidence from Manufacturing Companies in Ghana. *Review of Innovation and Competitiveness*, 03(01), 05-20.
- [22]. Wooldridge, J. M. (2002). *Econometric Analysis of Cross Section and Panel Data*. Cambridge, MA: MIT Press.



Financial Literacy and Artificial Intelligence in Fintech Era

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ABSTRACT

Consumers of every age, from millennials to boomers, worry more than ever about their financial wellbeing. However, emerging technologies are gaining popularity, and financial service providers embrace the application of artificial intelligence (AI) and machine learning to bring unique value to customers, including banks, wealth management consultants, and fintech startups. The more this technology evolves, the more robotic helpers and advisors will expect support from individuals. Not only does this technology make it easier for people to keep track of their expenses, but it also makes it a very valuable tool to help people become more financially literate. The more sophisticated applications connect with bank accounts and inform users of over-spending and how to save for potential expenses when bills are due. AI-powered apps are a leap forward, taking into account data from a broad range of sources: consumer interests, personal demographic details, credit history, risk avoidance, way of living, earnings, sources of income, and financial objectives.

Keywords : Artificial Intelligence, Financial Goals, Technologies, Applications

INTRODUCTION

The pace of the fintech industry and the ease of banking for consumers have been exponentially improved by Artificial Intelligence. In this changing era, it is important to keep up with fintech innovations and use AI to take care of one's financial well-being. Digital banking customers are the real winners of using AI to provide unique, tailored insights to help them better manage their financial health. In order to create and retain a competitive advantage, the use of digital technology will thus become the most powerful weapon for incumbents and new players. Over time, product suggestions get better and smarter as data builds up and results are checked and fed back into the algorithm. An AI framework will plug in the spending and savings patterns for an individually tailored savings target, then recommend ways to build a realistic budget and optimum portfolio.

LITERATURE REVIEW

Dr. Navleen Kaur et.al (2020) Their research explored the latest applications of AI in the banking industry and how it is transforming the face of banking in India.

Nisha Tony and Kavitha Desai (2020) Their research assessed the effect on digital financial inclusion of digital financial literacy. For both digital financial literacy and inclusion, seven dimensions were examined. Data was gathered from 200 respondents via a standardized questionnaire.

Ms. Bhavna Agarwal et.al (2019) Their study established the current research status and realistic implementation of AI in various facets of banking tactics, such as surveillance, fraud detection, enforcement assurance, credit evaluation, customer support, overall management of tedious tasks, etc.

Rukmini Murugesan and V.Manohar (2019) In developing countries including India, they explored the relationship between financial services and financial intelligence. They concluded that, as part of AI-Artificial Intelligence in the financial field, fintech companies play a major role in making financial services even easier and also getting them into the hands of people.

Kanchan Patil and Mugdha S Kulkarni (2019) Their analysis looked at the factors for the adoption of Chabot advisor services (CBA), concentrating on financial services. By expanding the Technology Adoption Model (TAM), they determined the reasons for the Chabot advisor services.

OBJECTIVES OF THE STUDY

1. To understand the concept of artificial intelligence in Fintech industry.
2. To identify the role of artificial intelligence in improving financial literacy.
3. To understand the use of artificial intelligence in fostering financial literacy.

RESEARCH METHODOLOGY

The study is based on the secondary data collected from different journals, magazines, research articles, periodicals, websites.

ARTIFICIAL INTELLIGENCE IN FINTECH

Artificial Intelligence (AI) includes boosting and simulating human intelligence by using computers and algorithms. AI has been sliding into financial services under a number of names, helped in no small part by related innovations for personal identity validation such as digitalization, interactive voice response and image recognition and data mining. In the global financial services industry, AI is in the process of transforming a number of models. AI is transforming how financial institutions produce and use data insights, which in turn drive new ways of creativity in the business model, reshape competitive structures and staff, generate new patterns of risk and pose new challenges for companies and policymakers alike. AI is used in the finance industry to analyze cash accounts, credit accounts, and investment accounts to look at the overall financial health of an individual, keep up with developments in real time, and then build personalized guidance based on new incoming data. Banks and Fintech have benefited from AI and machine learning as they can process large volumes of customer information. In order to obtain results on appropriate services / products that consumers want, this data and knowledge is then compared, which has mostly helped establish customer relationships. Today, AI applications range from data analytics to a variety of tools, such as software testing, face detection, optical character recognition, etc. The implementation of AI in the financial services field is currently at a nascent level. We are going to see a lot of improvements in the sector in the way communications, customer care, recruiting and wealth management take place.

ROLE OF ARTIFICIAL INTELLIGENCE IN FINANCIAL LITERACY

It is even more important for countries like India, where financial literacy is relatively low and where it is still difficult for the majority of the population to understand financial leitmotifs. The lack of basic financial understanding also results in unproductive investment decisions that may impede the country's plan to become an economic powerhouse in the coming years. A long-term behavioural shift is enhancing financial literacy. Over a period, it takes a multi-dimensional approach and sustained action to propel a shift. Financial information digitization will play a very important role in improving financial literacy in India and AI, which is a key instrument for radical change, is among the most popular applications in this field. AI will promote the more open handling of finance and financial institutions. It can remove the stigma and anxiety about dealing with money.

i. Digital Financial Connectivity

Digital financial advisors can be reached via AI. These consultants monitor where users spend money, build balance-of-account estimates, and understand how much can be spent on the basis of monthly expenditures and projected user profits. The consultant may also assist in setting up a savings target and work with users to make a strategy to meet their goals while measuring progress along the way. Using data from millions of other popularly referred, the financial planner can compare the user's expenditures and analyze or propose expenditure cutbacks.

ii. Expand relationships with customers via chatbots

AI is indeed expanding customer support efficiency. In a chatting service via AI, chatbots are computer programmes that simulate human conversation. This chatbot is designed to communicate with a real human, or even with other chatbots occasionally. New online and mobile platforms have made financial advice and planning services more available to everyone, as digitization has revolutionized financial services. AI developments are now promising to bring a second big bang to the universe of wealth management, making it much easier for customers to determine their financial wellbeing, make investment choices and prepare for long-term goals on their own and in their own time. Advances in machine learning and AI for financial institutions will also generate opportunities to strengthen customer relationships, provide better advice, and lower their costs. It is a good first step to use these skills to promote financial education, followed by improving financial planning and tracking the progress of clients towards their goals.

iii. Rapid robotic operations

Robotic process automation (RPA) is being used to handle boring and repetitive tasks, allowing fintech professionals to concentrate on higher value activities. It's programming computers to imitate the way humans perform tasks, and it's one of the more advanced aspects of AI today. It has the ability to create frictionless client onboarding and enhance mid-and back-office operations and processes. In asset management, it can be particularly useful, involving the processing of large quantities of data. In wealth management, re-engineering is taking place that reflects changes in the manufacturing sector that have led to greater automation and improved performance, design and safety.

iv. Boosts performance and returns

Advanced AI algorithms can also be used to help providers of financial services do a better job of investing and maintaining tax efficiency portfolios, rebalancing them, and producing other value adds that boost profitability

and returns. But at the other end, AI solutions are naturally designed to solve problems with data analysis. In order to discern real patterns from noise, computers can be fine-tuned, compile relevant data and generate concrete insights, faster and more efficiently than any human could. AI solutions can offer guidance that takes into account the overall financial situation of a client, their full financial history, demographics and thorough financial habits.

v. Encompasses a factor of accountability

Beyond mere education, AI will take the idea of financial wellbeing and place some action and responsibility behind it, making users even more likely to achieve when it comes to achieving their goals. Thus, for plan sponsors who are interested in integrating financial well-being into their current retirement plans, AI might be a blessing.

ADOPTION OF AI IN DRIVING FINANCIAL LITERACY

1. Safety, Security and Authorization

Biometrics provide the consumer with the ability to use fingerprint, palm veins, face recognition, DNA, palm print, geometry of the hand and recognition of the retina as a form of protection without any recall needed. Aligning all channels for single sign-on by reducing recall would enable the user to complete tasks and reduce cognitive fatigue with a recent drive for 2 stage authentication.

2. Omnichannel Facility

We get a much better experience when all platforms are integrated and satisfy consumer needs irrespective of the platform. A single sign-on verified by user, location or security requirements-seeing the full customer journey and contact points along the way-will provide a seamless experience. It will create a comprehensive view of the customer and the points of contact they have accessed, offering greater insight and opportunities.

3. Financial Transparency

Open banking, through a third-party app or digital service, has opened the door to full account openness, all in one location. This has enabled the consumer the transparency and exposure of their finances in a way that has never been possible before, enabling the financial products of multiple suppliers to be presented in real time in one place. It also provides payment reminders, guidance on budgeting and keep track of all your subscription services in one location.

4. User experience & Customization

Machine Learning and Artificial Intelligence will identify returning customers and provide better reviews and product-related details that they already have. By comparing user behaviour to that of other clients, it can also predict needs.

5. Sign Up & Services Access

Customers now expect to be remembered at every contact point and to be able to sign up for services much faster with less manual feedback using data already stored on another service or network in this digital age, with so much of our data already online. For a frictionless, yet safe experience, digital onboarding is required to plug in accessible personal data.

6. User Connect

There are times where it is possible to truly appreciate timely messaging or product reviews. By analyzing data and matching the life stage a customer might be at, AI can forecast churn and identify opportunities and thus deliver a more tailor-made and insightful service.

7. Avoids Intricacy and Confusion

In order to develop financial literacy, financial firms need to make it simpler for their clients. AI chatbots can be used to direct clients through daunting or new acts and also anticipate pain points through historical usage on a journey and prompt the user with better-timed details when a blocker can be generated by legal requirements.

8. Checking Credit

By looking at current financial data in greater detail rather than seeing just past behaviour, open banking and account access have enabled a new way to credit check customers. The idea is simple: ML should define wage payments, outgoings, discretionary income and periodic subscriptions and map them to models of conduct that match that of a viable consumer. The customer does not have to waste time finding statements and pay slips or filling out long forms specifying savings, energy bills and other expenses by looking at real-time behaviour and data, and financial institutions get a clearer understanding of the risk and feasibility of any new customers.

9. Self-service

Chatbots support can direct a user through additional support procedures, AI can auto-fill data that is already collected, and biometric signatures can delete any sign and return of legal documents.

10. Validation of Payments

Reliable means of validation are often biometrics and passwords. But as well as this machine learning, if the activity or request is compatible with these current trends, consumers may evaluate purchasing habits, goods purchased, services or more frequently used online portals and grant access immediately.

CONCLUSION

There is a strong need to communicate with the tech-driven millennials who are always searching for personalized financial solutions but have minimal knowledge and data about the same. The behaviour analysis can be drawn up by AI and services can be built according to the data analysis. Also, it is important to be active in the financial literacy process at the bottom of the pyramid that consists of lower-income groups and where most of the masses belong, and only the concept of financial inclusion can look more successful. The stakeholders must work through a mix of creative methods in accordance with financial literacy.

REFERENCES

1. Dr. Navleen Kaur, Ms. Supriya Lamba Sahdev, Dr. Monika Sharma and Laraibe Siddiqui (2020). Banking 4.0: "The Influence of Artificial Intelligence on the Banking Industry & How AI Is Changing the Face of Modern Day Banks". *International Journal of Management*, 11(6), 577-585 DOI: 10.34218/IJM.11.6.2020.049.
2. Kanchan Patil and Mugdha S Kulkarni (2019). Artificial Intelligence in Financial Services: Customer Chatbot Advisor Adoption. *International Journal of Innovative Technology and Exploring Engineering*, 9(1), DOI: 10.35940/ijitee.A4928.119119
3. Ms. Bhavna Agarwal, Dr. Himanshu Agarwal and Dr. Parvez Talib (2019). Application of Artificial Intelligence for Successful Strategy Implementation in India's Banking Sector. *International Journal of Advanced Research*, 7(11), 157-166. : <http://dx.doi.org/10.21474/IJAR01/9988>
4. Nisha Tony and Kavitha Desai (2020). Impact of Digital Financial Literacy on Digital Financial Inclusion. *International Journal of Scientific & Technology Research*, 9(1), 1911-1915.
5. Rukmini Murugesan and V.Manohar (2019). AI in Financial Sector – A Driver to Financial Literacy. *International Journal of Commerce*, 7(3), <https://doi.org/10.34293/commerce.v7i3.477>



Sustainability Challenges of Electric Energy -Water Vicious Cycles : An Experimental Analysis of Best Business Practices for Power Plant of AP

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ABSTRACT

The burgeoning complexities of Electrically Powered Energy- Environment linkages with its tremendous impact on climatic water resources over the past two decades has an amplified effect in contemporary times. It is worthwhile to mention as a propounding phenomenon, the accentuated effort of United Nations Forum to highpoint the notion of “World-Wide Sustainable and rightful Access to Electric Energy Services by the year 2030”. Taking cue of this, the research paper focuses on people’s fundamental human right for electric energy through sustainable means of electricity production. To aid the research investigation process, Simple Random Technique through Computer Random Generated numbers have been imparted for selecting a sample Thermal Based Electric Power Plant in Coastal regions of Andhra Pradesh (AP). This study measures the special effects of the rare manoeuvrings between periodic incongruities in water availability owing to aberrations of natural rainfall and progression of power generation in Wet, Dry, Cold and aftereffects of Torrential rain point for a AP Thermal Power Plant by using Advanced Statistical Techniques

Statistics was collected through primary sources of field research along with documentary review and interviews with renowned expertise power officials The conclusion of quantitative application of Seasonal Variation Index reveals an attention-grabbing fact that during the reference period of 2003-2004 to 2008-2009 and 2010 -2011 to 2018-2019 , especially during summer spell of season, the interval scale of measurement along with ordinal data experientially amounted to 380 Celsius grade with a Second Rank Order. As a result there was chronicled supplementary water extractions and abstemiously extraordinary loss of generation with fluctuating intensities of index in the range of 64 to 66.

The research study also has geared up its responsiveness vibrantly towards highlighting the adverse effects of higher water foot prints for Thermal Electric Engineering Processes such as Condenser Cooling, Ash Disposal and Removal of heat in plant auxiliaries owing to severe water distresses in Thermal Power Plant. Keeping in view of, the non-compliance of Ministry of Environment of Forests and Climate change norm of utilizing 3.5m³/Mwh the research paper suggests few superlative management practices of using advanced closed cycle cooling system and pertinent technologies to transform the sample power station in to Minimal Liquid Ingestion.

Keywords : Seasonal Variations, Electric Energy, Installed Capacity, Ratio to Moving Average

INTRODUCTION

The judicious management of water resources in thermal power plants at the Global, National, state and Regional level have become a quite inevitable and important priority, owing to stringent environmentally

friendly code of practices related to utilization of water for various process of electricity production . The regional fresh water paucities have become a common phenomenon and intersectoral conflict for precious water has obligated the Indian government tighten water consumption standards in contemporary centuries. As per the Ministry of Environment, Forest and Climate Change's norms, coal powered plants installed after January 1, 2017 are mandatory to meet a water consumption limit of 3 cubic meters per kWh and achieve zero liquid discharge (ZLD).

The study pledges to put emphasis on scientific research investigation of every single month of one year statistics by employing innumerable parameters relating to rainwater ingestion for various technical operations of thermal industry such as boiler container feedstuff , demineralized Liquid, condenser chilling, ash residues and add-on fluid, for local persistence, power plant capacity utilization in terms of Plant load factor, electrical failure, auxiliary feeding and other assorted items. The research education work screens and appraises the recurrent configurations for the various periodic figures of renewed aquatic extractions in four spells titled as torrential rain, wintertime time, summertime and after consequences of monsoon season . These kind of trajectories and its influence on manufacture of electricity was bright to effectively treatise the magnitude of water insufficiency problem using Water Foot Printing Techniques and Seasonal Variation Index as an effective tool.

LITERATURE REVIEW

Numerous methodologies have been surveyed by diverse research scholars to quantify water insufficiency for different usages of the economy. These academicians have wide-ranging techniques to measure water dearth. Every single method applied by different researchers varied in terms of tool applications and smarted with its own limitations. The prominent measure of water stress index recommended by Swedish Hydrologist Falkenmark, Lundquist and Widstrand, (1989), epitomizes scarceness of water as a correlation between water obtainability and human inhabitants. It inaugurates 3 proxies with respect to per capita availability of water per year by ushering its interconnectedness with the prerequisites of domestic, agronomy and manufacturing including electric energy to refer to liquid strain circumstances. It puts forward that the contemporary precarious standard values of 1700 m³ as Water pressure, <1000 m³ as Liquid Scarcity and <500 m³ is well-thought-out as Prolonged rain water dearth. In contradiction to this statement, Buchs, 2007, and Rijsberman, 2006 disparaged this mode of computation on grounded empirical base that a twelve-monthly norms rawhide imperative inequalities related to dissimilarities with demand for river water, which in turn is connected to life flamboyances, climatic environment and controversial issues of population. Ohlsson (2000) in his notable work reformed the earlier index by taking in to narrative depiction Communal Rainwater Pressure Index constructed based on adaptive capability i.e. life anticipation as a representation for general socioeconomic progress, scholastic achievement as substitute for general official capacity etc. & actual Gross Domestic Product . Further enhancements on this thoughts was most vehemently reflected in the studies of Alcamo, J.Henrichs, T Rosch.T (2000) and Feitelson & Chenoweth, 2002, who suggested Water Resource Vulnerability Index that gauges both rainwater use and river water accessibility for chosen tributary basins of the Ecosphere. Corollary to this, Molle & Mollinga (2003) pointed out that this study excluded statistics on evapotranspiration and adaptive capacity.

Another study by Merrett (1997) and Smakthin *et al.* (2004), manifested Hydro social cycle Index that fervently pronounces the association between aggregate quantities of rainwater drawings for absolutely all sectors, and

also focusses on marine water disposal with only once yearly overflow and ecological necessities. But Rijsberman (2006) fingered the illogicality of this approach as it does not take in to account evapotranspiration. The notable work done by Sullivan (2002) and Lawrence *et al.* on the concept of carving out appropriate methodological framework, made them to enunciate Water Poverty Index that holds its etymological justification mainly on key aspects that includes 5 major apparatuses- (assets), (Access), Volume, Consumption and Environment. The index was practically employed in developing countries such as Srilanka, South Africa and Tanzania. In corollary to this Savenije (2000), opined that water paucity meter has to encompass the diverse tints of water (jade color water, biodegradable dreary rainwater, cybernetic H₂O etc.) to highpoint liquid's regular sequential unpredictability, to be malleable and categorize microclimate circumstances, recompense responsiveness to collective river flow and lastly, grounded on a wide-ranging considerations of water requirements.

The European Economic Area, a renewable Energy Development Organization (2009) worked out on the experiential practice of employing Water Exploitation Index for evaluating the underlying reason for diminished drizzle and great high temperature, which in turn had anticipated to have an antagonistic influence on cohort electric sector. The various recordings of water levels can be represented as Eastern Europe with 19000 million m³/year, Western Europe- 38000 million m³ and Southern Europe- 24,000 million m³/year. The team of researchers were successful in establishing on almanac data and cannot reason for recurrent disparities in water accessibility and perception.

MATERIALS AND METHOD

Computation of Water Foot Prints and Seasonal Variation Index in Thermal Power Plants

The Water and Energy vicious cycle is a manifold issue. The water foot print technique was employed for thermal power plant to measure at the volume of water used to produce commodity i.e. electricity. This practice can be applied to product or service or individual or country or state or region or at global level. The main mission of this concept is to ensure a sustainable, fair and efficient use of fresh water in thermal power plant. It estimates how much of local river water resources are utilized or polluted in order to produce electricity good. This technique was adapted from AY Hoekstra and AK Chapagan.

Knowing the conversant testimonial about progressively diminution of water resources worldwide with an astounding populace of 750 million people are in acute deprivation and vulnerability to clean water, the research study underpins its investigation of utilizing water foot printing techniques owing to magnitude of economic activities at Industry level. The locus of India's water foot prints was remarkably bleak at the level of 980 m³ per capita that statuses much underneath the global average of 1243 m³. India's population of 1.2 billion communally fosters to 12 % of World total water foot print. This distressing state of disorder nearly hints a warning sign of worrying numbers that is merely unsustainable and urgent measures need to be incorporated. The World Economic Forum officially conferred that the global Earth for the third consecutive year has been labelled as the third greatest risk in terms of mis-management of water resources at a maximization manner and its economic repercussions are highly irrevocable if necessary management initiatives are not pertained. The study imparts the usage of water foot printing technique as a part of standardization for measuring the potential environmental impact of its water utilization. Given the practical axioms of the alarming situation, the most viable question triggers in educated lot at Industry level, Does Thermal Plants are faring well in terms of adhering to the norms of Central Pollution Control Board for optimal management of its diminished reserves of water resources.

As the electricity production requires quantities of water for various process of thermal electricity, the Ratio to Moving Average Method is enhanced because of its exactitude. Correspondingly the seasonal indices premeditated using this method are unrestricted from all the three constituents, explicitly, trend (T), cyclic (C) and Irregular variations (I). The moving average eradicates intermittent dissimilarities if the duration of epoch of moving average is equivalent to the period of the oscillatory variation pursued to be jettisoned. Therefore, we have to indicate the duration of interval for moving average to be equal to one cycle.

For example, if a rotation is completed in 4 months, we estimate the moving Seasonal Component Analysis for 4 months. For some quarters, three values are available and for some quarters, four values are available. By taking the average over three or four values, we get seasonal indices S_i for $i=1, 2, 3, 4$. We customarily normalize them so that their mean is 100 by dividing them by the mean of S_i and multiplying by 100. These normalized S_i have mean 100. Typically, not much dissimilarity exists between normalized and non-normalized seasonal indices S_i . When figures are monthly, the equivalent technique will yield twelve monthly seasonal indices S_i . This method of estimating seasonal indices is known as the ratio to moving average method. The resulting outcome includes the phases convoluted in calculation of Ratio to Moving Average with respect to rainwater extractions and loss of electric production owing to rainwater deficiency tendencies.

In this study 4 quarters were engaged for interval time period of 2009-2010 to 2013-2014, and coding is performed using a customary methodology in regression exploration titled as least squares to procure the trend equivalence.

RESULTS AND DATA ANALYSIS

Estimation of Water Footprints in TPPS of AP

The coal input of thermal power production industry is one among the non-renewable sources of energy for maximum utilization of water. The various determinants of imbibing water consumption for the year 2018-2019 includes thermal industry cooling, Demineralized make up water, for domestic purpose and ash slurries preparation. Customarily this selected power plant draws water from the nearby vicinity of Krishna river using Once Through Cooling System(OTC) especially during rainy and winter seasons. One of the major anomaly afflicted by this power plant as a devastating adverse effect primarily involves towards the focal point that excess water consumption leads to additional auxiliary power consumption because water and energy are complementary on each other. This further cobwebs technical lapses of reduction in power plant efficiency due to maximum auxiliary power consumption . The study highlights that this old power plant has been commissioned 30 decades back with its units operational at 1760 MW with estimable production of electricity and functions as a contributory factor for catering its generation services for various sectors of the economy. The stipulated norms of water withdrawals of a once through cooling power plant as per Centre for Science and Environment should be in the range of 70-200 cubic meters per MW. But this approach has been disallowed in India since 1999 due to impounding risks of elevated warm water thermal pollution load there by threatening the ecosystem of aquatic life. But despite all these, the power plants are following OTC system due to precarious need for electricity on a priority and peak hour basis.

Table 1 : Water Consumption at Different Phases of Thermal Power Plant (Stages I (2x 210 MW), II (2x210 MW), III (2x210 MW) & IV (500 MW) of Andhra Pradesh: 2018-19

Month Wise	Thermal Cooling	DM Make UP water	Domes tic Water	Ash Slurry Water	Total Water Consumption	Electric Generation	"Water Foot Print = Total Water Consumption/Tot al Electric Generation"
April	114805594	75001	95633	2863018	117839246	987360	119.35
May	118432533	79384	98725	2817678	121428320	1065810	113.93
June	124122074	74597	95415	2529347	126821433	1009610	125.61
July	117544303	89395	98850	2947493	120680041	909830	132.64
Aug	120787102	81950	98817	2562806	123530675	909100	135.9
Sept	128482082	75021	95350	2567162	131219615	994760	131.91
Oct	117216102	71714	97800	2204911	119590527	885550	135.05
Nov	91545674.5	78574	95650	2175921	93895819.5	765030	122.73
Dec	98622052	77205	99000	2161733	100959990	811250	124.45
Jan	105323433	75861	98867	2427891	107926052	851940	126.68
Feb	105532792	87605	86225	2052023	107758645	699600	154.03
Mar	108177750	100803	99000	2544022	110921575	997710	111.18

The tabular illustration for the year 2018-2019 distinctly presents certain revelations about calculated figures of water foot prints of this power plant. In a 12monthly period of specified year, the power plant has enormously withdrawn water for its consumptive purposes ranging from 119.35 m³/MWH to 111.18 m³/MWH. For all the 6 units of power plants OTC mechanism was followed during rainy and winter season but specifically during summer season March, April and May months , the water footprints were nominally low to the level of 111.18, 119.35 and 113.93 m³/MWH due to deployment of induced draft cooling towers. The first robust emission control norms were ratified by Ministry of Environment, Forests and Climate change in 2015. As per these all old power stations need to mandatorily incorporate highly sophisticated cooling towers with advanced technological intervention to achieve the optimal water consumption levels at a specificity of 3.5 m³/Mwh. These norms were further undergone transformational amendments in January 2017 and June 2018. With these improvements, the new units of thermal power plants have to maintain a threshold limit of 2.5 m³/Mwh.

Results of the Selected Thermal Power Station after Application of Seasonal Variation Index

- ✓ Maximum Bulk of Electric Capability constitutes six units multiplied by two hundred and ten Megawatt 6 x 210 MW
- ✓ For each day light hours pertaining to making of electric power can be represented as = 210 multiplied by round the clock of day and night i.e. 24 hours = five thousand and forty divided by one thousand = 5.04 Million Units
- ✓ Per phasic generation = nine hundred and seven

- ✓ During the year 2003-04, the estimation of Actual Generation (AG) and Loss of Generation (LG) can be derived as follows:
- ✓ April month Authentic or Realistic Generation = 877 MU
- ✓ Forfeiture of Generation due to extraordinary network frequency occurrence, damage owed to blackout energy abnormality, disruption of auxiliaries, supplemental consumption = $21+4+1+10+79 = 115$ MU
- ✓ Definite generation minus Loss of Generation owing to additional aspects = $877 - 115 = 762$ MU
- ✓ Fixed Generation minus Ultimate Definite generation (after subtraction of Loss of Generation outstanding to new factors) = nine hundred and seven minus seven hundred and sixty two = one hundred and forty five
- ✓ May month Actual Generation can be totalled as Eight hundred and Eighty Two
- ✓ The interruptions of the electricity making owing to inordinate network rate of recurrence, dim-out, poor quality of raw material and AU = $15+ 2+ 21+ 80= 117$ MU = $882 -117 = 765$
- ✓ Generator capacity under ideal conditions – maximum electricity output loss = $906.9-765 = 142$
- ✓ March month authentic generation = Nine Hundred and Twenty Two Million Units
- ✓ LG due to connected factors = $0.67+0.70+ 10.44 +80.49 = 92 = 922 -92 = 829$ MU
- ✓ Similar pattern have been followed to estimate Fixed Generation minus Absolute Real Factual generation (after minus of generation aberrations inflicted by causable factors = $907 -829 = 78$ MU
- ✓ Consequently and eventually the generation dips of electric current due to water dearth can be numerically presented as $145 +142+77.405= 364$. In other words it can be interpreted as 3.6 hundred million units. The estimated facts of LG during the remaining seasons of wet, cold and post season with accurate estimation are (6.6) six point six, (7.8) seven point eight and (5.7) five point seven 100 million units. In analogous way for all the four quarters of periods bleak generation of electricity due to water shortage during (2003-04, 2004-05, 2005-06, 2006-07, 2007-08 and 2008-09) has been measured and Ratio to Moving Average technique has been administered.

Outcomes of Seasonal Variation Index for Designated Coal Based Power Station:

2003-04 to 2008-09

- ✓ Drizzling Season with water temperature of thirty one to thirty four degree Centigrade ranks number one with additional rainwater taking outs and inflicted a great damage to generation.
- ✓ The Extra Waterdrawals with an index of one hundred and nineteen (119) and Additional Damage of Generation - with an index of one hundred and fifty two (152).
- ✓ Summertime Season with rainwater hotness of thirty eight degree Centigrade ranks II, that itemised additional water extractions and judiciously extraordinary dampness of generation
- ✓ There were Extra Water withdrawals –with an index of one hundred and nineteen (119) and Surplus Impairment of Generation- with an index of one hundred and seven. (107)
- ✓ Cold weather Season with liquid hotness of twenty seven statuses second with reasonable water extractions and restrained loss.
- ✓ Temperate water drawings with an index of sixty one (61) and Sensible LG- with an index of ninety eight. (98)
- ✓ For another season, the magnitude of temperature of thirty one degree centigrade orders second with temperate abstraction of water and enough damage of electrical energy.
- ✓ Judicious Water Withdrawals (WD)- with a value of 61 and Modest LG with an index of 41

✓ The forecasted Predictions for a reference time period of 2009-2010 to 2013-2014 can be exhibited using

Trend Equations:

Waterdrawals minus - $Y = 24 - 0.33 X$

And

Loss of Generation subtracted $Y = 65 - 0.12 x$

Type of Season Classification Order in terms of Grade	Rain Water Extractions	Loss of Generation
Dry I	18 to 12.3	66 to 64
Rainy II	18.1 to 11.9	94.2 to 91.3
Winter III	9.1 to 5.9	60.5 to 57.9
Post Monsoon IV	8.9 to 5.7	25.1 to 24.3

TABLE: 1 VIJAYAWADA OR NARLA TATA RAO ELECTRIC STATION

Year		Water Abstractions	X-code	4- quarterly moving average	Focus at centre point	Precise Periodic	Deseasonalised
2003-04	1	2.29	1				2.6
	2	2.44	2				2.7
	3	2.27	3	2.3	2.3	0.98	2.5
	4	2.17	4	2.3	2.2	0.99	2.4
2004-05	1	2.17	5	2.1	2.1	1.03	2.4
	2	1.99	6	2.1	2.1	0.95	2.7
	3	2.20	7	2.1	2.1	1.05	2.4
	4	2.13	8	2.1	2.1	1.03	2.3
2005-06	1	2.14	9	2.2	2.1	1.02	2.4
	2	2.26	10	2.1	2.1	1.08	2.5
	3	1.91	11	2.0	2.0	0.96	2.09
	4	1.83	12	2.0	2.0	1.005	2.01

2006-07	1	2.01	13	2.0	2.0	1.04	2.3
	2	2.18	14	2.0	2.1	1.03	2.45
	3	2.17	15	2.1	2.1	1.06	2.38
	4	2.12	16	2.1	2.0	1.03	2.32
2007-08	1	1.83	17	2.0	1.9	0.96	2.06
	2	1.76	18	1.9	1.9	0.93	1.98
	3	1.85	19	1.8	1.8	1.03	1.03
	4	1.85	20	1.8	1.8	1.03	2.03
2008-09	1	1.59	21	1.7	1.7	0.94	0.94
	2	1.69	22	1.6	1.6	1.05	1.89
	3	1.39	23	1.5			
	4	1.47	24				

Estimation of Periodic index

Year	(Desiccated)	(showery)	(Icy)	Post Monsoon
2004			0.9	0.99
2005	1.01	0.95	1.04	1.03
2006	1.02	1.1	0.96	1.00
2007	1.03	1.03	1.1	1.03
2008	0.96	0.93	1.03	1.0
2009	0.94	1.05		
Aggregate	4.99	5.04	5.08	5.09
Unadjusted	0.99	1.01	1.02	1.03

Mean				
Adjusted	0.89	0.88	0.90	0.91
Seasonal ratio	89	87	91	90.9

According to Indian inundation atmospheres, the recurrent index standards designed remain as follows:

Ultimate SVI	89+30 =11.	89+30.33 =119.3	91-30.33 =60.7	91-30.33 =60.7
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Rectification aspect = $4/4.5 = .888$

Trend calculation: $y = 23 - 0.33 x$

Prediction of Water Removals

Time Period	x-symbol	Mathematical Trend Un Acclimated Conjecture	Cyclic Index	Projection In sync (in million hundred cubic meters)
2010				
Heat Days	25	16	0.89	14.01
Cloudburst	26	15.4	0.89	13.7
Jack frost	27	15.1	0.91	13.7
After rainy weather	28	14.8	0.91	13.4
2011				
Dry Season	29	14.4	0.89	12.8
Wet	30	14.1	0.89	12.6
Cold	31	13.8	0.91	12.5

After Math of Monsoon	32	12.9	0.91	12.2
2012				
Parched	33	13.1	0.86	11.7
Showery	34	12.8	0.87	11.4
Icy	35	12.5	0.91	11.3
Not Pre Monsoon	36	11.9	0.90	11.03
2013				
Dry Season	37	11.8	0.89	10.5
Wet	38	11.5	0.89	10.2
Cold	39	11.1	0.91	10.1
Consequent Monsoon	40	10.8	0.91	9.8
2014				
Dog days	41	10.5	0.89	9.3
precipitation	42	10.1	0.89	9.02
Chill weather	43	9.8	0.91	8.9
Subsequent to rainfall	44	9.5	0.91	8.6

SITUATION OF MUTILATION OF CREATED ELECTRICITY

Year		Forfeiture Generation due to water paucity(in hundred million units)	X-Indicator	Four – quarterly moving – average	Middle	Precise Periodic	Unbundling of seasonalized time series data
2003-04	1	3.54	1				6.1
	2	7.0	2				5.02

	3	7.84	3	5.9	5.7	1.32	5.3
	4	5.7	4	5.8	6.0	0.95	9.4
2004-05	1	3.08	5	6.2	6.3	0.49	5.3
	2	8.10	6	6.5	6.5	1.25	6.1
	3	9.12	7	6.5	6.5	1.40	6.2
	4	5.80	8	6.4	6.3	0.91	9.5
2005-06	1	2.58	9	6.3	6.8	0.38	4.4
	2	7.70	10	7.3	7.0	1.1	5.8
	3	13.03	11	6.7	7.0	1.86	8.9
	4	3.30	12	7.3	7.5	0.44	5.4
2006-07	1	5.33	13	7.7	7.2	0.74	9.2
	2	9.20	14	6.7	6.6	1.39	6.9
	3	8.93	15	6.6	6.2	1.44	6.07
	4	2.92	16	5.8	6.4	0.46	4.8
2007-08	1	2.29	17	7.0	7.3	0.31	3.9
	2	13.74	18	7.7	7.7	1.78	10.41
	3	11.85	19	7.6	8.0	1.48	8.06
	4	2.56	20	8.4	7.5	0.34	4.2
2008-09	1	5.64	21	6.5	5.5	1.03	9.7
	2	5.77	22	4.6	4.7	1.23	4.4
	3	4.26	23	4.9			2.89
	4	3.77	24				6.2

Calculation of Seasonal index Year	(Dry Period)	(wet Spell)	(Cold term)	Post Monsoon
2003-2004			1.32	0.95
2004-2005	0.49	1.25	1.40	0.91
2005-2006	0.38	1.1	1.86	0.44
2006-2007	0.74	1.39	1.44	0.46
2007-2008	0.31	1.78	1.48	0.34
2008-2009	1.03	1.23		
Combined	2.9	6.8	7.5	3.1
Unadjusted Mean	0.6	1.4	1.5	0.62
Adjusted Seasonal	0.58	1.32	1.47	0.61
Cyclical Index	58	132	147	61

As per the Indian monsoon conditions, the Seasonal index values calculated are as follows:

Absolute SVI	58+49 =107	132+20 =152	147-49 =98	61-20 =41
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Modification factor = $4/4.06 = 0.98$

Trend calculation: $y = 65.0 - 0.12 x$

Seasonalized Forecast of Loss of Generation

Year	X-code	Trend Unadjusted	Seasonal Index	Forecast Seasonal Adjusted (in hundred million cubic meters)
2009-10				
Summer	XXV	62	0.58	35.9
Rainy	XXVI	61.9	1.32	81.7
Winter	XXVII	61.8	1.5	91
Post Monsoon	XXVIII	61.6	0.61	37.6
2010-2011				
Summer	XXIX	61.52	0.58	35.7
Rainy	XXX	61.4	1.32	81.1
Winter	XXXI	61.3	1.5	9.1
Post Monsoon	XXXII	61.2	0.61	37.3
2011-2012				
Summer	XXXIII	61.04	0.58	35.4
Rainy	XXXIV	60.9	1.32	80.4
Winter	XXXV	60.8	1.47	89.4
Post Monsoon	XXXVI	60.7	0.61	37.01
2012-2013				
Summer	XXXVII	60.6	0.58	35.1
Rainy	XXXVIII	60.4	1.32	79.8
Winter	XXXIX	60.32	1.47	89
Post Monsoon	XXXX	60.2	0.61	36.7
2013-2014				
Summertime	XXXXI	60.08	0.58	34.8

Raining	XXXXII	59.9	1.32	79.1
Wintertime	XXXXIII	59.8	1.47	87.96
Post Monsoon	XXXXIV	59.7	0.61	36.4

Prediction of Water Drawings contrasted with Forfeiture of Generation *1

Quarter	Summer	Rainy	Winter	Post Monsoon Season
2009-10				
WD	18.58	18.2	9.13	8.95
LG	66.17	94.21	60.53	25.07
2010-2011				
WD	17.01	16.59	8.36	8.19
LG	39	93.45	6.05	24.9
2011-2012				
WD	15.45	15.05	7.55	7.35
LG	65.2	92.7	59.6	24.71
2012-2013				
WD	13.86	13.46	6.75	6.53
LG	64.69	92.04	59.13	24.48
2013-2014				
WD	12.27	11.89	5.93	5.73
LG	64.16	91.28	57.94	24.28

Business Water Management Ingenuities of Electric Energy Technologies : Thermal Power Plant of Andhra Pradesh

This particular power plant of Andhra Pradesh has been using OTC for all its 6 units of 210 MW each during off lean seasons of the year i.e. Rainy and Winter Seasons, by utilizing voluminous water at the level of about 100,000 cubic meters an hour. A huge intake of water withdrawal directly from the river sources has an adverse environmental impact of aquatic life, killing millions of fish and larvae annually due to thermal warm water pollution load. During the year 2018-19, the power plant has imparted cooling tower mechanism of induced draft during lean seasons of the year for reducing and minimizing the fresh water intake for its 6 units x210 MW= 1260 MW . The thermal industry cooling towers can be operated to evacuate heat from wide-ranging bases such as machinery and heated process material. The heat capped in the circulating cooling water systems, condensers, crystallization process etc. can be degenerated in to atmosphere. Usually the circulation rate of a cooling water in a typical 700 MW coal fired power plant with a cooling tower amount to about

¹Estimated figures of end Outcome Seasonal Forecast

71,000 cubic meters an hour. In this case the specific power plant with 2x210 MW for example requires more than 71,600 cubic meters or approximately 95,000 cubic meters an hour and the circulating water needs a supply water make-up of 3,600 cubic meters or as in this case 4,500 cubic meters an hour corresponding to 1 to 1.5 cubic meter per second.

River Water Pump House Mechanism (RWPHM): Alternate Cooling Water System (Commissioned on 28-3-2004)

Requirement of cooling water for 6 units of Thermal TTPs: Krishna River level – 17.2 meters

I Crest Level of the Barrage: 13.7 meter. Usually summer season pond level below crest level.

Crest Level of the cooling water intake near barrage: 14.34 meters (water would not flow with required gravitational force)

Hot return water from Thermal Power Plant : Discharged in to river cooling water canal of Power plant Krishna at the confluence of Budameru Diversion channel (BDC)

CW Canal intake: Transports water from River Krishna to thermal power plant that is on down stream of BDC
Lowering of water level in prakasam Barrage (BDC confluence and Bhavanipuram Regulator) Decrease in cooling area to minimize the temperature of hot return water from Thermal Poer Plant (summer season)- 3 Induced Draft Cooling Towers.

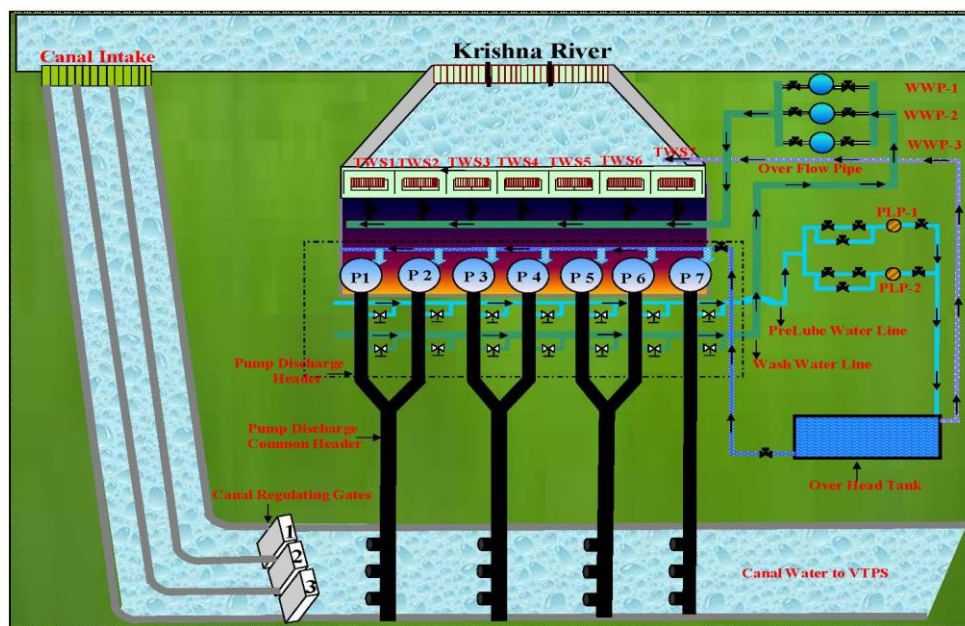
II Make up water required for another 3 units – 1100 cusecs

Best Option Chosen: Pumping of Required water for another three units with RWPH Mechanism

Final Observation:

All 6 units of Power Plant – 365 days. Functioning: 320 days of the year (Water drawn in to CW canal by gravity: Pond level 17.2 meters)

For remaining 45 days during summer: availing the facility of Induced draft RW pumping mechanism of 1100 cusecs of water to CW canal.



This power plant state owned company of Andhra Pradesh through sustained use of RWPHM was able to reduce the water consumption by 4 to 5 m³/kwh. The power company is envisioned to have air cooled condensers which have latent to conserve 75% of water in relative comparison with conventional cooling system. In addition to this, the cycles of concentration are being accentuated at this power house for minimizing the intake of fresh water. As per the recommendation of Ministry of Environment of Forests and Climate change, the power plant is planning to strictly adhere to the compliance of 2.5m³/kwh of water for electricity generation processing and installing closed cycle condenser cooling water system . This power utility is emphasizing its future course of action to optimize the circulating water system make up water and power cycle make up. By utilizing the closed cycle cooling system, make up water is added in the CW system to compensate for the loss of water on account of evaporation, drift and blow down to maintain a desired level of dissolved solids in the circulating water. With effective use of condensate polishing unit , improved metallurgy of feed cycle and efficient boiler components the makeup water requirements can be minimized to a desirable extent. Ultra-filtration System can be aided for the power plants using demineralized water, so that the problem of entrance of colloidal silicas in the boiler water can be minimized and boiler blow down can be abridged to a greater extent. The closed cycle cooling system should be retrofitted with combined Heat and Power Technology for imbibing lesser makeup water . The ash pond of this power plant was judiciously the dry fly ash for manufacturing bricks.

CONCLUSION AND POLICY RECOMMENDATIONS

The water efficiency management strategies in selected thermal power stations was able to tackle the problem of water shortage to maximum extent but the problem of water shortage is still persistent during lean seasons due to vagaries of monsoons. The ground-breaking approaches incorporated in respective power stations are the Unconventional Condensing Water System with River and Boiling Propel Houses.

Structural Rigidities and Policy Recommendation through Effective Economic Efficiency

1. Tapping latent indigenous Entrepreneurial skills The renewable energy solar based projects are very expensive to set up at its initial level though its operation costs are low. Solar energy efficiency drops off during nights and winter season as it is weather resource dependent form of energy. In addition to this particular lethal constituents and perilous merchandises rummage-sale during the industrial process of solar photovoltaic, which can circuitously disturb the atmosphere. Nonetheless, solar energy contaminates far fewer than other alternate energy sources.

Policy Recommendation 1: In such warranted circumstances there is an imperative need to enhance local manufacturing capacity with emphasis on improving domestic logistical infrastructure for solar power projects. The Government has to take judicious measures to power the vast connectivity of railway stations with solar energy especially in rural areas, including civil aviation at a massive scale.

2. Reliance on natural resource security techniques It is perilous for improved understanding that the water-energy connexion and the lashing forces of the river and liveliness cycles for effectual and defensible usage of these resources are domineering.

Policy Recommendation 2: It is a matter of great concern to efficiently utilize the rural waste at the grass root levels most appropriately by making in to efficient production of electricity. By this energy efficiency is

obtained, where in one source of energy situation can be improved without making another source of energy worse.

3. Technological breakthrough in Traditional Solar Energy A distinguishing “unfashionable” solar panel on the top of an occupied household, manufactured of sixty chambers in a 6x10 conformation, produces coarsely two hundred watts of electrical power at a given moment. Quite deviating from this, a scientifically effectual bio solar cell uninterruptedly produced electricity from photosynthesis and respirational goings-on of the microbes in twelve hour day-night cycles over 60 total hours.

Policy Recommendation 3: Effervescent investigation should be performed in various Research and Development centres with gigantic economic reserves on by means of cyanobacteria which be able to be made in almost each land-dwelling and marine habitation on terrain as a basis of uncontaminated and justifiable vitality.

4. Harnessing Animal Wastes in a Productive Manner

Dairy, pig and any other animal shanty effluent from dairy cows can be transmuted into biogas, liquid fuel and/or nutrient-rich solids. This can be scalded to produce current and warmth, elevated into a transportation of (bio methane) and can harvest other valuable produces.

Policy Recommendation 4: Recurrent usage of biological and thermo chemical process of animal waste can be converted in to viable bio energy sources most importantly in Indian rural areas that leads to sustainable management of scarce non-renewable and renewable resources along with mitigation of greenhouse gases.

5. Conservation of Natural Assets for Future Generations: The varied energy sources of earth crest are plundered and as consequence resulting in huge depletion of valuable energy reserves. Due to these dire circumstances, it is need of the hour a proper consensus need to be maintained to function as a torch bearer rather facing grave repercussions of it not only for present generation but also for future generations.

Policy Recommendation 5: It is always effective to revitalize the waste matter emitted in to the environment most resourcefully from varied sources of energy rather than infinitesimally marauding the precious sources of energy that are sparsely embedded due to over mounting population growths. It is very much important for low developing countries to put a bay on population growth as it can further accentuate the situation of multi-dimensional poverty.

REFERENCES

- [1]. Alcamo, J., Henrich, T., Rosch, T., (2000) World Water in 2025 - Global modelling and scenario analysis for the World Commission on Water for the 21st Century. Report A0002, Centre for Environmental System Research, University of Kassel, Germany.
- [2]. Molle F, Mollinga P (2003) Water poverty indicators. Conceptual problems and policy issues. *Water Policy* 5:529–544
- [3]. Rijsberman FR. Water scarcity: Fact or fiction? *Agr. Water Manage.* 2006;80:5–22. doi: 10.1016/j.agwat.2005.07.001.
- [4]. Smakhtin, V. U. Estimating daily flow duration curves from monthly streamflow data. *Water SA* 26(1): 13-18 .2000.
- [5]. Savenije HHG. Water scarcity indicators; the deception of the numbers. *Phys. Chem. Earth (B)* 2000;25(3):199–204. doi: 10.1016/S1464-1909(00)00004-6
- [6]. Falkenmark, Malin; Lundqvist, Jan; Widstrand, Carl "Macro-scale water scarcity requires micro-scale approaches". *Natural Resources Forum.* 13 (4): 258–267. doi:10.1111/j.1477-8947.1989.tb00348.x. ISSN 1477-8947. (1989-11-01).



Does Leadership Style Influences the Performance of Employees in an Academic Institution? - An Assessment

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ABSTRACT

The increasingly competitive global situation has pushed organizations to exploit their available resources and leadership is key for good performance since it coordinates both utilization of human efforts and other resources. This paper aimed at assessing the effect to fleadership styles on employees' performance at Hawassa University. Descriptive research design was adopted and data were collected from 216 respondents to address the objectives. Descriptive and in ferential statistics such as Pearson's correlation and regression analysis were carried out to assess both relationships and effects. The results indicate that among the five types of leadership styles, the mean value indicates that most of the leaders followed Transactional leadership style (3.40) followed by Transformational leadership style (3.35). The overall performance of the subordinate employees is poor since mean value of majority of the variables is below 3. The transformational leadership, transactional leadership and democratic leadership were found to play a positive effect, whereas, laissez-faire and autocratic leadership have play a negative effect on employee performance. Itis recommended that transformational, transactional and democratic leadership styles arethe most effective leadership styles to be followed to enhance the performance of employees in an academic institution.

Keywords: Leadership Style, Employee Performance, Academic Institution

I. INTRODUCTION

The challenges of coping with today's uncertain business environment have put many organizations on their toes to struggle for survival in the heat of competition. The driver of such strategic move towards surviving the competition is the leadership provided by managers who are expected to influence others in achieving organizational goals and also boost employee's performance. Shafie et al. (2013) explains the importance of leadership in organizations and especially on human beings who are apparently the biggest asset of any firm; 'The main drivers of organizations are usually employees, they give life to the organizations and provide goals'.

The researchers said leadership is likely to influence the attitudes, beliefs and responsibilities of employees in order to achieve organizational patterns. Transformational leadership styles are one of the effective leadership styles in the ideals of influence, inspirational motivation, intellectual stimulation and individual assessment (Storey, 2004). In fact, all transformational leadership behaviour (individualized consideration, inspiration, intellectual

Although the literature on leadership and employee performance is scattered across countries and across industry, the evidence of the effect of leadership style on employee performance is also varied. According to Paracha et al (2012) 'Leaders play an essential role in accomplishment of goals and boost employee's performance by satisfying them with their jobs'. Leadership is perhaps the most thoroughly investigated organizational variable that has a potential impact on employee performance (Cummings and Schwab, 1973). Notably, it has been widely accepted that effective organizations require effective leadership and that employee performance together with organizational performance will suffer in direct proportion to the neglect of this (Fiedler and House, 1988). Furthermore, it is generally accepted that the effectiveness of any set of people is largely depends on the quality of its leadership – effective leader behavior facilitates the attainment of the follower's desires, which then results in effective performance (Fiedler & House, 1988; Maritz, 1995; Ristow, et al., 1999).

A number of recent studies examined the effect of leadership styles on employees' performance. For example, Rasool, et al. (2015), Pradeep and Prabhu (2011), Aboshaqah et al. (2015), Ipas (2012), Kahinde and Bajo (2014), Tsigu and Rao (2015), Gimuguni, et al (2014), Raja and Palanichamy (2015) etc. Rasool et al (2015) examined the health sector in Pakistani and report that both transformational and transactional leadership styles affect employee performance but the effect of transformation leadership style is higher than that of transactional leadership. Raja and Palanichamy (2015) reported positive relationship between both transformational and transactional leadership styles but negative relationship between laissez-faire leadership style and employee performance from a sample of employees in public and private sector enterprises in India. Aboshaqah et al (2015) also looked at the link between leadership and employee performance among hospital nurses and report that the transformational and transactional leadership styles are significantly positively related to employee performance while laissez-faire is significantly negatively correlated to employee performance. Significant positive relationship between the transformational and transactional leadership styles and employee performance is also reported in Pradeep and Prabhu (2011) in India, and in Kehinde and Banjo (2014) and Ejere and Abasilim (2013), both in Nigeria. Other studies in Africa are Tsigu and Rao (2012) and Gimuguni et al (2014) in Ethiopian banking industry and Ugandan local government authorities respectively.

Kehinde and Banjo (2014) underlined the importance of leaders in the organization "Intoday' scompetitive environment, organizationsexp and globally and facealotofchallengesinmeetingtheirobjectivesetchasetobemoresussful from others". Leadership styles affect everything that is part of the organization of the top management of employees / contract workers. Employee performance is viewed as follows: Execution of defined tasks, meeting deadlines, team contribution, and consistency in management and performance should be evident through style and approach tailored by managers to drive efficiency, which requires specific approaches to managing the unique performance challenges of service management. The above should, as Armstrong (2005) pointed out, lead to efficiency, specialization, effective feedback, and good organizational relationships.

From the experience of the authors it is observed that most of the employees are not showing interest in their work which is an areaof concern thatprompted tocarry outastudy onthesubject.Theideahereistoassess the performanceofemployeesandtestwhetheritisaffectedby employees'perceptionon leadership stylepracticed by the immediateteam leader, manager or director.

1. Objectives

The study was guided by the following specific objectives:

1. To examine the leadership style followed by the administrative leaders at Hawassa University.
2. To understand the performance of administrative employees of Hawassa University
3. To assess the effect of leadership style on employee performance with reference to administrative staff.

3. Methodology Adopted

Nachamias et al. (1996) for instance states that methodologies are considered to be systems of explicit rules and procedures, upon which research was based, and against which claims for knowledge were evaluated. Conducting any type of research should be governed by a well-defined research methodology based on scientific principles. The study was carried out in one (Hawassa) of the first generation universities in Ethiopia. It has 23,537 undergraduate and 3198 post graduate students. Also the university has 100 PhD programs with 209 male and 40 female candidates. The number of academic staffs is 1325 (on duty) and 319 (on study leave) and the number of administrative staff is 1596 (on duty) and 1 (on study leave). The data was gathered from the internal environment of the University; no external environment was assessed.

This study employed descriptive and explanatory research design adopting both qualitative and quantitative approach. Primary data was gathered from leaders that include directors, team leaders and their subordinate employees through questionnaires and interview guide. The population was only embraced of the administrative staff worked in the University main campus (1596). Sample was a portion of a population that was used to conduct the research due to economy, time savings, availability and accessibility of data, and accuracy.

In order to determine the representative sample size, the formula which was suggested by Kothari (2004) $n = \frac{Z^2 * pq * N}{e^2(N-1) + Z^2 * P * q}$ with 95% confidence interval and 5% of acceptable error (e). Thus, $n = \frac{(1.96)^2 * 0.5 * 0.5 * 1596}{(0.05)^2(1596 - 1) + (1.96)^2 * 0.5 * 0.5} = 309$.

Therefore, the representative number of respondents from the target population was 309. In addition, 24 directors and 26 team leaders were also included as respondents. Since the Staff were well sorted by the university it was convenient to use systematic random sampling technique. It was the selection of every k^{th} element from the sampling frame, where k is the sampling interval and $k = \text{population size} / \text{sample size}$ (Kothari, 2004). $k = 1596/309 = 5.16$. Hence, every multiple of 5 of the administrative staff was selected as per their order of registration in HRM directorate.

The collected data was analyzed using SPSS (version 21) and statistics such as percentage, mean, standard deviation and coefficient of variance were used for analysis and the arrived results are presented tables, charts and graphs. Fraenkel and Wallen (2014) argue that regression is the working out of a statistical relationship between one or more variables. Hence multiple regression analysis was carried out to show the influence of the independent variables (leadership styles) on the dependent variable (Employee Performance). The equation is $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \epsilon$ (Where, Y = Employee performance; β_0 = intercept of regression line; β_1 - β_5 = partial regression coefficient of the independent variables. X_1 = Lazier faire leadership; X_2

=Democratic leadership; X3 = Transformational leadership; X4 = Transactional leadership; X5 = Autocratic leadership; ϵ = error term and β_0 is constant while $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$, are coefficient to estimate

La validez es el grado en el que los resultados obtenidos para el análisis de los datos representan realmente el fenómeno en estudio. Los tipos de validez incluyen la validez interna, que indica claramente los principios de la causa y los efectos de la investigación, la validez externa que se centra claramente en los efectos de la investigación que pueden generalizarse. El investigador utilizó la medida de consistencia interna más común conocida como prueba de KMOBartlett. Se puede mencionar que su valor varía de 0 a 1 pero, satisfactoriamente, se requiere que el valor sea más de 0,6 para que la escala sea confiable (Bryman y Bell, 2015).

Reliability is an instrument that was used to describe the overall consistency of a measure. A measure to have a high reliability if it produces similar results under consistent conditions (Neil, 2009). The reliability of the questions for each variable was obtained when Cronbach's alpha coefficient is at least 0.6. And the internal consistency and reliability of the questions would be considered higher, if the result is close to 1. In general, the reliability of a scale or item can be between 0 and 1. Bryman and Bell, (2015) also stated that a Reliability score greater than 0.9 is excellent, greater than 0.8 is good, greater than 0.7 is acceptable, greater than 0.6 questionable, greater than 0.5 is bad, and less than 0.5 is unacceptable. The completed responses were analyzed using Cronbach's Alpha test. Since the Cronbach's Alpha results were greater than 0.70, the actual questionnaires were distributed to the respondents.

4. Results and Discussion

The study targeted 359 respondents working in the University main campus. From them, 179 subordinate employees and 37 leaders were filled in and returned the questionnaires making the response rate of 60%. According to Kothari and Gang (2014) a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and response rate of 70% and over is excellent; therefore, the response rate was good for analysis and reporting.

4.1 Description of Respondent's Demographics

Understanding the respondents' demographic characteristics is essential to know how the different variables are influencing the leaders' style of behavior and the subordinates' performance. With this view the respondents' demographics variables such as age, gender, education and marital status were analyzed and the results are presented in table 1 and the discussions are followed.

Table 1: Description of Respondent's Demographic Characteristics

Variables	Respondents	
	Leaders	Subordinate Employees
Age category	Frequency (%)	Frequency (%)
22-35	-	74 (34.3)
36-45	29 (13.4)	75 (34.7)
46-60	08 (3.7)	30 (13.9)

Sex of Respondents		
Male	31 (14.4)	119 (55.1)
Female	06 (2.7)	60 (27.8)
Level of education		
BSc degree	17 (7.9)	176 (81.5)
Master's degree	20 (9.2)	03 (1.4)
Marital status		
Single	03 (1.4)	77 (35.7)
Married	34 (15.7)	102 (47.2)
Service years		
1-10 years	-	70 (34.0)
11-20 years	16 (7.4)	94 (42.5)
21-30 years	21 (9.7)	12 (5.1)
31-45 years	-	03 (1.4)

Note: Figures with in brackets show percentages

The age of the respondents is one of the most important characteristics in understanding their views about the particular problems; by and large age indicates level of maturity of individuals in that sense age becomes more important to examine. The study findings indicate that majority (70%) of the subordinate employees who are working in the University are in the age category between 22-45 years while majority (29%) of the leaders belongs to the age category between 36-45. This shows that majority of the respondents under this study is young.

Gender refers to the physical and physiological difference between male and female. Assessing the gender category is very important to know the equal participation in administrative work in any organization especially academic institution. According to the results (Table 1), majority of the respondents (69.5%) are male and 30.5% are female. This infers that the margin between males and females is maximal.

Education is very crucial to understand how to create the world around us, how to sustain it for future generations and how to develop relations for existence. It is the only way to win the world. It is to think deeply about something till its roots and understand the intention behind it. Therefore, education level is important for research in order to get genuine feedback about it. The study results show that the vast majority (81.5%) is bachelor's degree holders and 9.2% is master's degree holders, this shows that most the administrative staff employees in the organization are bachelor's degree holders. At the same time most of the leaders are holding master's degree.

Marital status is very important for shared opportunities and obligations. Marital life means one has commitment to and accepted a life time of additional responsibilities. Distribution of the respondents by marital status shows that majority of the respondents (62.9%) are married as opposed to single (37.1%). Experience is a familiar and well used source of knowledge. Much wisdom passed from generation to generation is the result of experience. For acting as a good leader and to perform any duties perfectly experience in the same field is more essential. Regard to this, majority of respondents' service range between 11-20 years from subordinates side and

who take large part in the study from leader’s side range between 11-30 years. This indicates that most of the respondents have sufficient experience.

4.2: Leadership styles followed by the Leaders

Leadership is a position to listen with enthusiasm, having an aspiring mind to be able to make a decisive action, empower and encourage others in a responsible, supportive and humble manner to inspire them to achieve set goals as planned. The most successful leaders can communicate their organization's mission and express it in ways that inspire others to attain it; however, other traits, behaviors and skills are required for leadership. Leaders must treat others as they would like to be treated. One of the objectives of this research is to understand the leadership styles followed by the leaders in the administrative position. The data pertaining to this were collected from the subordinate respondents in a five point Likert’s scale. There are many type of leadership styles can be followed by the leaders in any organization. However to make the research in a precise manner, commonly followed five main types of leadership styles were assessed. They are (1) transformational leadership style with four dimensions (each with three items and intellectual stimulation with two items), transactional leadership style with two (2) dimensions (one dimension with three items and the rest dimension with two items). Authoritative leadership styles had five (5) items and laissez-faire and democratic leadership styles each had four (4) items. The scale used in the statements was 1-Strongly disagree (SD), 2-Disagree (D), 3-Neutral (N), 4-Agree (A), 5-Strongly agree (SA) and the findings are presented in tables 2 – 6

4.2.1: Assessment of Laissez-faire leadership Style

Under this type of leadership, according to Kumar (2015) maximum freedom is allowed to subordinates. They are given free hand in deciding their own policies and methods and to make independent decisions. It carries the belief that the most effective leadership style depends on the ability to allow some degree of freedom to employees in administering any leadership style. This study aimed at investigating further how laissez-faire may contribute to employee performance. Different statements related to laissez-faire leadership were forwarded and the agreement levels are computed in table 2. The results indicate that overall Laissez-faire leadership upon assessing the four statements show that most (43.02%) of the respondents agreed that their leaders are following laissez-faire leadership in the University and 10.94% is neutral. The mean score of 3.32 indicates that leadership approach tends to be more of laissez-faire at some point. Hence, the leadership as exercised by most of the work units lack supervision and the employees act their own way with little supervision and control.

Table 2: Laissez-faire Leadership Style followed by the Leaders

Statements	SD	D	N	A	SA	Mean	SD
My director/team leader stays out of the way as I do my work	23 (12.8)	70 (39.1)	07 (3.9)	50 (27.9)	29 (16.2)	2.96	1.357
As a rule, my director/team leader allows me to judge my own work	05 (2.8)	47 (26.3)	20 (11.2)	78 (43.6)	29 (16.2)	3.44	1.127
My director/team leader gives me complete freedom to solve problems on my own	- (-)	50 (27.9)	28 (15.6)	77 (43.0)	24 (13.4)	3.42	1.037
In general my director/team leader feels it’s	14	24	43	61	37	3.46	1.186

best to leave subordinates alone.	(7.8)	(13.4)	(24.0)	(34.1)	(20.7)		
Laissez-Fair Leadership (overall)	08 (4.68)	38 (21.34)	20 (10.94)	53 (29.72)	24 (13.3)	3.32	1.177

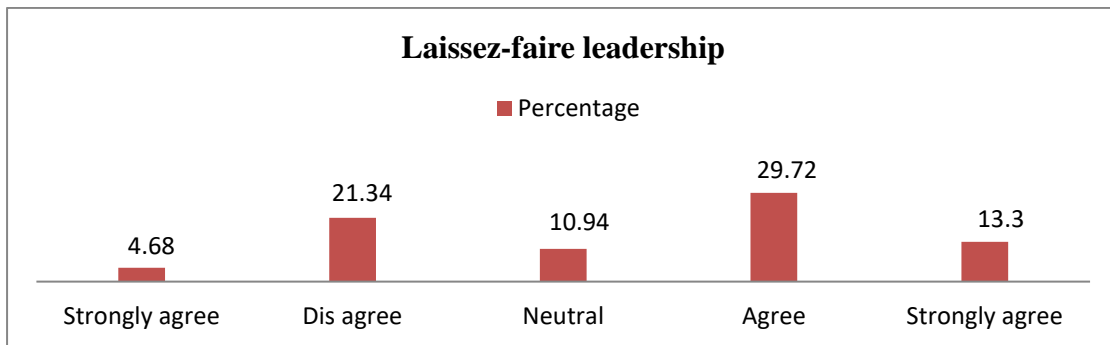


Figure 1: Laissez-faire leadership style followed by the Leaders

4.2.2 Assessment of Democratic leadership style

Democratic leadership influences people in a manner consistent with the basics of democratic principles and processes, such as deliberation, equal participation, inclusiveness and self-determination (Gastil, 1994). According to White & Lippitt (1960), democratic leaders actively encourage and stimulate group decisions and group discussions (cited in Choi, 2007). Kuczarski and Kuczarski (1995) defined characteristic of democratic leaders as influential, helpful, knowledgeable, a good listener, encouraging, guiding, respecting and situation-centered (cited in Ray & Ray, 2012). Mullins (1999) stated that democratic leadership style centralized more on people and interaction is greater within the group (cited in Puni, et al., 2014).

Table 3: Democratic Leadership Style followed by the Leaders

Statements	SD	D	N	A	SA	M	SD
The director/team leader empower subordinate workers	02 (1.1)	41 (22.9)	14 (7.8)	105 (58.7)	17 (9.5)	3.53	0.985
Manager setting standards that we all agree with.	09 (5.0)	42 (23.5)	39 (21.8)	55 (30.7)	34 (19.0)	3.35	1.178
My director/team leader gets people involvement in decisions.	16 (8.9)	48 (26.8)	38 (21.2)	49 (27.4)	28 (15.6)	3.14	1.230
My director/team leader creates employee job satisfaction and creates solution to organizational issues and problems.	24 (13.4)	37 (20.7)	29 (16.2)	52 (29.1)	37 (20.7)	3.23	1.348
Democratic Leadership (overall)	13 (7.1)	42 (23.48)	30 (16.75)	65 (36.48)	29 (16.2)	3.31	1.185

Note: Figures within brackets show percentages

Table 3 presents the mean and standard deviation of the results from respondents' view of democratic leadership style followed by their bosses. The statement that 'The director/team leader empower subordinate workers' had the highest mean of 3.53 and standard deviation of 0.985 while the lowest mean of 3.14 and standard deviation of 1.230 was for the statement 'My director/team leader gets people involvement in decisions'. Overall democratic

leadership upon assessing the four statements, above half (52.68%) of the respondents agreed that their leaders are following democratic leadership and the mean score (3.31) indicates that the democratic style of leadership followed by their leaders is moderate extent.

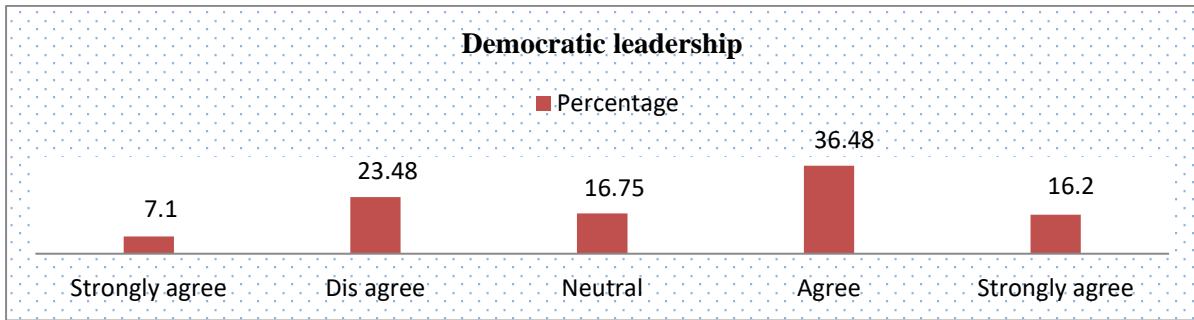


Figure 2: Democratic Leadership Style followed by the Leaders

4.2.3 Assessment of Transformational Leadership Style

Transformational leadership was developed by Bass in 1985 on account of stating behavior and characteristic to provide organizational change and stability, while transformational leadership is comprised of idealized influence, individual consideration, intellectual stimulation, and inspirational motivation (Bass, 1990). Transformational leaders try to persuade followers that they are powerful enough to coping with individual needs and personal developments, which turn out to establish close relationship with employees. Leaders pay feel more special, motivated and encouraged. By this way, there is an enhancing effect on the success of the employees (Greenberg & Baron, 2000).

Transformational leadership is also explained for displaying higher to come to terms with team mission and goals and also the continuity of this process. Leaders encourage employees to see beyond what they already have (Bass, 1990). The transformation leader motivates its team to be effective and efficient. Communication is the base for goal achievement focusing the group in the final desired outcome or goal attainment.

Table 4: Transformational Leadership Style followed by the Leaders

Statements	SD	D	N	A	SA	M	SD
My director/team leader helps others develop themselves.	03 (1.7)	57 (31.8)	26 (14.5)	76 (42.5)	17 (9.5)	3.26	1.062
My director/team leader lets others know how he /she is doing	14 (7.8)	31 (17.3)	35 (19.6)	73 (40.8)	26 (14.5)	3.37	1.16
My director/team leader gives personal attention to others who seem rejected.	02 (1.1)	31 (17.3)	42 (23.5)	56 (31.3)	48 (26.8)	3.65	1.088
My director/team leader has stimulated me to look at things in a new ways.	14 (7.8)	31 (17.3)	31 (17.3)	72 (40.2)	31 (17.3)	3.42	1.189
My director/team leader thinks about old problems in a new ways.	02 (1.1)	43 (24.0)	41 (22.9)	57 (31.8)	36 (20.1)	3.46	1.098
My director/team leader provides attractive images about what we can do.	- (-)	48 (26.8)	22 (12.3)	85 (47.5)	24 (13.4)	3.47	1.029
My director/team leader helps me find	21	36	5	84	33	3.4	1.313

meaning in my work.	(11.7)	(20.1)	(2.8)	(46.9)	(18.4)		
My director/team leader used the word We instead of I	15 (8.4)	45 (25.1)	6 (3.4)	87 (48.6)	26 (14.5)	3.36	1.239
My director /team leader leads by example.	17 (9.5)	57 (32.9)	24 (13.4)	49 (27.4)	32 (17.9)	3.12	1.297
My director/team leader makes others feel good to be around him / her.	10 (5.6)	53 (29.6)	36 (20.1)	45 (25.1)	35 (19.6)	3.23	1.227
I am proud to be associated with my director/team leader	17 (9.5)	63 (35.2)	19 (10.6)	39 (21.8)	41 (22.9)	3.13	1.363
Transformational Leadership (overall)	09 (5.84)	37 (25.22)	21 (14.58)	52 (36.72)	28 (17.72)	3.35	1.187

Note: Figures within brackets show percentages

The results in Table 4 show that the individual consideration had the highest mean of 3.65, followed by inspirational motivation had a mean of 3.47 and then, intellectual simulation at a mean of 3.46. The least but still with a high mean of 3.23 was idealized influence. Overall transformational leadership upon assessing the eleven statements show that majority (54.44%) of the respondents agreed up on the practice of transformational leadership style by their leaders. The mean score (3.35) indicate that the leaders practice moderate level of transformational leadership style.

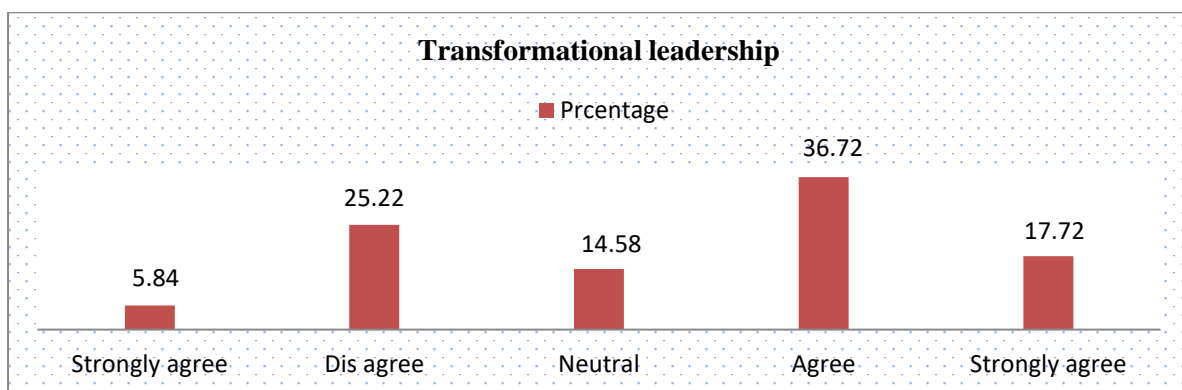


Figure: 3: Transformational Leadership Style followed by the Leaders

4.2.4 Assessment of Transactional Leadership Style

Transactional leaders focus mainly on the physical and the security needs of subordinates. The relationship that evolves between the leader and the follower is based on bargaining exchange or rewards systems (Bass, 1985; Bass and Avolio, 1993). There are components in transactional leadership - Contingent Rewards: Transactional leaders link the goal to rewards, clarify expectations, provide necessary resources, set mutually agreed upon goals, and provide various kinds of rewards for successful performance. They set SMART (specific, measurable, attainable, realistic, and timely) goals for their subordinates. Active Management by Exception: Transactional leaders actively monitor the work of their subordinates, watch for deviations from rules and standards and taking corrective action to prevent mistakes. Passive Management by Exception: Transactional leaders intervene only when standards are not met or when the performance is not as per the expectations. They may even use punishment as a response to unacceptable performance.

Table 5: Transactional Leadership Style followed by the Leaders

Statements	SD	D	N	A	SA	M	SD
My director/team leader tells us what to do if we want to be rewarded for our work.	02 (1.1)	48 (26.8)	37 (20.7)	37 (20.7)	55 (30.7)	3.53	1.215
My director/team leader provides recognition/rewards when others reach their goals.	23 (12.8)	40 (22.3)	25 (14.0)	38 (21.2)	53 (29.6)	3.32	1.428
My director/team leader is a teacher.	18 (10.1)	62 (34.6)	12 (6.7)	54 (30.2)	33 (18.4)	3.12	1.335
My director/team leader is always satisfied when others meet agreed-upon standards	01 (0.6)	48 (26.8)	44 (24.6)	49 (27.4)	37 (20.7)	3.41	1.110
My director/team leader tells us the standards we need to know to carry out our work	- (-)	26 (14.5)	51 (28.5)	66 (36.9)	36 (20.1)	3.63	0.968
Transactional Leadership (overall)	11 (6.15)	45 (25)	34 (18.9)	49 (27.28)	43 (23.9)	3.402	1.211

Note: Figures within brackets show percentages

Table 5 presents the mean and standard deviation from respondents' assessment of whether their directors/team leaders practiced transactional leadership style. Management by exception (MBE) had the highest mean of 3.63 with standard deviation of 0.968, while contingent reward had a mean of 3.53 and standard deviation of 1.215. Above half (51.16%) of the respondents agreed on their leaders followed transactional leadership style. This statistics indeed shows that directors/team leaders at the University have practiced active management by exception. The overall mean indicates that transactional leadership followed by the leaders is higher in the university.

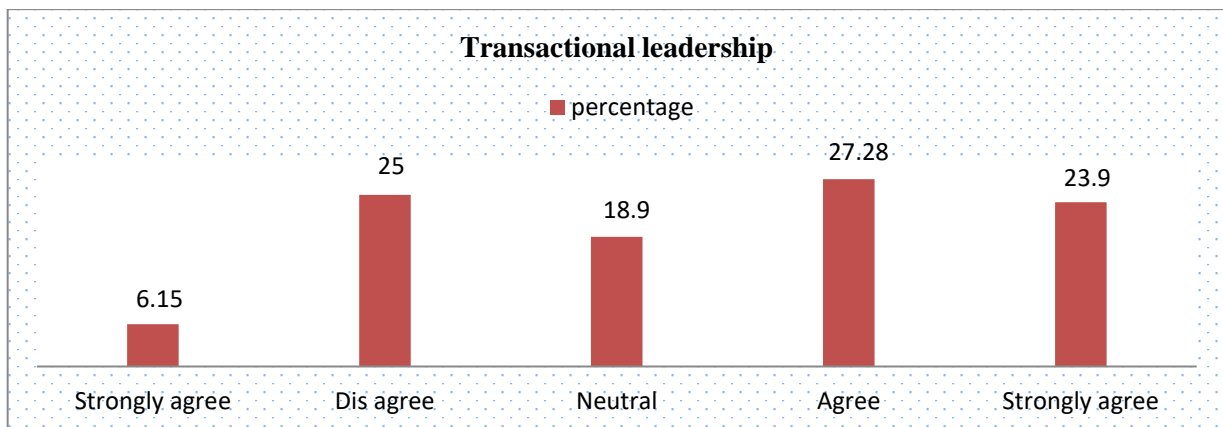


Figure 4: Transactional leadership Style followed by the Leaders

4.2.5: Assessment of autocratic leadership style

Autocratic leadership style is centered on the boss. In this leadership, the leader holds all authority and responsibility and leaders make decisions on their own without consulting subordinates. They reach decisions, communicate them to subordinates and expect prompt implementation.

Autocratic leader sareaderswhobelieveonalwaysbeing rightintheirdecisions. They candamageorganization goals, strategiesandfuturesince they forcetheir followers to executestrategie sand orders they think success can come from. Autocratic leadership lacks visibility, motivation, creativity, teamwork, commitment and innovation. Nevertheless, there is no reason to think that autocratic leadership can be inevitable and useful when the decision is made not to consult with the greatest number. The statement that ‘My director/team leader is the chief judge of the achievements of employees’ had the highest mean of 3.74 and standard deviation of 1.031. The statement with the lowest mean of 3.02 and standard deviation of 1.319 was ‘my director/team leader believes that most employees in the general population are lazy’. Overall agreement on autocratic leadership upon assessing the five statements is 54.9% which show that majority of the respondents agreed that their leaders followed autocratic leadership. Mean score (3.4) indicates that autocratic leadership style is moderately exhibited by the leaders.

Table 6: Autocratic leadership followed by the Leaders

Statements	SD	D	N	A	SA	M	SD
My director/team leader believes employees need to be supervised closely they are not likely to do their work.	32 (17.9)	06 (3.4)	30 (16.9)	68 (38.2)	42 (23.6)	3.46	1.370
As a rule, my director/team leader believes that employees must be given rewards or punishments in order to motivate them to achieve organizational objectives	18 (10.1)	48 (27.0)	31 (17.4)	46 (25.8)	36 (19.7)	3.18	1.302
My director/ team leader believes that most employees in the general population are lazy	34 (19.1)	27 (15.2)	41 (23.0)	53 (29.8)	23 (12.9)	3.02	1.319
My director/team leader gives orders and clarifies procedures	05 (2.8)	28 (15.7)	40 (22.5)	65 (36.5)	40 (22.5)	3.60	1.086
My director/team leader is the chief judge of the achievements of employees	- (-)	30 (16.9)	33 (18.5)	68 (38.2)	47 (26.4)	3.74	1.031
Autocratic Leadership (overall)	22 (12.48)	28 (15.64)	35 (19.66)	60 (33.7)	38 (21.02)	3.4	1.222

Note: Figures within brackets show percentages

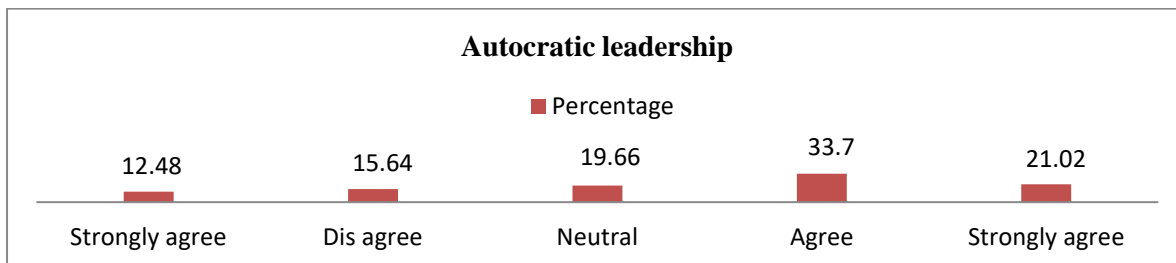


Figure: 5: Autocratic leadership style followed by the leaders

2.2.6: Overall responses of leadership style

The following table shows the overall results of leadership style followed by the leaders in Hawassa University. Among the five types of leadership style, the mean value indicates that Transactional leadership style (3.40)

and Autocratic leadership style (3.40) are followed by most of the leaders. The least value secured for Democratic leadership style. These results will have an impact on the performance of subordinates as well.

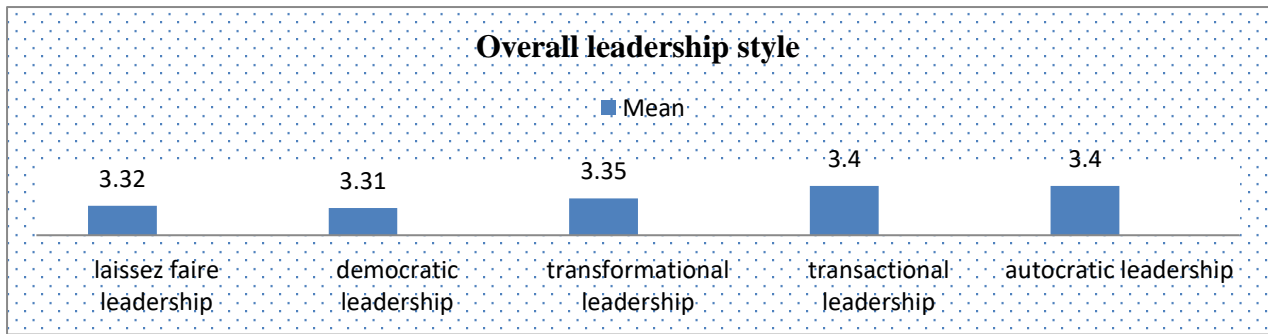


Figure: 6: Overall of leadership styles

4.3: Assessment of Employees' Performance

The main goal of any organization is to enhance the job performance of its employees so that it could survive in this highly competitive environment. Performance is a multidimensional construct and an extremely vital criterion that determines organizational success or failures. Prasetya and Kato (2011) defined employee performance as the attained outcomes of actions with skills of employees who are competent in delivery of the organizational goals and objectives. In this background performance of employee in the university also assessed in this section by adopting different indicators and discussed the results in the following sub sections.

4.3 1: Assessment of executing defined duties

As the performance of an organization is dependent on the quality of the workforce at all levels of the organization (Temple, 2002), it is essential to discuss the concept of individual performance. Executing defined duties is the patterns of action carried out to satisfy an objective according to some standards. Hence this variable is important to understand the performance of the employee in any organization especially in the selected University. Unless every employee executes their duties and responsibilities, the success of organization cannot be achieved. Hence different statements were forwarded to the leaders and their opinion on their sub-ordinates' performance were assessed.

From the results it is found that the statement that 'He/she consult effectively on assigned duties' had the highest mean value of 4.0. The statement with the lowest mean of 2.68 was 'He/she prepared work plan based on my job description'. Overall executing defined work upon assessing the three statements has a mean score of 3.2. This indicates that respondents' agreement on employees in executing their work with a moderate extent.

Table 7: Responses in executing defined duties

Statements	SD	D	N	A	SA	M	SD
He/she prepared work plan based on my job description	08 (21.6)	06 (16.2)	14 (37.8)	08 (21.6)	01 (2.7)	2.68	1.132
He/she submitted report on performed duties in time.	- (-)	14 (37.8)	12 (32.4)	10 (27.0)	01 (2.7)	2.95	0.880
He/she Consult effectively on assigned duties	- (-)	07 (18.9)	- (-)	16 (43.2)	14 (37.8)	4.0	1.080

Executing defined duties (overall)	03 (7.2)	09 (24.3)	09 (23.4)	07 (30.7)	05 (14.4)	3.21	1.030
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Note: Figures within brackets show percentages

4.3.2: Assessment of meeting deadline

Meeting deadline is to finish work on time by agreed date with action plan schedule and execute duties meeting deadline. If an employee is not finishing his assignments in time, he may not be able to proceed with other assignments. Hence this variable is assessed with different statements as indicated in table 8. The assessment results show that for the statement ‘He/she prepared action plan schedule’, majority of the leader respondents are in neutral stand with mean score of 2.92. The statement with the lowest mean of 2.78 was ‘Diligently executed duties as per schedule’. Overall mean (2.85) inferred that respondents’ opinion on meeting deadline at HU is poor. This needs special attention to improve the performance so as to achieve the objective of organization.

Table 8: Responses on meeting deadline

Statements	SD	D	N	A	SA	M	SD
He /She prepared action plan schedule	09 (24.3)	07 (18.9)	06 (16.2)	08 (21.6)	07 (18.9)	2.92	1.479
Diligently executed duties as per schedule	06 (16.2)	07 (18.9)	14 (37.8)	09 (24.3)	01 (2.7)	2.78	1.084
Meeting deadline (overall)	08 (21.6)	07 (18.9)	10 (27.0)	08 (22.0)	04 (10.8)	2.85	1.282

Note: Figures within brackets show percentages

4.3.3: Analysis of teamwork

Employees are of paramount importance to the achievement of any organization. Thus, effective leadership enables greater participation of the entire workforce, and can influence both individual and organizational performance (Bass, 1997; Mullins, 1999). Teamwork is collective effort of a group to achieve a common goal or to complete a task in the most effective and efficient way. Unless the workers work in team work the assignments cannot be completed in time. Hence this variable was assessed with different relevant statements and the results are presented in table 9.

Table 9: Opinion of Leaders on Team work

Statement	SD	D	N	A	SA	M	SD
There is teamwork in my department.	08 (21.6)	20 (54.1)	- (-)	08 (21.6)	01 (2.7)	2.30	1.127
Workers are a team player in your department	15 (40.5)	14 (37.8)	- (-)	08 (21.6)	- (-)	2.03	1.142
My worker has given the needed support to build team spirit	07 (18.9)	21 (56.8)	- (-)	08 (21.6)	01 (2.7)	2.32	1.107
He/she has performed works with collaboration of others to meet the organization objective	15 (40.3)	12 (32.4)	07 (18.9)	02 (5.4)	01 (2.7)	1.97	1.040
Team work (overall)	11 (30.33)	17 (45.28)	02 (2.23)	06 (17.55)	01 (2.03)	2.16	1.104

Note: Figures within brackets show percentages

From the results in table 9, it is observed that the statement 'My worker has given the needed support to build team spirit' has secured the highest mean value but below average (2.32). The statement with the lowest mean of 1.97 is for the statement 'He/she has performed works with collaboration of others to meet the organization objective'. The overall mean (2.155) indicates that there is a lack of teamwork among the employees at HU.

4.3.4: Assessment of quality of work

Quality of work is essential in any organization which enhances the performance of the employees and superior status. In this background an assessment was carried out in this research and the arrived results are presented in table 10.

Table 10: Quality of work performed by the Subordinates

Statements	SD	D	N	A	SA	M	SD
He/she has performed his/her work, Meeting standards	- (-)	14 (37.8)	20 (54.1)	03 (8.1)	- (-)	2.70	0.618
He/she has performed his/her work well with minimal time by meeting deadline.	06 (16.2)	16 (43.2)	06 (16.2)	08 (21.6)	01 (2.7)	2.51	1.096
Quality work (overall)	03 (8.1)	15 (40.5)	13 (35.15)	05 (14.35)	01 (1.4)	2.61	0.857

Note: Figures within brackets show percentages

It is observed that for statement 'He/she has performed his/her work, meeting standards' majority (48.6%) of the leader respondents disagreed the statement with a average value of 2.70. The lowest mean of 2.51 is for the statement 'He/she has performed his/her work well with minimal time by meeting deadline'. The overall mean score (2.61) suggests that quality of work in the organization has below moderately exhibited by employees.

4.3.5: Assessment of punctuality

Punctuality of employees is an important element which will pave the way for enhancing the performance of any workforce and also accomplish the tasks in a specified period of time. If the employee is not come to the office in time and start his/her work in time, the specified works cannot accomplish in time. From the table 11 results, it is found that for the statement 'Work performed in time as requested' most of the leaders denied that their employees are not following punctuality and scored mean value 2.70. The lowest mean of 2.22 has secured for the statement 'Time for signing in/out followed'. The overall mean score (2.51) result suggests that punctuality in work place in the organization exhibited below average.

Table 11: Punctuality of the Subordinate Employees

Statements	SD	D	N	A	SA	M	SD
Time for signing in/out defined	07 (18.9)	12 (32.4)	08 (21.6)	08 (21.6)	02 (5.4)	2.62	1.187
Time for signing in/out followed	07 (18.9)	20 (54.1)	06 (16.2)	03 (8.1)	01 (2.7)	2.22	0.947

Work performed in time as requested	01 (2.7)	13 (35.1)	20 (54.1)	02 (5.4)	01 (2.7)	2.70	0.740
Punctuality (overall)	05 (13.5)	15 (40.5)	11 (30.63)	04 (11.7)	01 (3.6)	2.51	0.958

Note: Figures within brackets show percentages

4.3.6: Overall assessment of employees' performance

In this section, the overall performance of the subordinate employees has been assessed and the results are presented in figure 7. The results indicate that overall performance of the subordinate employees is poor since mean value of majority of the variables is below 3 and only one variable that is executing defined duties only secured mean value more than three. This indicate that the leadership styles followed by the leaders are not that much effective in achieving employee performance.

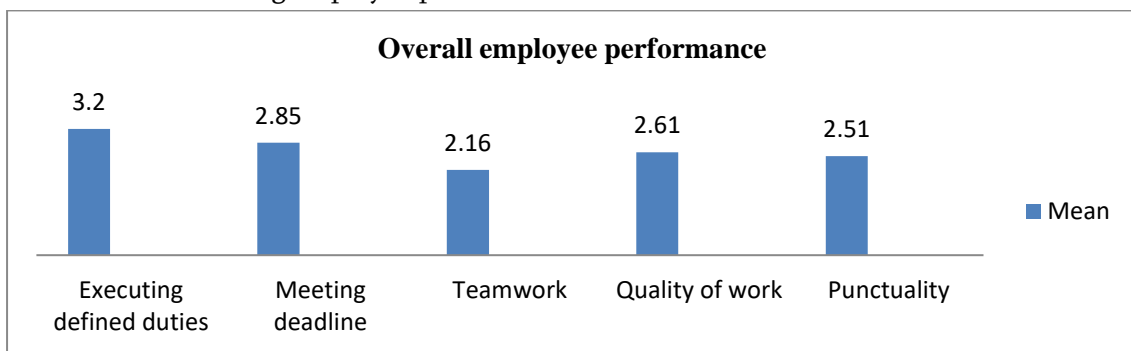


Figure 7:Overall employee performance

4.4: Association between Leadership Style and Employee Performance - CorrelationAnalysis

In addition to the descriptive analysis as discussed in the previous section, to make scientific way Pearson correlation coefficient analysis was carried out to compute the correlation between the dependent variable (Employee Performance) and the independent variables. According to Sekaran, (2015), this relationship is assumed to be linear and the correlation coefficient ranges from -1.0 (perfect negative correlation) to +1.0 (perfect positive relationship). The correlation coefficient was calculated to determine the strength of the relationship between dependent and independent variables (Kothari and Gang, 2014).

Table 12: Pearson Correlation Results

Correlations						
	Employee performance	Laissez-faire leadership	Democratic leadership	Transformational leadership	Transactional leadership	Autocratic leadership
Employee performance	1	.041	.540**	.479**	.619**	.169*
	216					
Laissez-faire	.041	1				
	.553		1			
	216			1		

Democratic leadership	.540**					
	.000					
	216					
Transformational leadership	.479**					
	.000					
	216					
Transactional leadership	.619**					
	.000					
	216					
Autocratic leadership	.169*					
	.013					1
	216					216
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

In trying to show the relationship between the study variables and their findings, the study used the Karl Pearson's coefficient of correlation (r). According to the findings, it is clear from coefficient value that there is a positive correlation between the independent variables, Laissez-faire Leadership (r = 0.41), Democratic Leadership (r = 0.54), Transformational Leadership (r = 0.47), Transactional Leadership (r = 0.619), Autocratic Leadership (r = 0.169) and the Employee Performance. This indicates that employee performance is purely based on the leadership style followed by the leaders in Hawassa University.

To ascertain the above results, a confirmatory factor analysis was also carried out. The five factors were then subjected to linear regression analysis in order to measure the success of the model and predict causal relationship between independent variables (Laissez-faire Leadership, Democratic Leadership, Transformational Leadership, Transactional Leadership, and Autocratic Leadership), and the dependent variable (Employee Performance).

Table 13: Coefficient of Determination (R²)

Model Summary				
Model	R	RSquare	Adjusted RSquare	Std. Error of the Estimate
1	.769 ^a	.591	.525	.778
a. Dependent Variable: Employee performance				
b. Predictors: (Constant), Autocratic leadership, Democratic leadership, Transformational leadership, Laissez-faire leadership, Transactional leadership				

The regression model results of leadership style with the coefficient of determination (R²) = 59.1% and R = 0.769 at 0.05 significance level. The coefficient of determination indicates that 59.1% of the variation on employee's performance is influenced by predictors (leadership style). This shows that there exists a positive relationship

between leadership style and employee performance. The test of beta coefficient shows that there is a significant relationship between leadership styles and employee performance as positive as well as negative. However, this is still a good model as Cooper and Schinder, (2013) pointed out that a small value of R^2 (0.10-0.20) is acceptable in social science research.

Regression Analysis

In this study, multiple regression analysis also carried out to see the relationship between the dependent variable and the stated independent variables.

Analysis of Variance (ANOVA)

The study used ANOVA to establish the significance of the regression model. In testing the significance level, the statistical significance was considered significant if the p-value was less or equal to 0.05. The significance of the regression model as in Table 14 indicates with P-value of 0.000 which is less than 0.05. This indicates that the regression model is statistically significant in predicting factors of employee performance. Based on the confidence level at 95% indicates high reliability of the results obtained. The overall ANOVA results indicate that the model was significant at $F = 43.717, p = 0.001$.

Table 14: ANOVA Results

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	185.864	5	37.173	43.717	.000 ^b
	Residual	178.562	210	.850		
	Total	364.426	215			
a. Dependent Variable: Employee performance						
b. Predictors: (Constant), Autocratic leadership, Transformational leadership, democratic leadership, transactional leadership, Laissez-faire leadership, Transactional leadership						

Table 15: Multiple Regression Results

Coefficients						
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.187	.311		.600	.549
	Laissez-faire leadership	-.060	.049	-.063	-1.233	.219
	Democratic leadership	.253	.088	.193	2.889	.004
	Transformational leadership	.410	.065	.327	6.349	.000
	Transactional leadership	.441	.074	.407	6.001	.000
	Autocratic leadership	-.002	.049	-.002	-.044	.965
a. Dependent Variable: Employee performance						

b. Predictors: (Constant), Autocratic leadership, Transformational leadership, Democratic leadership, Transactional leadership, Laissez-faire leadership,

The regression equation is $Y = 0.187 + (-0.060)X_1 + (0.253)X_2 + (0.410)X_3 + (0.441)X_4 + (-0.002)X_5$

Where; Y = Dependent variable (Employee Performance); X₁ = Laissez-faire Leadership; X₂ = Democratic leadership; X₃ = Transformational Leadership; X₄ = Transactional Leadership; X₅ = Autocratic leadership

The regression equation has established that taking all factors into account (laissez-faire leadership, democratic leadership, transformational leadership, transactional leadership, and autocratic leadership) constant at zero employee performance was 0.187. The findings also show that taking all other independent variables at zero, a unit increase in transformational leadership will lead to a 0.410 increase in the scores of employee performance; a unit increase in transactional leadership will lead to a 0.441 increase in employee performance and a unit increase in democratic leadership will lead to a 0.253 increase in employee performance. Beta coefficient value is -0.060 and -0.002 with a significant value of 0.219 and 0.965 respectively which is higher than 0.01 and 0.05. Hence, laissez-faire and autocratic leadership found to have a negative significant impact on employee performance. This finding is similar to Jayasingam and Cheng (2009) where they found autocratic power produces negative influence on employee performance. This has been supported by Puni, et al (2014) and Akor (2014) research. From the table we can see that the predictor variables of transformational leadership, transactional leadership and democratic leadership got variable coefficients statistically significant since their p-values are less than the common alpha level of 0.05.

Table 16: Hypotheses Testing

Research Hypothesis	β	t	Sig	Comments
HO ₁ : Laissez-faire leadership has no significant effect on employee performance.	-.063	-1.233	.219	Accepted HO ₁
HO ₂ : Democratic leadership has no significant effect on employee performance	.193	2.889	.004	Reject HO ₂
HO ₃ : Transformational leadership has no significant effect on employee performance	.327	6.349	.000	Reject HO ₃
HO ₄ : Transactional leadership has no significant effect on employee performance	.407	6.001	.000	Reject HO ₄
HO ₅ : Autocratic leadership has no significant effect on employee performance.	-.002	-.044	.965	Accepted HO ₅

5. Conclusion and Recommendations

The University expects employees to perform, directors expect their followers to perform too. The results of this study provided insights into what employees need from their immediate boss and the kind of leadership behavior they prefer. This information could be used to help develop strategies and meet organizational needs through leadership behavior development. It is understood from the study that transformational leadership, transactional leadership and democratic leadership styles help administer employee performance in Hawassa

University. Further the three mentioned leadership styles reduce poor employee performance hence helping HU to have high performing employees. Laissez-faire leadership style and autocratic leadership style had a negative correlation with employee performance. This shows that autocratic leadership style and laissez-faire leadership style are not an effective leadership style to improve employee performance. According to the results, some strategies for improving directors/team leader's leadership skill and employee performance could be suggested.

- Employees would like to see more of idealized attributes in their directors/team leaders; therefore, the directors/team leaders should act to promote faith from their subordinates.
- The directors/team leaders should have a sense of innovation and also encourage followers to seek more opportunities and possibilities, not just achieve performance within expectations.
- Leaders should understand the values of the followers and try to build their department strategies, plans, processes and practices that will likely to improve the wellbeing of staff.
- Respect for individual is also very key in building a positive relationship between leaders and employees.
- Leaders should monitor performance on a timely basis to enhance the employees' performance.
- Whenever a problem arises, directors/team leaders should try to intervene into the issues as soon as possible. They should not wait until the problems become more serious just take action.
- It is obvious to see that autocratic leadership is not an effective leadership style. So directors/team leaders should try to avoid this style.
- Directors should enrich the knowledge about the perceptions of leaders' behaviors and how these behaviors relate to employee performance.
- Leadership development programs could help leaders to understand the relationships between effective leadership styles and employee performance.
- Organization can develop certain training programs or mentoring by professionals for the directors and team leaders to improve directors/team leaders leadership skill.
- The organization and directors should involve employees in decision making and leadership improvement and provide training and teamwork facilitation.
- Policies and practices related to rewards or feedback system in the organizations can be adjusted to meet employees' needs in order to improve employee performance.
- In a summary, some strategies and managerial plans need to be developed in order to attain better performance.

REFERENCES

- [1]. Aboshaiqah, A. E., Hamdan-Mansour, A. M., Sherrod, D. R. Alkhaibary, A. & Alkhaibary, S. (2014). Nurses' Perception of Managers' Leadership Styles and Its Associated Outcomes. *American Journal of Nursing Research*, 2 (4), pp 57-62..
- [2]. Armstrong, M. (2004). *Human Resource Management Theory and Practice*. London: Bath Press Ltd.
- [3]. Bass, B.M. & Avolio, B. J. (1990). The implications of transactional and transformational leadership for individual, team, and organizational development. *Research in Organizational Change and Development*, 4: pp 231-272.
- [4]. Bass, B.M. (1985). *Leadership and performance beyond expectations*. Free Press: New York.
- [5]. Bass, B.M. (2000). The future of leadership in learning organizations. *Journal of Leadership Studies*, 7, pp 18-40.

- [6]. Bryman, A.(1992).Charisma and leadership in organizations. Sage:London. Burns, J.M., (1978).Leadership.Harper and Row: New York.
- [7]. Butler, John K. et. al. (1999). TransformationLeadership, Upward Trust and Satisfaction in Self-managed Work Teams,Organization Development Journal, 17, pp. 13-16.
- [8]. Conger, J.A.& Kanungo,R.N.(1994).Charismaticleadershipinorganizations: Perceivedbehavioral attributesandtheir measurement.Journalof Organizational Behavior, 15, pp 439-452.
- [9]. Cummings,L.L.AndSchwab,D.P.(1973).Performance InOrganisations: Determinants And Appraisal. Glenview: Scott, Foresman and Company.
- [10].Dvir,T.,Eden,D.,Avolio,B.,&Shamir,B.(2002).Impactoftransformational leadership on follower development and performance: A field experiment.AcademyofManagementJournal, 45, pp 35-744.
- [11].Fiedler,F.E.&House,R.J.(1988).LeadershipTheory andResearch:AReportof Progress,InternationalReviewofIndustrial andOrganisational Psychology, 19(88), pp. 73-91.
- [12].Gimuguni,L.,Nandutu,J.,& Magolo,A.(2014).Effectofleadershipstyleson performanceof local governments in Uganda. A caseof MbaleDistrict.
- [13].Ispas,A.,&Babaita,C.(2012).The effectsof leadershipstyle onthe Employees' JobSatisfactionandOrganizationalcommitmentfromthe HotelIndustry. Approaches in Organizational Management, 15(16), pp 254-262.
- [14].Kothari,C.R.(2004)Researchmethods:methodsandtechniques.2ndrevisededition. New Delhi: New AgeInternational (P)Limited
- [15].Kumar,R.(2005).Researchmethodology:astep-by-stepguideforBeginners.NewDelhi: SagePublicationsLimited
- [16].Paracha,A.Qamar, A.Mirza,Inam-ul-Hassan,and H.Waqas,(2012). Impactof LeadershipStyle(Transformational& TransactionalLeadership)On EmployeePerformance&MediatingRoleofJobSatisfaction”Study of Private School(Educator)In Pakistan,"Global JournalofManagement and Business Research,12
- [17].Pradeep,D.D., &Prabhu,N.R.V.(2011).Therelationshipbetween effective leadershipandemployee performance.JournalofAdvancementsin Information Technology, 20, pp 198-207.
- [18].Raja, A. S., Scholar, D., Palanichamy, D., & Drs, C. (2015). Therelationship between effective leadershipandemployee performance.InternationalJournalof Research in Commerceand Management
- [19].Rasool et al(2015).Leadership styles andits impact onemployee'sperformancein healthsectorofPakistancity .Universityresearchjournal, 05 (01).
- [20].Rasool,H.F.,Arfeen,I.U.,Mothi,W.,&Aslam,U.(2015).Leadershipstylesand itsimpacton employee'sperformanceinhealthsectorofPakistan. UniversityResearch Journal, 5(1)
- [21].Shafie,B.,Baghersalimi,S.&Barghi,V.(2013).TheRelationshipbetween Leadership Style andEmployee Performance.SingaporeanJournalof Business Economics andManagement Studies, 2,pp 21-29.
- [22].Tsigu,G.T.,& Rao,D.P.(2015).Leadershipstyles:theirimpactonjoboutcomesin Ethiopianbanking industry.ZENITHInternationalJournalofBusiness Economics&Management Research, 5(2), pp 41-52.

Era of Fintech Disruption in The Current Scenario of Banking Sector

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ABSTRACT

Globally the Banking sector has emerged as a new era of technology up gradation and its revolution have a vast impact on all the banks and financial institutions. The concept of FinTech in a nutshell, simply prompts the use of digital technology by startups to come up with innovative products and services namely mobile payments, finance alternative, online banking, Big data, and overall finance. FinTech launched as a technology which used as the back-end systems of banks and financial institutions. The FinTech banking has influenced in various applications and revolutionized the way consumers access their finances. As in the era of digitalization, customers are not keen to go for services provided by the traditional financial services industry rather they prefer services like quicker and safer because of this reason FinTech is acquiring vogue and induce disruption in the banking and other financial services. The study is carried out of explanatory and descriptive in nature as the data is collected from various fintech reports. The paper is broadly considered in the era of Fintech in the current scenario of Banking Sector by analysing the challenges, trends and reasons behind the disruption.

Keywords : Banking, Fintech, Disruption and Trends

I. INTRODUCTION

In the banking sector Fintech is used as the buzzword to the use of technology across all financial services functions. The very simplest task of replacing paper-based processes with software and applications is a best example for fintech at work. First & foremost Fintech is used as back-office functions by leveraging software to assist accounts of handling bank personnel, transactions execution, customer databases management, and so on. In spite of Presently, the transformation of fintech shows the operations of banks but fintech is the centre stage by making itself indispensable processes of customer. Every digital transaction, whether be an online shopping, exchange of foreign currency transactions, investment of stocks, or transfer money, is possible at the fingertips. Fintech emerged in the 21st Century with the combination of two words Financial Technology, the concept was initially employed as the technology of the back-end systems of established financial institutions and financial services which seek to improve and automate the use of services. Fintech is a core has been a transformed towards more consumer-oriented services, assists the companies, business owners for betterment of managing financial operations and processes which used especially with the software, algorithms and enhanced smartphones. Currently Fintech comprises in numerous industries and sectors profit & non-profit namely education, retail banking, fundraising and investment management.

The era of FinTech for banking has influenced numerous applications and revolutionized the way of consumers access their finances which ranges from mobile payment apps like square to investment and insurance companies as a potential threat to the brick-and-mortar or traditional banks and also includes the development and the usage of crypto-currencies such as bitcoin in the big money still lies in the traditional global banking industry and its multi-trillion-dollar market capitalization. **The financial technology in short Fintech is assumed to** be a contemporary transformation, yet the usage of technical know-how is to help financial services is by no means a recent phenomenon. It is an industry that introduced credit cards in the year 1950s and the internet banking in the year 1990s since the turn of the millennium, contactless payment technology. So far, fintech places in the public compactness has really began within the past three years:

Earlier in the year 2007–2009 financial crisis, the banking industry has been faced with lower interest rates, lower credit growth, enhanced regulation and compliance requirements, and an unrecognition. Besides these hazards, drastic transformation has taken place within the banking sector in recent years. A decennium, the biggest top ten banks from Europe or the US by property, since presently the largest ten are compared domineered by Asia-based banks. The rationale for this transformation is often traced due to the crisis and therefore the rise of Asia; banks have affected all the threats arising after the crisis, also on withstanding the digital disruption from raised competition of financial technology (FinTech) in retail and platform-based competitors. It is noted that the European and Japanese banks hardly cover their cost of capital as the profitability of the banking sector has been threatened and also that the capitalization of enormous technological companies namely Google, Amazon is completely double that of the JP Morgan Chase.

II. BANKING SCENARIO

Banking sector is enduring a transformation from being traditional to modern using technology and various trends like Artificial Intelligence, Big Data etc., together with highly specialized human capital. Globally, banks facing huge competition from other mediators in enhancing digitally as the of core businesses namely advisory services and payment. A paradigm shift in the usage of technology in progressing new business models & services has been evolving with the boost of the FinTech era, with innovative and automation of Information technology in financial services. The growth of the various new digital technologies and acquisition has accelerated considerably with the greater speed. User-friendliness in terms of the interface and transparency towards the customers. Tremendous impact of Digital technology has been increasing the competition of banking markets as a challenging. Banking is a customer-centric platform-based model, and incumbents which have to restructure.

Banks adopted variety of strategies so as to tap into the dynamic fintech arena which includes investment in venture capital-style, accelerator programmes, implementation of innovation centers with the objective of functioning with both fintech and clients on new, innovative ideas and concepts that keep developing business processes and the transactions. Increasing banks are understanding the significance and collaborations of bank-bank value together which drive progress further through greater standardization, interoperability and large-scale backing of industry initiatives. The digital disruption provides the potentiality to enhance productivity with innovation, supply diversity, and a more competitive financial system. Financial Institutions and Banks have

been authorizing their customers to form various payment transactions by utilizing the products and services. An example of Bizum of incumbent reshaping which is a joint mobile payment venture utilized by most Spanish banks as it allows customers in real time to send and receive monetary, connecting customers' bank accounts by linking them to their mobiles without in need of the use of IBANs (international bank account numbers). Another example is International Smart Card (ISC) is the service provided in Iraq is one of the most financially underserved regions of the Middle East which is partially owned by two public banks, commenced as an E-payment system but is benefiting as a strength for the means of electronically contributing salaries and benefits of government through a debit card to the million Iraqis.

III. ERA OF FINTECH DISRUPTION

The Era of fintech plays an essential role in the current scenario as the act of entering into the smart revolution provided customers with a speediest & easiest way to connect with banks and benefit real-time opinions regarding their bank accounts. The digital transformation in the today's world combined within banks flexibility has shifted the high degree of essence in the banking sector. Customers are no longer compete with long queues, waiting time to deposit funds, administer trades or even for a request of check book and another development of fintech era is the outbreak of online payment apps which integrate with bank accounts with various facilities such as fund transfers, online shopping, investments and mobile-to-mobile payments. Definitely, online platforms and applications are increasing as per the need of customers in a faster, smarter and more booming security protocols for the protection of customer data. Retailer and the customers want creative safety products like artificial Intelligence (AI), machine learning and progressive deceit analytics tools to safeguard their related data, transactions & properties. Fintech focus with a B2C which includes size of the market, views of consumer, business models, blockchain technology and company profiles. Collaboration of Fintechs and Bigtechs creates a new service is an essential opportunity for banks more complete transformations currently in the works in the financial industry and these fintech trends will simply impact on the involvement of funds which is from payment to banking. Few examples of fintech companies are as follows:

- PayPal is one of the prominent fintech companies which has a transaction volume of US\$333.8 billion.
- Stripe is the largest fintech company in US and also the largest competitors of one of PayPal's with a of worth US\$22.5 billion.
- Alipay, Chinapay, and Tenpay are the China's online payment market is influence by three services which has 66% of all digital transactions made in China.

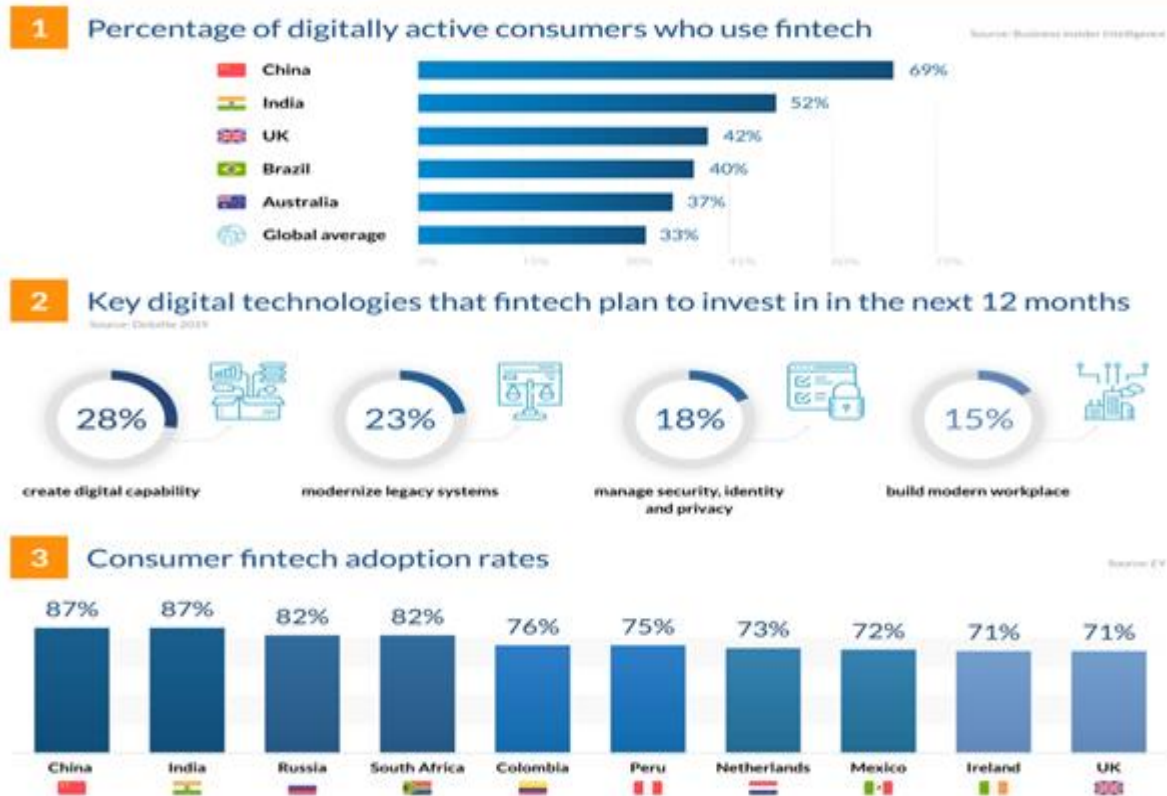


Fig 1 : Fintech Trends

Source: www.financesonline.com/fintech-trends

IV. KEY TECHNOLOGIES DISRUPTING BANKS & FINTECH

The tremendous progress of digitalization banks through the Fintech have reshaped the banking sector through innovative and effective cost which leads to customer satisfaction rather than product satisfaction at the level of their convenience to achieve and accelerate the pace of growth in the banking industry. With an everlasting advancement the Fintech industry is releasing new windows in the future of banking industry around the world for the traditional bankers. The below list deals the major trends of FinTech industry of banks and financial institutions which can expect beyond 2021

- **Robotic Process Automation (RPA)**

The year 2020 is a remarkable shift in banks and financial institutions are fully automated with robotic process automation (RPA) which will continue to assist help them in a more efficient and effective way as well as assist to ensure they meet the compliance requirements of federal and state. At the current scenario the advanced RPAs particularly don't have to be prioritized to achieve tasks which includes processes namely onboarding customer, verification, assessment of risk, analysis of data, security checks, data reporting and compliance processes as well as other major repetitive administrative activities.

- **Mobile Payment Innovations**

Innovation of the mobile payments in Fintech industry has an accelerated growth where the customers need payments to be instant, invisible, and free (IIF). Examples like Apple, Google, Alibaba and Tencent are have their own payment platforms and continues to rise advanced features like recognition of face, biometric access control and inducing fingerprint and other most popular payment methods in China like Wechat pay is used by hundreds of millions of users every day. A third-party online & mobile payment platform that is Alibaba's Alipay, presently the world's largest mobile payment platform. While many banks are continuing to adopt new technology is a way to increase operations and improve customer service to their competitive advantage.

- **Blockchain**

Blockchain is decentralized, distributed and a special computer file which is disrupting the banks to make things more efficient in the banking sector. Identifying the fraud, theft of cost in banks the blockchain has the potentiality to protect form these significant losses. In Fintech trends Blockchain expected to reach \$6,700 million by 2023 in the country like US. Banks utilizes for digital payments, management identity, and also for trading.

- E-Wallets

E-wallets is the massive growth of another trend of the rise of FinTech. Globally the major e-wallets like PayPal, Samsung Pay, Android Pay, and Apple Pay companies are used for a excessive purposes like ticket booking, remittances internationally, P2P payments, utility bills, top-up and etc and some are standalone namely Walmart pay and Starbucks. These E-wallet attract the customers due to their attractive & exciting offers like cashbacks, and reward points and soon. Most of the banks are recognizing the significance of the success behind the e-wallets which has jointly take part to embrace of the technological advancements.

- Artificial Intelligence & Machine Learning

The other major trend of fintech is Artificial intelligence (AI) and machine learning which is one of the main influences behind the growth and development of new technologies rapid in the FinTech industry. FinTechs can influence AI to evolve chatbots as a personal digital assistant to assist the customers in a simplest completeness of transactions to view their payments, account balances, or advice on getting personal savings or investment related to the customer's transaction history. In Banking artificial intelligence improve the financial literacy with customers and also advice regarding personal finances, opportunities regarding saving and investment and bring out the awareness of banking concepts

- Big Data and Open Banking

Big Data and Open Banking network provide banks to enable customers with personal and actionable insights during they following strict safety and protocols compliance. Banks are also giving relevant recommendations regarding product and service to the customers potentiality using divisions which are targeting only the very best qualified leads. However, none of those niche insights have an equivalent impact as big data that has been rigorously enriched. The shift of product-centric model towards customer-centric model has safely & speedily done because of the tech evolution of digital banking solutions. Banks and financial institutions still

have the most opportunity truly to innovate and deliver the customer satisfaction as one of the most important areas of fintech industry.

V. CHALLENGES

- Impact of banks and fintech operating together negatively due to the Customers' lack of exposure
- Trust worthy issues can create because of collaboration between the banks and fintech
- Banks face enhanced dependency on tech
- Competition of Banks and fintech operates together which leads to risk
- Integration of Block Chain

VI. CONCLUSION

To sum-up as the most of the banks are more customer-centric model with the development of technologies banks & fintech focused more on demand of customers safety and more friendly user the experiences of banking has guided the banks and financial services to readily adoption of FinTech. Current Scenario of FinTech is larger than ever as it includes everything in a digital way. In future, it is all set to become ever bigger with retail banking software, financial core banking software, and many other components coming under it. Only time will tell how big of an impact will FinTech have in our world.

VII. REFERENCES

- [1]. <https://www.finextra.com/blogposting/15105/five-ways-fintech-is-disrupting-the-financial-services-industry>
- [2]. <https://www.investopedia.com/terms/f/fintech.asp>
- [3]. <https://www.digipay.guru/blog/the-impact-of-fintech-on-banks-and-financial-services/>
- [4]. <https://financesonline.com/fintech-trends>



An Investigative Study On : Role of Hr Analytics for Predictive Business Decision In 4.0

Sub Themes : Analytics: Business Analytics and Business Decision Making

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ABSTRACT

Background

Data is everywhere. In a way, the world is moving towards a print-based industrial society to a technology-based internet society. The recent development in the fourth industrial revolution 4.0 requires a shift in the business sector towards a digitalized world.

Aim

The study's focus is to analyze the role of HR analytics in supporting the business decision in the fourth industrial revolution. It also addresses how HR functions integrate with HR analytics and its implications in predictive business decisions.

Method

An extensive review of literature has been reviewed critically in the area of HR analytics and the use of HR analytics in the HR domain. This study is conceptual and descriptive, and the results are justified using secondary data sources collected from a systematic literature review.

Results and conclusions

HR is a data-rich and analytics intensive area in the corporate world and has gained a competitive advantage due to its significance. HR activities include repetitive task and huge voluminous data. For insightful business decisions, HR analytics plays a significant role and can predict and build an HR business model. HR embraces Robotic Process Automation too to increase its process capabilities. It improves the functions of the business process and fits with Industry 4.0.

Keywords : HR Analytics, Data, Smart factory, Industry 4.0, People analytics.

INTRODUCTION

Industry 4.0, the technological breakthrough in the world, transforms the nature of business. Production involves decentralized and communication between machines, materials, and manpower (Kragermann, 2015). It is conceived as a smart factory. Business environment harnessing automation, artificial intelligence, machine learning, IoT, and robots. The earlier model of the personnel department will be an ingrained human who used to make decisions, whereas now, HR analytics can build a model and predict the behavior of employees in the workplace, helping in business decision-making.

A report by Global Talent Trends predicts that companies are reshaping the way they used to implement HR practices to 92% by the use of HR analytics. A report by LinkedIn predicts that there is a 77% rise in HR analytics professionals; nearly 14% of the HR jobs are related to HR analytics. Data is everywhere; we are starving for information. Using HR analytics in business address the gap between data and information for insightful business decisions. The recent development in the fourth industrial revolution 4.0 requires a shift in the business sector towards a digitalized world.

INTRODUCTION

Organizations are driven by competitive pressure due to digitalization and automation. The success of any business organization lies with the manpower it employs. The workforce, people, manpower are the base for organizational success. Importantly HR department integrates and manages other interrelated functions of an organization. To sustainable and competitive, businesses need to address the customer as early as possible and a 24/7 approach. Today's world is data-driven; if companies fail to implement, they will become irrelevant.

HRA is coined as analytical decision-making tools that significantly enhance organizational performance through complex decision-making (Akter, Wamba, Gunasekaran, Dubey, and Childe (2016). A very complex business task is decision-making. It has changed in the industry revolution 4.0 once the decision is guided by the instinct, ingrained wisdom, and intuition of people at work. Modern corporate uses data and analytics for predictive business decision.

HR is more about the feelings and emotions of individuals in organizations. What data has got to do with it? Can we even measure the behavior of employees? Yes, implementing HR analytics helps predict and build a model to address the organization's HR problems. Around years in human resources, management analytics is there. Back to early 1900s the first book coined by Jac Fitz-enz on "How to measure Human Resource management" (Fitz-enz, 1995) indicates analytics were there. But the ways and means of harnessing data have changed over time due to advancements in technology and industrial revolution 4.0.

PROBLEM STATEMENT

Investment over employees will be identified through performance outcomes. One of the most influential capitals of company performance is its human resource (Momin, 2015). Though leaders invest significant investment in their HR, they cannot measure the ROI in employees Etukudo R. U. (2019). The 3 R principles in

HR serve as the fundas for enhanced process capabilities. Recruitment, Reward and Retention, and most essentials functions of an organization. Using HR analytics in these functions would probably support better predictive business decisions. These three functions incur the cost to organizations.

A study by (Kapoor & Kabra, 2014) justifies that companies fail to implement analytics will lag behind its competitors in financial performance. We are rich in data but starving for information. To derive, an insightful business decision, data needs to convert into information. For that, companies need analytics to analyze business data points in a short period. (Akter et al., 2016) In his report, the companies' market share seems to be diminishing if it is not data-driven and analytical (89 % of the respondents in a global survey believe like so). Exponential organizations are more tech-savvy; thereby, HR analytics will fit their gap.

LITERATURE REVIEW

Change is uncertain, and the HR landscape is changing. One of the primary distinguishing factors is human resources, which create organizational value (Bharti, 2017). Human resource management development integrates with data processing and information, which restructure the business ecosystem (Mohammed & Quaddas, 2019).

Companies fail to forecast and make predictive decisions that will lose their potential. Decision making is the process of choosing a best alternative out of the choices available. Business relies on demand and supplies; therefore, "Prediction" is the need of the hour. Decision-making in HR focuses on employee traits; their performance output, motivation, relationship, and stress have been considered critical organizational processes (Griffin and Moorland, 2011).

HR is one of the data-rich resourceful departments. Over time, accumulated data needs to be organized, analyzed, and interpreted for effective business decisions. HR analytics uses statistical techniques to organize, collect, and interpret data for evocative decision (Levenson 2011). Also, it focuses on measuring the factors influence workforce and business performance (Sant, 2016).

An article presented by the Wall Street Journal, 2015, says that: "The Algorithm That Tells the Boss Who Might Quit" helps predict employee attrition. HRA at IBM helps to track its increased investment by \$ 300,000,000 over four years and reduce turnover by 25% (2015). "Work Rules," a book by Laszlo Bock (2015), the Senior Vice President of HR, mention that they are using statistics and automation in people management to find the best fit.

RESEARCH METHODOLOGY

The present study focuses on collecting and analyzing existing literature in the field of HRA. The research is conceptual, which tries to describe the phenomenon being a study in the arena of HRA. The research follows a methodological approach; first, an extensive literature review supports to make a conclusive statement on the researched area. Then secondary data points are collected from various sources to derive inference. Third, the study proposes a model for the role of HR analytics in predictive business decisions.

ANALYSIS AND INTERPRETATION

Analytics is all around us. Considering the budget of a home to the union budget, we use data and analytics for decision making. Earlier days, we used calculators, then spreadsheets, now algorithm can do this work. Eventually, analytics' goal is to make use of historical data to gain insights and informed decision-making. It can be proficient with statistical tools, machine learning, artificial intelligence, and algorithms. Based on the past data points, prediction can be possible.

The future revolution will belong to self-relied data points and data discovery. To seize opportunities and predict the business market's risk, business analytics will be the heart of the HR function.



Fig 1: Analytics in HR Functions

Source: Pixentia 2016

The above model explains the extensive use of analytics in HR functions, which closely relates to significant decision making proactively and predictively. HRA precisely focuses on improving employee performance and ROI. HR data are more sensitive and will not be constant. The problem arises here because of inconsistent data involved in the analysis to derive insightful business solutions. HR decisions are tough to make if non-availability of proper data. The underlying question is, How HR analytics helps to make a predictive decision in an organization. Do data only enough to make a decision. No, we need metrics - measurement to make a decision. Through a qualitative study, we can measure the feelings and emotions of people at work. The responses will convert into numbers, and it can be fed into analysis to know the trend.

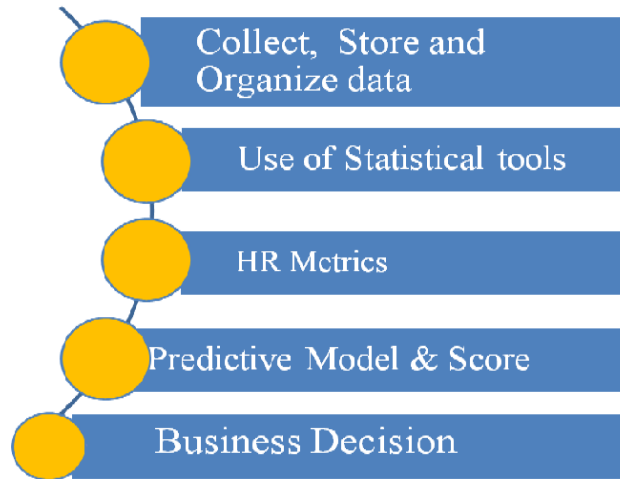


Fig 2: HRA Approach towards predictive business decision

Fig 2 is the proposed model based on the knowledge gained through a review of the literature. It focuses on an organized way of handling data to derive an insightful predictive decision making in business. Data need to clean, structure, and organized. Cost effective and required statistical tools need to be identified. For sound and precise business decisions, HR metrics need to be defined clearly. The predictive analytics model has to build for every HR function based on the gathered data, and scores will be derived. Historical data helps to yield predictive business decisions. Predictive modeling such as Turnover Modelling, Response Modelling, Predictive retention Modelling, Risk Modelling, and talent forecasting apply to HR function for effective business decisions across the domain (Handa and Garima, 2014; Blankenship, 2011; Smeyers, 2013). Companies with advanced people analytics tools have 30% higher stock prices, 79% higher return on equity, and 56% higher profit margin.

DISCUSSIONS

As William Edward Deming, an American engineer, statistician, professor, author, lecturer, and management consultant, rightly pointed out that” You cannot manage things, what you cannot measure.” To put things in the right place, HR analytics serves a lot. Data has to be statistically validated to be reliable to make a better decision. There are tools for HR available; better tools will give you an outstanding result.

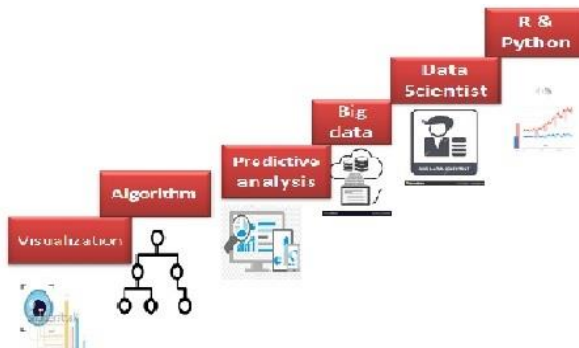


Fig 3: Growth of Analytics

The above fig 3 displays the growth of analytics in HR over a while and how companies utilize data and statistical tools for very cohesive decision-making in business. HRA helps in better decision making, no more

complexity, visibility, security & transparency, logical thinking, future is digital, reduction in manpower, and enhancing efficiency. A survey by Deloitte survey in 2018 results that in India, 83% of the people rank HR analytics as a significant trend in comparison with Brazil (85%) & China (81%).

LIMITATIONS, CHALLENGES AND FUTURE IMPLICATIONS

The study does not take up the form of empirical due to time constraints. The models presented here are based on the theory of literature observed. Hence there might be bias associated with this proposed model of the HRA approach towards decision making. HR functions will take a new form as more organizations integrate analytics. We will start to see more obstacles and challenges in the implementation part. What we know, HR, as today, may not be the same. As the business ecosystem changes, the tools and techniques used for decision making will also change. To rely on the ever-changing business environment, continuous updation is essential. Therefore future studies may approach the challenges and obstacles faced by companies in using HRA tools.

CONCLUSION

An organization's success lies in how resourcefully things can manage effectively and be exposed to less risk. There is a growing need for data, analytics in business decisions. This conceptual study aims to bring out HR analytics practices and investigate its importance in business decisions predictively. We discussed the different areas by which analytics address HR functions and proposed a model for the HRA approach in business decision-making. This research also addresses the significance of metrics and statistical tools in implementing HR analytics in organizations. HR Analytics, with the aid of big data, is described as the ability to have the most reliable analytical-driven Evidence-based HR related decisions up to date (Chattopadhyay, 2017; Sousa, 2018). As presented in the model, HR Analytics gathers internal and external data, which involves manipulating and data reporting for a generous decision making (Zeidan, S., & Itani, 2020).

HRA supports more significant decision-making practices. As business exists in the digital world, technology intervention is a buzz word that produces noise. No one can deny this, and programming languages are the one which shapes the entire world. Analytics in HR has revolutionized the whole HR functions, and companies need to fit with it to predict and rely on this data world of the fourth industrial revolution. The vast literature referred to implementing predictive modeling in HR analytics depends on the size and resources a company has. Implementing such practices require an industry-wide analysis and its trends across domains. HRA is growing rapidly, leads to 100% accuracy in decision making for HR (Mishra et al., 2016).

To be competitive, survival, better fit, and strategic decision-making, HR analytics is the need of the hour. The drawn conclusions will help realize the choice of HR analytics and prospects for corporates to implement HRA for predictive decision-making. Organization success lies with the extent to which you are trendy and updated to fit with the industry revolution 4.0 by adopting HRA.

REFERENCES

1. Akter, S., Wamba, S. F., Gunasekaran, A., Dubey, R., & Childe, S. J. (2016). How to improve firm performance using big data analytics capability and business strategy alignment? *International Journal of Production Economics*, 182, 113- 131. doi:10.1016/j.ijpe.2016.08.018
2. Chattopadhyay, D., Biswas, B. D., & Mukherjee, S. (2017). A new look at HR analytics. *GMJ*, 11(1), 41-51.
3. D. Handa and Garima, "Human Resource (HR) Analytics: Emerging Trend In HRM (HRM)", *IJRCM*, Vol. No. 5, Issue No. 06, June 2014, ISSN 0976-2183
4. Etukudo, R. U. (2019). *Strategies for Using Analytics to Improve Human Resource Management*.
5. Fitz-enz, J. (1995). *How to measure human resources management* (2nd ed.). New York, NY: McGraw-Hill.
6. Griffin, R. W., & Moorhead, G. 2011. *Organizational behavior*. Cengage Learning
7. <https://lesley.edu/article/how-hr-analytics-are-changing-business>
8. <https://www.inc.com/cameron-albert-deitch/linkedin-global-talent-trends-2020-people-analytics.html>
9. <https://www.orgvue.com/resources/research-report/strategic-workforce-analytics-research-report/>
10. <https://www.peoplesmatters.in/news/technology/india-witnesses-a-77-growth-in-hr-analytics-professionals-report-18278>
11. <https://www.wsj.com/articles/the-algorithm-that-tells-the-boss-who-might-quit-1426287935>
12. Kapoor, B., & Kabra, Y. (2014). Current and future trends in human resources analytics adoption. *Journal of Cases on Information Technology*, 16, 50-59. doi:10.4018/jcit.2014010105
13. L. Smeyers, "7 Benefits of Predictive Retention Modeling (HR analytics)." *iNostix* (May 6, 2013)
14. Levenson, A. 2011. Using targeted analytics to improve talent decisions. *People and Strategy*, 34(2), pp 34.
15. M. Blankenship, "Managing and Measuring Talent Risk," *SHRM Foundation Thought Leaders Conference*, Oct 2011. [16]
16. Mishra, S. N., Lama, D. R., & Pal, Y. (2016). Human Resource Predictive Analytics (HRPA) for HR management in organizations. *International Journal of Scientific & Technology Research*, 5(5), 33-35.
17. Mohammed, D., & Quddus, A. (2019). HR Analytics: A Modern Tool in HR for Predictive Decision Making. *Journal of Management*, 6(3).
18. Momin, W. Y. M. (2015). HR analytics transforming human resource management. *International Journal of Applied Research*, 1, 688-692.
19. Parenteau, Josh. "Critical Capabilities for Business Intelligence and Analytics Platforms." *Gartner, Inc.* March 10, 2016.
20. Sousa, M. J. (2018). HR analytics models for effective decision making. *14th European Conference on Management, Leadership and Governance, ECMLG*, 256-263.
21. Zeidan, S., & Itani, N. *HR Analytics and Organizational Effectiveness*.



Management Practices in Business Sustainability in the Current Scenario of Technology Disruptions

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ABSTRACT

The new evolution of the production and industrial process called Industry 4.0, and its related technologies such as the Internet of Things, big data analytics, and cyber-physical systems, among others, still have an unknown potential impact on sustainability and the environment. In this current scenario the sustainability impact and challenges of Industry 4.0 from four different scenarios: deployment, operation and technologies, integration and compliance with the sustainable development goals, and long-run scenarios. From these scenarios, the analysis resulted in positive or negative impacts related to the basic production inputs and outputs flows: raw material, energy and information consumption and product and waste disposal. The main results, identified are both positive and negative expected impacts, with some predominance of positives that can be considered positive secondary effects derived from Industry 4.0 activities. However, only through integrating Industry 4.0 with the sustainable development goals in an eco-innovation platform, can ensure environmental performance. This can contribute to stakeholders, practitioners and governments to advance solutions to deal with the outcomes emerging through the massive adoption of those technologies, as well as supporting the expected positive impacts through policies and financial initiatives.

Disruptive technology is an innovation that alters the way the consumers, industries, or businesses operate. Of recent disruptive technology includes e-commerce, online news sites, ride-sharing apps, and GPS systems.

Keywords : Industry 4.0, Internet of Things, Sustainability, Environmental Sustainability, Sustainable Development

INTRODUCTION

A new agenda, new approach, and a new voice for business will help companies to anticipate the challenges and embrace the opportunities of the future.

It is most essential to look ahead for sustainable business movement more broadly, and maintain the focus. Business as usual won't get the job done- and sustainability as usual wont suffice. We have to avoid catastrophic climate change, build truly fair and inclusive economic growth, and navigate a radically reshaped world, it's the time to change. We within ourselves to grasp the ability to reorient business and turn the tide on climate change, deliver economic opportunity to all, and build connected societies in which all people can live in dignity and respect.

Businesses that thrive in future will be those that figure out how to harness these changes and to address real human needs placing sustainability at the heart of business strategy.

The wave of changes is sweeping over the world creating a new operating environment for business. It's a historical change that when companies everywhere have faced such all-encompassing change. Nearly every business is asking itself fundamental questions about the nature, shape, and future of its business.

LITERATURE REVIEW

Disruptive technology is a newly developed technology that creates much more value than the existing technology and has the potential to drastically change the way to work, live, do the business and increase the economic output. A disruptive technology makes it more open and affordable to a much bigger population.

True Disruptive Innovation Examples

- ✓ Steel mini mills. "Mini mills" dramatically disrupted the steel industry once dominated by the great integrated steel companies of the 20th century.
- ✓ Video streaming.
- ✓ Radios.
- ✓ Online encyclopaedia and reference.
- ✓ Smartphones.
- ✓ Personal computers.
- ✓ Retail medical clinics.
- ✓ Photography.

Netflix Clayton Christensen popularized the term "disruptive innovation" in his iconic book, "The Innovator's Dilemma," published in 1997. The primary reason why Netflix is disruptive is that, when it launched its mail-in subscription service, it didn't go after the core customers of competitors like Blockbuster.

five of the most disruptive technologies paving the way for the world of tomorrow:

- ✓ Artificial Intelligence.
- ✓ Block chain.
- ✓ Virtual/Augmented Reality.
- ✓ Internet of Things.

Disruptive innovations that take a share of the market can deliver growth opportunities to companies adapted to leading new trends. It can benefit both competition and consumers by providing better, cheaper products and more accessible services.

'Disruptive' technologies include Social Media, Big Data, Robotics and new forms of Additive Manufacture. Not every emerging technology will alter the business or social landscape—but some truly do have the potential to disrupt the status quo, alter the way people live and work, and rearrange value pools

With conscious consumerism on the rise, sustainability is no longer just a consumer trend but a business imperative for many brands.

Environmental Science For Dummies

1. Reduce household energy use. Energy conservation is itself a source of energy.
2. Eat locally. A powerful way to live more sustainably is to eat locally.

3. Dispose with disposables.
4. Plant seeds.
5. Recycle.
6. Resell and donate items.
7. Drink from the tap.
8. Save water.

Business sustainability, also known as corporate sustainability, is the management and coordination of environmental, social and financial demands and concerns to ensure responsible, ethical and ongoing success. Depletion of non-renewable resources, for example, is obviously not a sustainable practice.

Disruptive Innovation refers to a technology whose application significantly affects the way a market or industry functions. An example of modern disruptive innovation is the Internet, which significantly altered the way companies did business and which negatively impacted companies that were unwilling to adapt to it.

A disruptive technology is one that displaces an established technology and shakes up the industry or a ground-breaking product that creates a completely new industry. Harvard Business School professor Clayton M. Christensen coined the term disruptive technology.

Emerging technologies are often perceived as capable of changing the status quo. Emerging technologies include a variety of technologies such as educational technology, information technology, nanotechnology, biotechnology, cognitive science, psycho technology, robotics, and artificial intelligence.

Seven different types of disruptive technologies

- ✓ Cloud computing. An obvious one for us, this has completely revolutionised how IT and tech firms operate cloud computing replaced hardware.
- ✓ Internet of things.
- ✓ Mobile Internet.
- ✓ Renewable Energy.
- ✓ 3D Printing Technology.
- ✓ Next-gen storage solutions.

Disruptive Strategy enables you to make innovation a reality. Created by Clayton Christensen, who coined the theory of disruptive innovation, this online course will equip you with the skills and techniques to develop executive-level strategy, organize for innovation, and discover customer jobs to be done.

A disruptive business model employs a strategy for creating new business markets by improving upon or making a change to an existing business model. In the course of the growth of these new markets, it eventually uproots established businesses, also called incumbents.

The two characteristics of disruptive innovations (sometimes referred to as disruptive technologies) First, they come to market with a set of performance attributes that existing customers don't value. Second, over time the performance attributes improve to the point where they invade established markets.

Sustainability is important for many reasons including: Environmental Quality – In order to have healthy communities, we need clean air, natural resources, and a nontoxic environment. Growth – UNTHSC's enrolment continues to grow, so we require more resources such as energy, water, and space.

The principles of sustainability are the foundations of what this concept represents. Therefore, sustainability is made up of three pillars: economy, society, and the environment. These principles are also informally used as profit, people and planet.

Sustainability emphasizes the need to think in more holistic and long-term ways to make decisions that meet our needs in the present without diminishing the ability of future generations to make decisions that meet their needs.

5 easy ways to be more sustainable and save money in 2020

1. Consume less. By far the biggest change people can make is to not consume.
2. Travel smarter. Climate change activist Greta Thunberg made headlines across the country by traveling by ship in 2019 rather than flying.
3. Eat more vegetables.
4. Give sustainably.
5. Don't give up.

“ Key Performance Indicators” (KPIs) of the plant, many of which are not performing good.

Business sustainability has come a long way. From the dawn of the modern environmental movement and the establishment of environmental regulations in the 1970s, it has become a strategic concern driven by market forces.

More than 90 percent of CEOs state that sustainability is important to their company's success, and companies develop sustainability strategies, market sustainable products and services, create positions such as chief sustainability officer, and publish sustainability reports for consumers, investors, activists, and the public at large.

This trend will not abate anytime soon. Surveys show that 88 percent of business school students think that learning about social and environmental issues in business is a priority, and 67 percent want to incorporate environmental sustainability into their future jobs. To meet this demand, the percentage of business schools that require students to take a course dedicated to business and society increased from 34 percent in 2001 to 79 percent in 2011, and specific academic programs on business sustainability can now be found in 46 percent of the top 100 US master of business administration (MBA) programs.

For all this interest, we should expect the world to become more sustainable. But problems such as climate change, water scarcity, species extinction, and many others continue to worsen. Sustainable business is reaching the limits of what it can accomplish in its present form. It is slowing the velocity at which we are approaching a crisis, but we are not changing course. Instead of tinkering around the edges of the market with new products and services, business must now transform it. That is the focus of the next phase of business sustainability, and we can see signs that it is emerging.

Enterprise integration is geared toward present-day measures of success; market transformation will help companies create tomorrow's measures. The first is focused on reducing unsustainability; the second is focused on creating sustainability. The first attends to symptoms; the second attends to causes. The first focuses primarily inward toward the health and vitality of the organization; the second expands that focus to look outward toward the health and vitality of the market and society in which the organization operates. The first will help future leaders get a job in today's marketplace; the second will help them develop a target for a lifelong career. The first is incremental, the second transformational.

Changing the way we do business is essential to accept the challenges of environmental degradation. The market is the most powerful institution on earth, and business is the most powerful entity within it. Business transcends national boundaries, and it possesses resources that exceed those of many nation-states. Business is responsible for producing the buildings we live and work in, the food we eat, the clothes we wear, the automobiles we drive, the energy that propels them, and the next form of mobility that will replace them. This does not mean that only business can generate solutions, but with its unmatched powers of ideation, production, and distribution, business is best positioned to bring the change we need at the scale we need it.

Sustainable Business

In its first incarnation, business sustainability represents a market shift. Market pressures bring sustainability to business attention through core management channels and functions. This began with Nixon-era government regulation and grew to include insurance companies, investors, consumers, suppliers, buyers, and others through the 1980s and 1990s.² Such market pressures can emerge from numerous sources: coercive drivers—from domestic and international regulations and the courts; resource drivers—from suppliers, buyers, shareholders, investors, banks, and insurance companies; market drivers—from consumers, trade associations, competitors, and consultants; and social drivers—from non-profit organizations, activist groups, the press, religious institutions, and academia.

While corporate social responsibility (CSR) is one response to such pressures, companies have sought to improve competitive positioning by linking sustainability and corporate strategy. This involves translating the issue into the core language of business management: operational efficiency, capital acquisition, strategic direction, and market growth. In each case, the firm has an established model that it can use to conceptualize the issue and formulate a response. In this way, sustainability becomes much like any other business threat, where market expectations change and technological developments advance, leaving certain industries to adapt or face demise while others rise to fill their place.

These are all signs that the market has shifted and continues to shift. Today, consumers can buy sustainable products, stay in sustainable hotels, eat sustainable foods, and use sustainable cleaning products. While this greening of the market is a good thing, it is not actually solving the root problems it was meant to address. Our world continues to become less, not more, sustainable.

While business sustainability has been going mainstream, the world has witnessed unprecedented human impacts on the natural environment that threaten the viability of life on Earth.

The first phase includes at least four new ways of conceiving their approach to operations, partnerships, government engagement, and transparency.

“We are entering a very interesting period of history where the responsible business world is running ahead of the politicians” and taking on a broader role to “serve society.”

The next phase of business sustainability calls for a transformation of the market, discarding such outdated notions as treating the environment as a limitless source of materials and sink for waste, seeing economic value as the only measure of nature’s worth, encouraging unbridled consumption, and considering perpetual economic growth as even possible. Corporate decision makers have a key role to play in facilitating this transition. Instead of accepting the rules of the market as given, they must change them to incorporate the planet’s KPIs. For example, to turn around the KPI of climate change, the market must go carbon neutral and

eventually go carbon negative. We don't yet know how to do that, but we know that it cannot be done by one company or one product. It requires a change in the overall market.

Disruptive technology is an innovation that alters the way the consumers, industries, or businesses operate. Of recent disruptive technology includes e-commerce, online news sites, ride-sharing apps, and GPS systems.

SCOPE :

Disruptive technology is an innovation that alters the way the consumers, industries, or businesses operate. Of recent disruptive technology includes e-commerce, online news sites, ride-sharing apps, and GPS systems.

New conceptions of operations :

Market transformation calls for optimizing supply-chain logistics to reduce risks from numerous factors such as disruptions due to increased storm severity caused by climate change; current and future resource availability and price volatility; accelerating emissions and concerns for public health and the environment; and the future resilience of business and civil society. These risks can directly affect assets and operations, availability and costs of inputs, regulation of sourcing and distribution, workforce availability and productivity, and stakeholder reputation. For instance, Nestlé, Coca-Cola, Cargill, and General Mills have all faced threats to supply chains due to the decreased availability of water, a once-plentiful resource now scarcer because of climate change and overconsumption.

New conceptions of transparency :

The only way that market transformation will be successful is through trust, and trust can be gained only through greater transparency. The expansion of corporate influence in society, particularly as it relates to government, will make some justifiably uneasy. But robust reporting mechanisms can help allay those fears and also help protect companies from the effects of misconduct, including legal liability and penalties. To be sure, companies are already disclosing numerous sustainability indicators through established standards, such as the globally recognized But transparency goes further as companies face increasing demands for data, for both internal management and external validation, under the watchful eye of activists, investors, suppliers, buyers, employees, and customers. The gathering and dissemination of such information can open up new awareness of supply-chain risks and opportunities. Going beyond the supply chain, companies also look to novel partnerships outside standard modes of shifting the market, including non-profit organizations, the government, competitors, and seemingly unrelated companies.

AIMS AND OBJECTIVES :

New Ways of Doing Business:

Market transformation not only compels more systemic business strategies but also challenges traditional ways of conceiving business itself. It demands new conceptions of corporate purpose, notions of consumption, and models and metrics of business success.

MSMEs from multiple industry sectors and located diversely in the country to get a better overview of the barriers/constraints to export performance among the small and medium enterprises. Another possibility is the use of mixed-methods that involves both qualitative and quantitative studies. The export barriers of a

developed country, an emerging economy and an under-developed country after which conclusions can be made on the factors effecting the export performance in different business environments which can be considered by the national policy makers for export promotion as well as for the multilateral institutions for drafting policies which can help significantly in increasing international business globally.

CONCLUSION

Environmentally oriented sustainability practices made a significant impact in the companies' overall performance . The respondents averred that these practices initially meant the firms incur additional expenses and led to a short-term decrease in profitability.

Reducing the environmental impact of your business will improve the sustainability of your business. If you are less dependent on natural resources than your competitors and have ways to deal with rising costs due to climate change, your business will have a greater chance of long-term success.

“reducing inputs of limited natural raw materials or fuel consumption [and] reducing waste production and utilising by-products from other industries allow firms to cut costs.” Sustainability efforts can also help firms improve product value. Numerous other examples point to the power of sustainability.

Characteristics of disruptive innovation:

Either disrupts an existing market or creates a new market segment in the existing one. Sales arguments and measures of value are usually fundamentally changed. Often involves new technology and/or a new business model.

Different Ways to Encourage an Environmentally Conscious Workplace

Implement a recycling program.

Conserve energy within the office.

Promote a paperless office.

Support green vendors.

Reduce by reusing.

Invest in office plants.

Conserve human energy.

Encourage sustainable transportation.

examples of sustainable living.

- Stopping the use of plastics.
- Reducing household energy use and the utilization of renewable energy.
- Finding creative ways of reusing everything.
- Cooking food by yourself and eating locally.
- Conserve water.
- Depend less on your car, drive green.

Emerging technologies :

- Sensing and mobility.
- Augmented human.

- Postclassical compute and communications.
- Digital ecosystems.
- Advanced artificial intelligence (AI) and analytics.

Evidence suggests that the latest technologies, such as artificial intelligence and robotics, are being employed by organisations to automate simple and repetitive tasks as well as to make complex decisions quickly and more accurately via predictive algorithm

The confidence to argue the business case for sustainability informed by a comprehensive understanding of the impact of current global economic, social, and environmental pressures

An action plan for integrating sustainability across your organisation's value chain to ensure long-term value creation.

The skills and knowledge to apply design, innovation and leadership competencies within your team or organisation.

REFERENCES

www.bsr.org

www.ssir.org

Consumer Behaviour Towards Recycling and Eco-Friendly Products at Bangalore

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ABSTRACT

Eco pleasant merchandise are a step closer to nature conservation manufactures of these days are thinking about natural clothes to be moral and striving to set new market developments Apparel commercial enterprise is very massive and there is usually a resistance to change. But with client the market nowadays having an natural relies upon fully on the consumer's choice. The backside of the each and every market is demand and manufactures will solely do what the shoppers desire.

The issue has been established and the main aim of researching market perception of eco- friendly products in Bangalore is an effort to understand and evaluate factors influencing customers to buy.

Most of the cloths and luggage manufactured these days are composed of synethic fabric plastic and hazardous chemical. This has radically contributed to the manner of world warming. The developing difficulty for world warming boots the demand for natural merchandise with chemical taking a on human fitness and surroundings greater and greater human beings are turning into mindful of dwelling lifestyles the natural way Eco-friendly product combing excessive great with socially environmentalism has end up a faction and is in vogue Eco-friendly labels are now acting on many product. Due to the impact of the advantages and demand for natural clothing our organization offers with the manufacturing of Eco-friendly products.

This also aims to measure customer consciousness about being able The aim of the study is to analyse consumer behaviour towards recycling and eco- friendly products at Bangalore.

Keywords : Eco-Friendly Products, Consumer Behaviour, Evaluate, Recycle Products

I. INTRODUCTION

Eco-friendly products, products, are merchandise that do no longer damage than environment whether not in their production, use, or disposal. Businesses and consumers alike have been trying to decrease their influence on the surroundings byway of practicing energy conservation and decreasing air pollution to the environment; thus, many environmental factors have been presently underneath review. The important purpose of this undertaking is to evaluate the cross-cultural shopping for conduct on eco-friendly and recycling products, and to enhance the mindset amongst the equal from china and India evaluate to other developed countries. Global warming is growing throughout the globe day by means of day. Green advertising and marketing and recyclable merchandise won its significance to make a contribution to higher environment.

Rational of the study

Today in this sustainable environment practices the consumption pattern of the customers has changed a lot from the times and they are becoming more health conscious and not just that they are exhibiting their social concern towards the society and environment. The scenario has been changed from accepting whatever that is been offered by the marketers to the customers demanding for the eco-friendly products. Hence the need of the hour is to understand the attitude and behavior of consumers towards the eco-friendly products offered by the marketers.

Review of literature

Khan & Kirmani, (2015). The researchers have explored the factors which influence environmental concern and thereby, attitude of consumers towards green products.

DuPont's (2014) "Green Living" survey confirmed that Indian consumers, aged 30 years or younger, valued inexperienced merchandise and have been assured of their influence on the surroundings. Social structural variables - Social structural elements such as age, gender, race and household measurement assist create the social setting in which interactions between an character and socialization dealers take area (Moschis and Churchill, 1978). Four variables that are applicable to millennial's have been recognized in the cutting-edge study.

According to Awad (2011) the green consumers have high orientation towards preserving the environment and natural resources which is reflected in their product choices

Kilbourne and Picket (2008) have also suggested that when concern for the environment increases, consumption becomes more environmentally responsible and consumers shift their consumption patterns by buying green products or by reducing their overall level of consumption.

Lueg and Finney (2007) As young consumers reach adulthood, the influence of peers grows dramatically. Including friends, classmates and co-workers (Lueg and Finney, 2007), peers have been found to influence consumption decisions of young adults belonging to the major ethnicities in the USA (Singh et al., 2006) and purchase behavior of young consumers in India (Kaur and Singh, 2007). However, considering the nature of green products and the obstacles to procure them, it is still required to test and see if peer communication can still be effective in the green consumerism of Indian millennial's.

Objectives

1. To study the nature, scope and objective of green products.
2. To understand the purchaser shopping for inexperienced products
3. To know the elements of the client shopping in the direction of the product towards the green product.
4. To verify the stage of environmental information and subject of the respondents.
5. To observe the respondents grasp and consciousness about eco friendly products.

Hypothesis

Hypothesis 1

H0:-There is no significant relationship between the product quality and product performance.

H1:- There is significant relationship between the product quality and product performance

Hypothesis 2

H0: - There is no significant relationship between the customer expectation and price

HI: - There is significant relationship between the customer expectation and price

Research Design

It is a rational and systematic plan organized mainly for a research studies, studies layout publications the investigator inside the system of amassing the evaluation and within the decoding announcement.

Type of research The research method selected for this study is “**descriptive research**” Descriptive study observes, one in which data is collected without replacing it in environment. Descriptive Research – “is undertaken to define the situation, community, phenomena, outcome or programme. The foremost goal of this type of research is to describe the data and features about what is being studied. The results of descriptive studies are basically of a diagnostic nature”.

Sampling strategies: The sampling approach which has been chosen is convenience sampling, herein respondents are selected, according to their convenient and accessibility to research.

Sampling Unit The sampling unit consist of clients who purchase inexperienced merchandise and additionally those who doesn't purchase inexperienced products.

Sampling Size The population in Bengaluru North 1,207,000 out of which we get information from 100 customer using eco-friendly product. For the study 100 respondents are selected.

Data Collection approach The statistics has been amassed from 2 sources, they're:-

1) **Primary Data:**

It is a statistics that is accumulated from outdoor market via administering the structured questionnaire thru google surveys, survey monkey and additionally via direct e mail and most of the questions in the questionnaire had been shut ended questions with 5 factor Likert scale techniques.

2) **Secondary Data:**

Secondary records was once gathered with the digital database by using the use of the a variety of scholarly websites like J-gate, Ebscho.com.

Statistical tools used: In order to evaluate the facts amassed from the market there are unique statistical equipment and methods has been used which consists of the frequency distribution tables, applicable charts and graphs, descriptive facts. Study is surveyed through questionnaire technique; the information is amassed & placed into table form and analyzed through chi square, correlation, percentage analysis and cross tabulation

3) Limitations of the study:

Due to the time constraint the look at is performed through taking a sampling length of one hundred respondents. Generalization may not be valid because of small period of samples. The findings of the examine are completely on the information furnished by means of the respondents. The accuracy of finding is restrained by using the accuracy of statistical tools used for analysis. Area of have a look at is limited to city Bangalore clients most effective.

Data Analysis and Interpretation

1. Hypothesis 1

H0:-There is no significant relationship between the product quality and product performance.

H1:- There is significant relationship between the product quality and product performance

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.010 ^a	1	.920	1.000	.582
Continuity Correction	.000	1	1.000		
Likelihood Ratio	.010	1	.920		
Fisher's Exact Test					
Linear-by-Linear					
Association	.010	1	.920		
N of Valid Cases	100				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.86.

b. Computed only for a 2x2 table

Interpretation

The Chi-Square tests table depicts that there exists a positive correlation (as the correlation value is positive .582) between the product quality and the product performance. Therefore the alternate hypothesis is accepted stating there is a significant relationship between the two parameters.

2.Hypothesis 2

HO: - There is no significant relationship between the customer expectation and price

HI: - There is significant relationship between the customer expectation and price

Correlations

	Customer_expectati on_toward s_price	and_price_of_ the_product
Pearson	1	.466**
Customer_expectation_ towards_price	Sig. (2-tailed)	.000
N	100	100
Pearson	.466**	1
and_price_of_the_prod uct	Correlation	.000
	Sig. (2-tailed)	
N	100	100

** . Correlation is significant at the 0.01 level (2-tailed).

Interpretation

The correlation table depicts that there exists a positive correlation (as the correlation value is positive .466) between the customer expectation towards price and the actual product prices. Therefore the alternate hypothesis is accepted stating there is a significant relationship between the two parameters.

3. Respondents Response Which green products do they buy the most

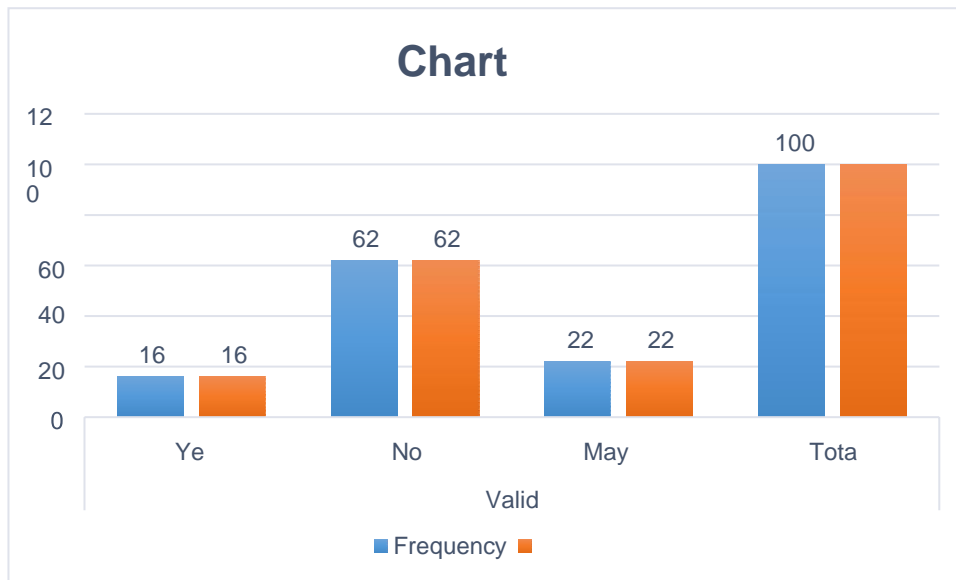
Response		Frequency	%	Valid %	Cumulative %
Valid	Food	10	10	11.9	11.9
	Drinks	10	10	11.9	23.8
	Clothing	8	8	9.5	33.3
	Beauty Products	28	28	33.3	66.7
	Automobiles	18	18	21.4	88.1
	Any recyclable Products	4	4	4.8	92.9
	Others	6	6	7.1	100
	Total	84	84	100	
Missing	System	16	16		
Total		100	100		

Interpretation

The above table depicts that the respondent’s response towards what are the various green products they buy and it was clear from the analysis table that majority of them 28% buy beauty products under the green products category.

Respondents Response Are they willing to pay extra for green products

Response		Frequency	%	Valid %	Cumulative %
Valid	Yes	16	16	16	16
	No	62	62	62	78
	May Be	22	22	22	100
	Total	100	100	100	



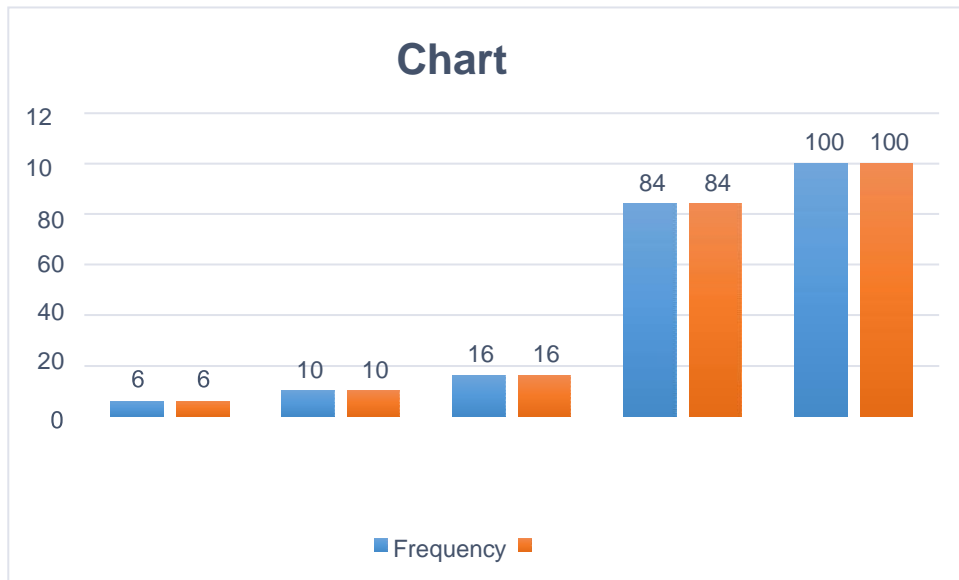
Interpretation

The above table and graph depicts that the respondent’s response towards which marketing mix strategy would be effective to influence them to buy the green products and majority of them 40% said that packaging would be the most influential marketing mix which can influence them to go for the green products.

Respondents Response towards reasons for not using Green Products-Lack of awareness about green products.

Response		Frequency	%	Valid %	Cumulative %
	Agree	6	6	37.5	37.5

Valid	Strongly				
	Agree	10	10	62.5	100
	Total	16	16	100	
Missing	System	84	84		
Total		100	100		



Interpretation

Note: Since these questions are being answered only by those who don't buy the green products hence only 16 Responses are been taken into consideration those who buy green products fall under the missing category.

The above table and graph depicts that the respondent's response towards lack of awareness about the green products is what stopping them from buying and using the green products and majority of them out of 16 responses 10 responded strongly agree that lack of awareness is making them to stop buying the green products.

Descriptive statistics showing the key reasons which is stooping customers to go for the green/eco-freindly products.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Rank
Green products are very expensive	16	4	5	4.63	1

Lack of recognition about inexperienced products	16	4	5	4.63	2
Labels of inexperienced merchandise are no longer informative	16	3	5	4.13	3
Green merchandise are no longer reachable in full vary of Variety	16	3	5	4.13	4
not without difficulty handy in buying stores or grocery stores	16	2	5	3.75	5
Products are not promoted properly	16	1	4	2.75	6
Lack of self assurance in the overall performance of green products	16	2	4	2.63	7
Valid N (listwise)	16				

Interpretation

The first and the foremost reasons what stopping the customers from buying and using the green products is it is very expensive followed by lack of awareness about it and the third ke reason being labels of the green products are not informative followed by Green products are not available in full range of variety, green products are not easily available in shopping outlets or grocery stores and so on.

Summary of Findings:

- ✓ The learn about constituted majority of the male respondents and giant element of the respondents fall beneath the age crew of 18-21 who are the college students and additionally employed working in one-of-a-kind authorities and non-public organization.
- ✓ The pattern additionally had majority of the respondents have done their Bachelor's degree. As the pattern consists of massive wide variety of trained type majority of the have been conscious of the inexperienced merchandise and additionally they do purchase the inexperienced products.
- ✓ Since there is style which is growing to use the natural, natural and natural cosmetics over the chemical one the identical used to be depicted even in the find out about that majority of them purchase the splendor merchandise beneath the inexperienced merchandise category.

- ✓ Human beings are conscious of the inexperienced merchandise via the understanding they have developed via extraordinary media in particular newspaper which is very superb and informative in nature.
- ✓ It was once collective opinion from the respondent's packaging is the very fine advertising and marketing combine method which would affect them to purchase the inexperienced products.
- ✓ People do pay interest for the eco-friendly associated records which is broadcasted in one of a kind media so the entrepreneurs want to focal point on this aspect.
- ✓ The first and the fundamental motives what stopping the clients from shopping for and the use of the inexperienced merchandise is it is very high priced observed by means of lack of focus about it and the 0.33 cause being labels of the inexperienced merchandise are no longer informative accompanied with the aid of Green merchandise are no longer on hand in full vary of variety.
- ✓ Inexperienced merchandise are now not effortlessly accessible in buying retailers or grocery shops and so on.

The respondents sense that the entrepreneurs must focal point on the advertisements which conveys the message about fitness and surroundings protection advantages of inexperienced products, explaining the surroundings implication of utilization inexperienced product and the Advertisements need to supply how the product goes green, the overall performance of the inexperienced merchandise over the non-green merchandise and inform how it is surroundings friendly.

- ✓ The 82.29 of green product users are willing to recommend green product
- ✓ The only 35.33% respondents are willing to pay premium to purchase green product.

Conclusions

It is recommended that the clients ought to go for buying of the inexperienced merchandise even although the fee of the merchandise looks to be greater with the first-rate motive of saving the nature and mom earth. The clients must take a pledge of keeping off the plastic luggage and begin the use of the merchandise which are reusable and recyclable. The value of the inexperienced merchandise is excessive due to the fact of the motive that it entails the green technological know-how and inexperienced manner to manufacture it. Consumers are cautioned to use the sources in an constructive way and minimize the wastage and recycle and reuse of e-wastes. It is counseled that clients ought to purchase eco labeled inexperienced merchandise for their consumption like celebrity labeled digital & domestic appliances, inexperienced icon labeled merchandise such as papers, clothes and different products. The Retailers must come out with greater quantity of natural shops for selling of inexperienced products. Because customers have expressed that what is stopping them from shopping for the inexperienced products and non-availability of organic stores is additionally a purpose for it. It used to be additionally understood from the find out about that the buyers experience that nice of inexperienced merchandise is higher than the non-green merchandise so the shops need to take this into consideration and make certain that the inexperienced merchandise are accessible in their store. The entrepreneurs want to layout their commercials successfully to speak the benefits and the advantages of the inexperienced merchandise by means of the usage of exceptional Medias which are positive which includes the social media platforms. Marketers can convey in new revolutionary techniques to result in the clients to decide for the inexperienced products. Various advertising things to do can be

added to provide type of incentive to the clients to purchase the inexperienced products. At the find out about resulted in the consciousness degree of clients in the direction of the inexperienced product is notably proper from this find out about the researcher has observed that all the three and many be there is a requirement for the entrepreneurs to put into effect their method in terms of inexperienced product have to be made first-class to appeal to the clients via their advertising combine techniques together with product, place, fee and additionally the merchandising activities. At the equal time, it is the accountability of each character to make a contribution to the social motive of saving the nature and mom earth hence, one can pass by the significance of inexperienced product and the advertising practices.

Recommendations

- ✓ To improve cognizance about inexperienced merchandise and there effectiveness.
- ✓ Green merchandise ought not to have greater rate distinction between trendy product and inexperienced product.
- ✓ Green merchandise nice ought to be higher than preferred product.
- ✓ The usage of a broad vary of media in combination to speak eco-friendly strategy may want to be done. Finally marketers should supply what they promise.
- ✓ The green products have to be priced in accordance to its quality
- ✓ The attitude towards the eco-friendly has to be changed to bring in positive approach towards the eco-friendly products.
- ✓ The important to bring in radical change to improve the eco-friendly through which consumer would be in position to make the products.
- ✓ The continued need for the environmental and economic benefits of the eco-friendly.
- ✓ The will have to give a in detail and information about the information about the furniture to give complete knowledge to the customer to make towards eco-friendly product.
- ✓ Have to create awareness in a trust worthy way so that the consumer will come forward to buy the green products.
- ✓ Improve awareness about green products and there effectiveness.
- ✓ Eco-friendly products quality should be better than standard product.

REFERENCES

- [1]. Akehurst, G., Afonso, C., & Goncalves, H. M. (2012). Re-examining green purchase behavior and the green consumer profile: new evidences. *Management Decision* , 50 (5), 972-988
- [2]. Bang Nguyen, Kirk Chang, Lyndon Simkin, (2014) "Customer engagement planning emerging from the "individualist-collectivist"-framework: An empirical examination in China and UK", *Marketing Intelligence & Planning*, Vol. 32 Issue: 1, pp.41-65, <https://doi.org/10.1108/MIP-11-2012-0130>.

- [3]. Bonini, S., & Oppenheim, J. (2008). Cultivating the Green Consumer. *Stanford Social Innovation Review* 56-61.
- [4]. Bolton, L.E., Keh, H.T. and Alba, J.W. (2010), "How do price fairness perceptions differ across culture?" *Journal of Marketing Research*, Vol. 47 No. 3, pp. 564-576.
- [5]. Boztepe, A. (2012). Green marketing and its impact on consumer buying behavior. *European Journal of Economic and Political Studies*,1, 5-21. Retrieved from <http://ejeps.fatih.edu.tr/docs/articles/146>.
- [6]. Chang, N., & Fong, C. (2010). Green product quality, green corporate image, green customer satisfaction, and green customer loyalty. *African Journal of Business Management*, 4, 2836-2844. Retrieved from <http://www.academicjournals.org/ajbm/>
- [7]. Grant, J. *The Green Marketing manifesto*. Padstow: John Wiley & Sons, Ltd.
- [8]. Hur, W., Yoo, J., & Hur, J. (2010). Going green with elderly consumers: Exploring the relations between green consumption value, satisfaction and loyalty of hybrid car purchases in the United States. Retrieved from [https://gin.confex.com/gin/2010/webprogram/Manuscript/Paper3007/GIN2010\(3007\).pdf](https://gin.confex.com/gin/2010/webprogram/Manuscript/Paper3007/GIN2010(3007).pdf)
- [9]. Lee, S. (2011). Consumers' values, environmental consciousness, and willingness to pay more toward green-apparel products. *Journal of Global Fashion Marketing*, 2, 161-169. doi:10.1080/20932685.2011.10593094 .
- [10]. Zeng, S. X., Meng, X. H., Yin, H. T., Tam, C. M., & Sun, L. (2010). Impact of cleaner production on business performance. *Journal of Cleaner Production*, 18, 975-983. doi:10.1016/j.jclepro.2010.02.019



A Study on Artificial Intelligence In Customer Service Support of The Indian Retail Industry

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ABSTRACT

Artificial Intelligence is redefining retail customer service and slowly becoming a part of our daily lives. Siri and Alexa are now household names and their users have grown accustomed to how easy they make it to access information. These types of virtual assistants are primarily for personal use. Artificial Intelligence also presents huge opportunities for businesses, particularly for customer service. Some companies are already using Artificial Intelligence to provide better, more efficient service and this technology will likely play an increasingly significant role over the next few years. Artificial intelligence is still a relatively new concept for most businesses, but interest has increased dramatically over the past few years and shows no sign of slowing down. At this point, that interest has mostly been centred on marketing and has proven to be a valuable addition for many of the companies who have added it to their strategies. In fact, 80% of marketing executives believe that Artificial Intelligence technology will revolutionize the marketing industry by 2020. Automation already plays a role in many companies' customer service processes and many on the forefront of adopting new forms of technology are also incorporating Artificial Intelligence. This shift has the potential to help all types of businesses better serve their customers but holds a few unique advantages for those within the retail industry.

Keywords : Artificial Intelligence, Customer Service Support, Retail Industry

I. INTRODUCTION

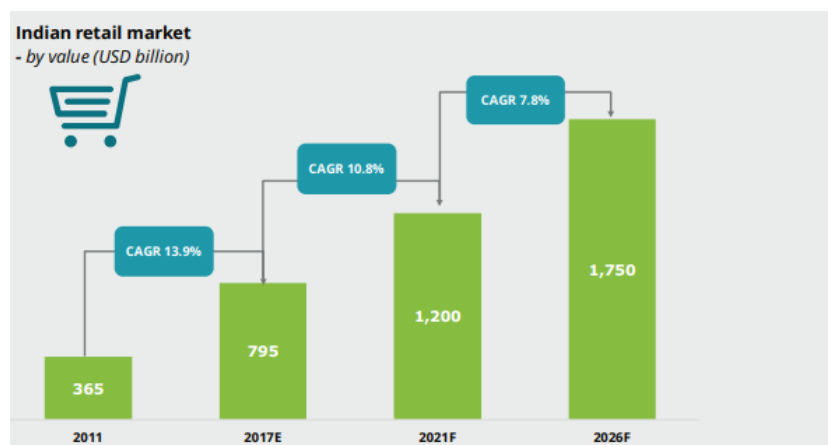
Artificial Intelligence is widely used and practically applied to help business in informed decisions and improve customer experience. Artificial Intelligence is about acting in similar ways, using algorithms as to what humans would do but in a much more controlled, efficient and faster manner. It can be defined as information derived by applying a set of algorithms with little or no human intervention. In general terms, Artificial Intelligence is the machine's ability to think for itself. It aims to augment human capabilities and not replace it. It is about algorithms, processing data and recommendations to business to make decision for very specific problems at a greater speed, scale and velocity than what a human can do.

Customers are the king of market. They are important part of any organization. It is very important for any business to understand the needs of their customers, satisfy that needs and retain them. Business can attract new customers and retain existing customers through bringing innovation in their product or services or making the after- sale service effective.

Now days businesses giving more focus on after- sale service than innovation because the Customers are not only interested in product or services they are buying, but also in add on elements they get. In future, customers will face any problem regarding products or services; they will connect with Retailer again for solution. So, every business tries to maintain good relation with customers after sale by making Customer service strong. Customer service is the process of providing assistance and advice by Retailer to customers who buy and use its products and services.

The Indian retail industry has emerged as one of the most dynamic and fast paced industries due to the entry of many new players. India is Asia's third largest retail market and world's fourth largest after US, China and Japan. In the retail market of India, Food and grocery accounts for majority shares followed by apparel and footwear, consumer durables and IT segments.

Growth of Indian Retail Industry



[Source: *Unraveling the Indian Consumer-Deloitte*]

The above graph shows the growth of the Indian Retail Industry. In 2011, the growth of the Indian retail industry was US\$365 and then it was increased to US\$795 in 2017. The growth of the industry will continue to increase in the future by US\$1200 and US\$1750 in 2021, 2026 respectively.

Retailers who have incorporated with digital transformation successfully are gaining a significant competitive advantage in an atmosphere where customer experience rules. Retailers are adopting digital technologies like internet of thing, augmented reality and virtual reality, artificial intelligence, machine learning to connect with customers.

II. OBJECTIVES OF THE STUDY

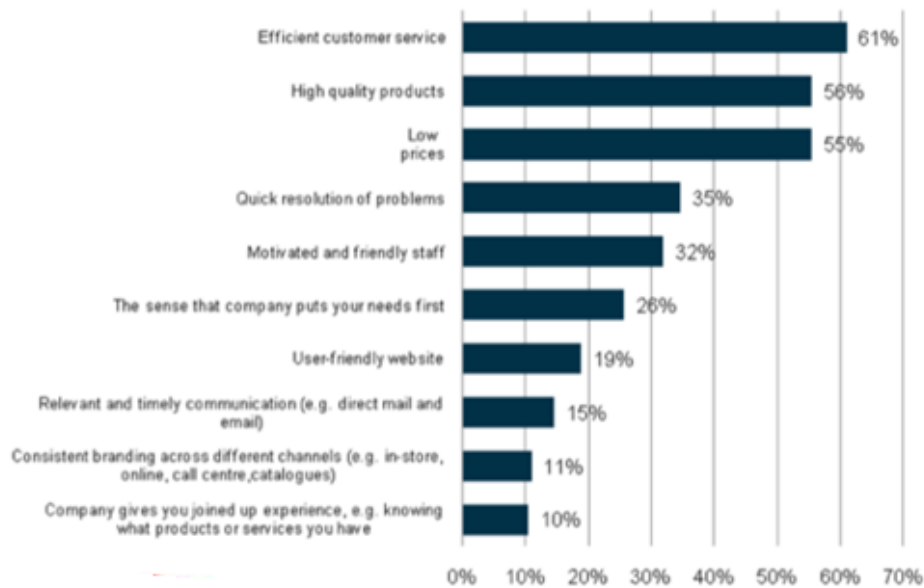
- To Identify the Scope of Artificial Intelligence in Customer Service Support
- To Identify the different ways of using Artificial Intelligence in Customer Service Support

III. RESEARCH DESIGN

Exploratory research design was used by the researcher. Mainly secondary data was used in this study.

DATA ANALYSIS AND INTERPRETATION

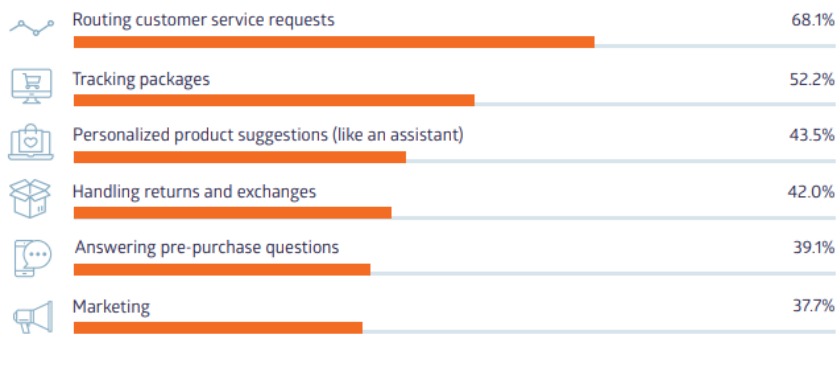
3.1 Important Areas for Retailers to Concentrate for the Best Customer Experience



[Source: superoffice.com]

The above graph shows that efficient customer service is most important area for retailers to concentrate because customer service plays tremendous role in retaining customers. Other areas are high quality products, low prices, quick resolution of problem, friendly staff, user friendly website etc. So, based on this data it can be said that retailers should provide great customer service.

3.2 Use of Artificial Intelligence in Different Activities of Retail

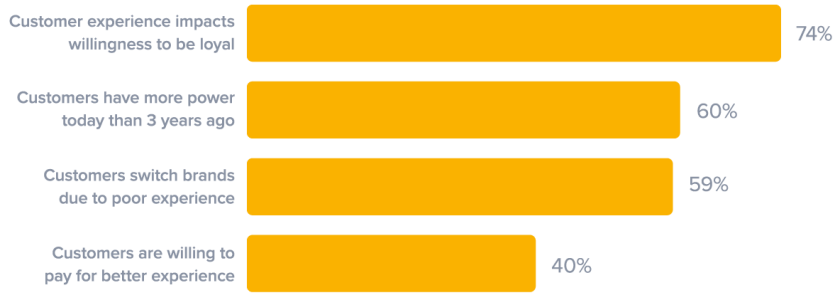


[Source: customer service and AI-Brand Garage]

Based on above data, Artificial Intelligence highly used in routing customer service requests followed by tracking packages, personalized product suggestions, handling returns and exchanges, answering pre purchase questions and in marketing. Artificial Intelligence helps customer service by automatically tagging customer tickets, by detecting urgency and prioritizing problems, customer data entry and their real time insights by giving auto response to routine queries.

3.3 Impact of Customer Experience on Customer Decisions

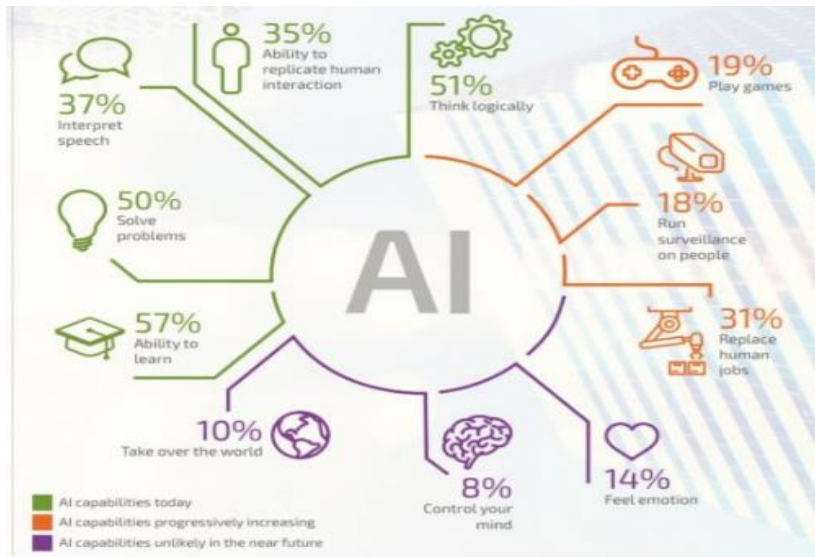
Customer Experience and Loyalty



[Source: superoffice.com]

The above graph shows that customer experience impacts directly to customer decisions. Good customer experience impacts customers in good way and it turns into loyalty. Currently, customers have more power than before in market and they are switching from one brands to another because of poor customer experience. So, retailers should provide good customer service for better experience to sustain into the market.

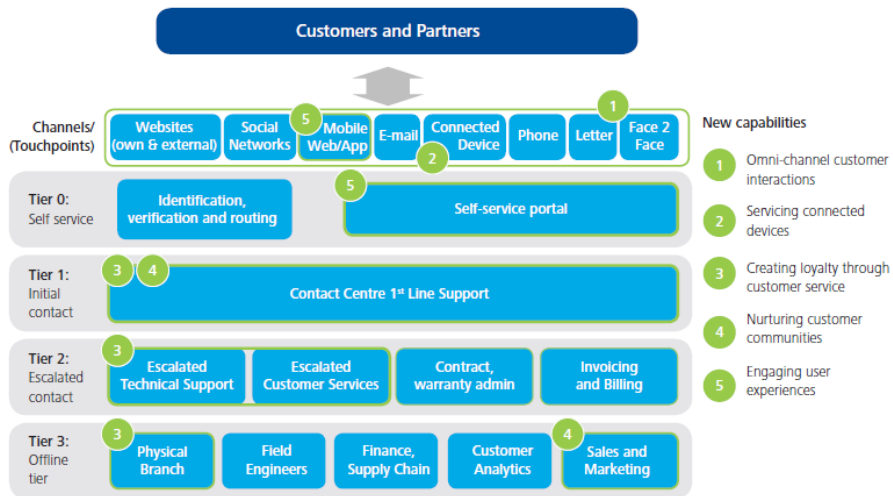
3.4 Capabilities of Artificial Intelligence



[Source: techseen.com]

As above data shows that In today’s scenario, Artificial intelligence has capability of learning about 57%, 50% of solving problems, 37% of interpreting conversation of customers, 35% possibility to replicate human interaction and it can think logically around 51%. Artificial intelligence capabilities progressively increasing in games about 19%, 18% in surveillance on people and 31% replace human jobs. In the future, Artificial Intelligence can feel emotion of humans by 14%, control human mind by 8% and possibility of take over the world by 10%. So, the capability of Artificial intelligence shows that it can handle some routine tasks of humans effectively.

3.5 Service Delivery Model



[Source: Digital transformation of customer service- Deloitte]

Service Delivery model puts service operation into action. This service model is divided into four tiers. Such as Tier 0, Tier 1, Tier 2 and Tier 3. The first Tier (Tier 0) receives all incoming calls and tries to identify, diagnose and resolve query. If query not resolve by tier 0 then it is passed up to the appropriate second tier (Tier 1) operation that is made up of specialists. If cannot resolve by second tier, it can be passed up to third tier (Tier 2) and which is even more specialized and so on. The artificial intelligence possibility is in tier 0 because at this tier all queries are being addressed and Retailers expect to resolve more and more queries at tier 0 itself. Based on above information new capabilities in this service model are Omni channel customer interactions, servicing connected service, creating loyalty through customer service, Nurturing customer communities and engaging user experiences.

3.6 Preferred Channels by Customers for Customer Service

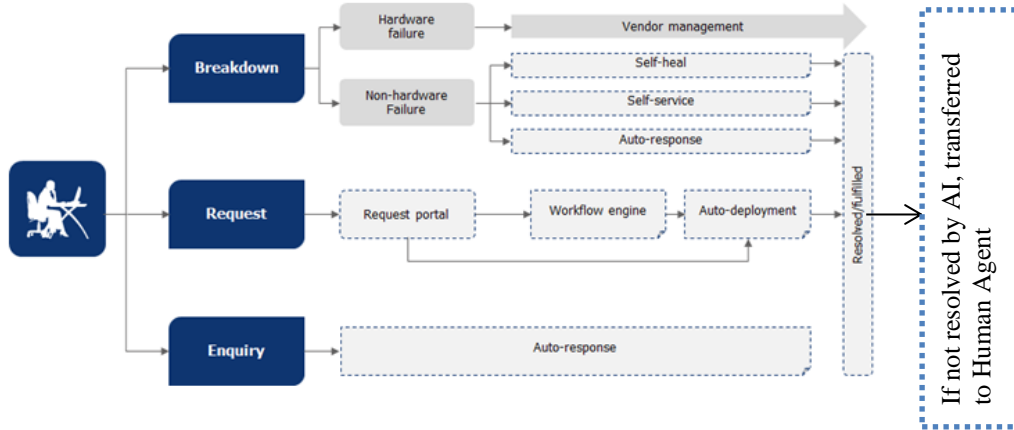


[Source: techseen.com]

The above data shows that only 20% people preferred online chat and 3% people preferred social media for customer service. 45% people preferred to talk with live representative. It means most of the people preferred to connect with customer service via phone and only 15% people preferred to go respective store of company.

14% people have no specific preference of channel to connect with customer service and 3% people not using any mention channels for customer service. Thus, most preferred channel used by customers is phone for customer service. Artificial intelligence can help in making conversation convenient with low cost.

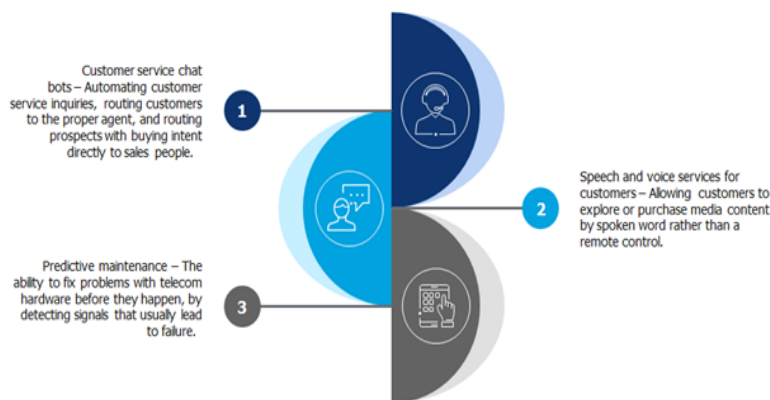
3.7 Tasks Handled by Artificial Intelligence in Customer Service Support



[Source: Wipro Limited]

The above diagram shows that there are mainly three types of tickets arises from customers. Out of this three types of tickets enquiry and request types of tickets can be handle by Artificial Intelligence. A breakdown type of tickets includes hardware failure and non-hardware failure. From these two tickets, Non-hardware failure type of tickets can be handling by Artificial Intelligence. So, most of the tickets handle by artificial intelligence and no more human intervention required for that. This type of tickets will be solved by artificial intelligence using historical data, manuals, frequently asked questions etc. If artificial intelligence is not able to solve customer query then it will be send to human agents for resolution. So, ultimately cost of Retailer will reduced and productivity of addressing unsolved tickets will increased by human agents.

3.8 Different ways of using Artificial Intelligence for Customer Service Support

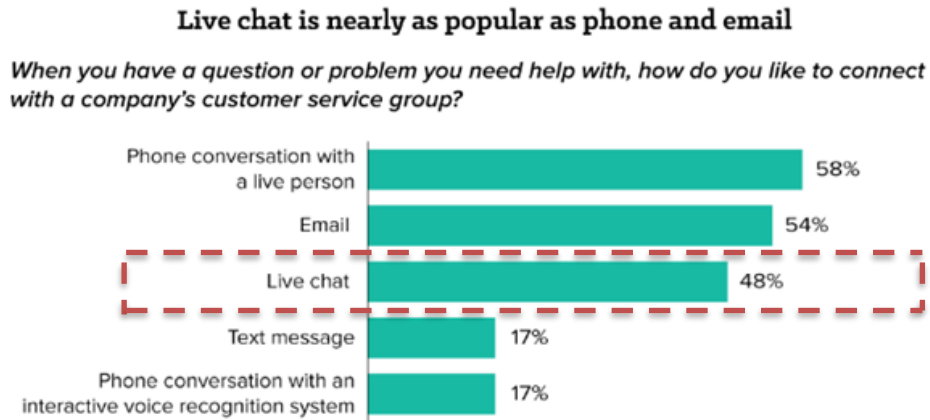


[Source: Wipro Limited]

As per the above information, in three ways Artificial Intelligence can helps customer service support in serving customer best possible way to increase customer experience. The three different ways of implementing Artificial Intelligence are follows:

- **Chat bots**

The chat bots help in automating customer service inquiries, transfer customer call to the proper agent and routing prospects with buying intent directly to sales people. This process happens automatically with 24*7 supports to customers. Chat bots can help businesses to save on customer service costs by speeding up response times and answering up to 80% of routine questions.



(Source: blog.hubspot.com)

As per the above graph, it can be said that customers now days moving more towards live chat because they are very active on mobile phone. It means using chat boat most of the customers can be handled effectively and customer experience can be increased.

- **Speech and Voice Services**

This is widely used by most of the companies for customer service support. This type of system enables voice for conversation. Voice agent permits customers to use the same conversational speech they would use with a human agent. This system is integrated with backend system to personalize the calls with information about customers and their previous conversations. It can also interact with customers via SMS. It can quickly and easily transfer less routine cases to human agents at the same time to solve unexpected problem with empathy. This system decreases frustration of callers, keeping them engaged and less likely to ask for help from human agents and especially voice agent learns from customer interactions to improve its response over time.

- **Predictive Maintenance**

Artificial Intelligence helps in predictive maintenance and it has ability to fix problem with telecom hardware before they happen and by detecting signals that usually lead to failure. So, there will be no challenges for customers to engage with customer service support of company.

DISCUSSION

- Artificial Intelligence helps customer service by automatically tagging customer tickets, by detecting urgency and prioritizing problems, customer data entry and their real time insights, by giving auto response to routine queries.
- Efficient customer service is main focus area for retailers.
- Artificial Intelligence mainly use in retail industry for routing customer service request.
- Customer experience directly impact to customer decisions.

- In Artificial Intelligence, chat bots, speech and voice recognition services are latest technology used in customer service support.
- Artificial Intelligence handled customer queries based on historical data, manuals and frequently asked questions.
- Most of the people preferred phone call to connect with customer service.
- Artificial Intelligence can handle 50% problems of Customer Service and it has 57% ability to learn new things. It means in future there are chances of increasing percentage of handling customer service problems.

LIMITATIONS

- This study is based on secondary data only.
- This study deploys limited data.

IV. REFERENCES

- [1]. Kaholi, R. M. (n.d.). Artificial Intelligence and Machine learning-Infosys.
- [2]. Indian Brand Equity Foundation(IBEF): <https://www.ibef.org/industry/retail-india.aspx>
- [3]. (2019). Unravelling the Indian Consumer-Deloitte.
- [4]. customer service and AI-Brand Garage.
- [5]. Wipro.com : <https://www.wipro.com/blogs/>
- [6]. Subramaniam, K. (2019). Data Analytics and AI in Retail- Wipro.



A Study on Marketing Analytics: Boon in 21st century for Marketers and Educational Institutions

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ABSTRACT

With advances in technology, especially data mining, marketing analytics has become an invaluable tool and should be viewed as an equal component of the marketing research toolkit. Analytics requires marketers to use data to understand customers at every touch point throughout their lifecycle with the business. In the realm of marketing, research has traditionally focused on quantitative or qualitative methodologies to provide customer insights.

Academic Marketing departments must internalize analytics into their overall curriculum in order to provide students with a compelling career advantage. Academics can also use these in the classroom to promote and demonstrate the importance and benefits of marketing analytics.

The value of this paper is that it presents marketers with a strong argument for the integration of marketing analytics into their practice of researching marketing issues and problems. Analytics completes the research triangle of qualitative, quantitative and data mined information gathering, analysis, and interpretation. It is hoped that this paper will generate additional research in this area and, especially, the adaptation of analytics as a standard research tool by marketers and by academician.

The purpose of this paper is to discuss the current state of marketing analytics and how it should become a standard marketing research tool in the twenty-first century, data is collected through secondary source of information.

Keywords: Analytics, Datamining, Integration, Marketing Analytics

I. INTRODUCTION

Successful brands need to have a solid understanding of the landscape they operate in, including knowledge of their competitors and customers. Market analysis is the process of researching the market to understand the threats and opportunities and how prospects and clients will react to your products or services.

Market analysis can range from an in-depth research dive employing specialists who will cover as many aspects as possible. Alternatively, brands may adopt a simpler approach using more readily available data. Marketing analytics is a composite set of processes and technologies, which enable marketers to measure campaign success via tangible metrics. Marketing analytics covers important metrics such as website engagement, return on investment for specific digital marketing campaigns, customer attribution, and other key areas.

As organizations explore new channels to target customers, various technologies have emerged to support these initiatives. However, deploying tactics like SEO, social media marketing, email automation, etc. in isolation can lead to a fragmented campaign. Marketing analytics combines and collates this data on a single dashboard, helping you make smarter decisions. For example, you can identify which touchpoints are bringing in the most customers (via attribution analytics), and double-down on your efforts in that specific area.

Marketing analytics can offer profound insights into customer preferences and trends. Despite these compelling benefits, a majority of organizations fail to ever realize the promises of marketing analytics. However, with the advent of search engines, paid search marketing, search engine optimization, and powerful new software products from Word Stream, marketing analytics is more powerful and easier to implement than ever.

Thus, to better understand the situation of marketing analytics in practice and to analyse the differences and similarities of this concept with marketing analytics research through various software's which are used in the industries as well in education institution. While regression appears as the most common method even in the conceptual map, there are various software packages used, including Excel, SPSS, R, as well as different tools, such as competitive analysis, quantitative strategic planning matrix, Monte Carlo analysis decision model, conjoint analysis, promotion analytics, and budgets for traditional and social media. The focus is on teaching students the basics of data analysis, to make decisions and come up with models from data collected. There are various universities offering complete course on Marketing Analytics.

The main function of marketing analytics is to import the business metrics, such as ROI, and marketing attribution into the core of the marketing game. In other words, the analytics job is to gather data from across all marketing channels and to combine it with the consumer databases then and consolidates it into an insightful marketing view. From this analytical view (360° Knowledge Graph), marketers can extract real-time analytics and actionable insights that can provide the steering wheel for effective targeting and personalized marketing efforts.

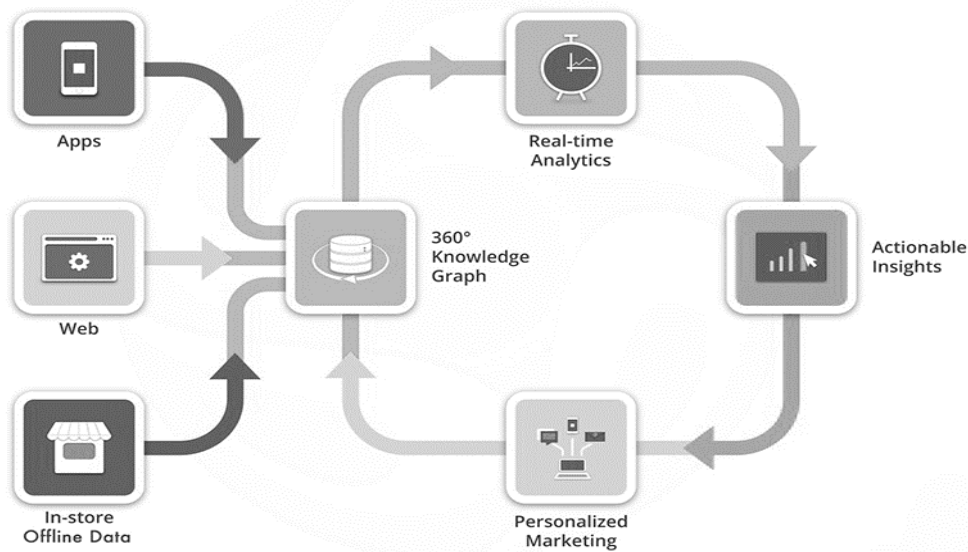


Fig 1: Marketing Analytics

Marketing Analytics: The Challenges of Technology

Over the years, as businesses expanded into digital marketing techniques and the need for advanced targeting and tracking is becoming the main focus of marketing initiatives. With the higher demand for efficient solutions for analytics, the challenges started to rise.

- **Isolated environments:** The new technologies were typically deployed in isolations and the result was a huge set of tools and platforms of disconnected data environments. Marketers would have to implement several tools and platforms to monitor all the data sources (Google Analytics, Social Media tools, SEO tools, CRM platform, Automation platform, etc.). This would require several resources including talents, API integration, IT capabilities, and multiple data aggregations.
- **Data Discrepancies:** There will be always instability and mismatching results coming from different platforms. For instance, comparing Google Analytics and Facebook conversions will reveal a big difference since they use different tracking. At the end of the day, you will be facing the issue of which data source is the most reliable for making a decision?
- **Customization:** Each business has its own technology stack and infrastructure. Connecting Sales data with online data is sometimes one of the biggest challenges for marketers.

II. LITERATURE REVIEW

1. Marketing researchers have noted that marketing science and practice are going through an analytics disruption, considering the explosion of data, the emergence of digital marketing, social media, and marketing analytics (Moorman 2016; Verhoef et al. 2016)

2. Researchers also note the advantages of big data and analytics in better understanding shopping patterns using carts with RFIDs, mobile phone apps, or video cameras. These technologies are helpful in managing supply chain and business processes (Davenport 2006; Venkatesan 2017)
3. The new analytics have even affected marketing research, providing researchers the opportunity of using web-based interactive survey tools, online qualitative analysis, mining, and analysing large databases (Hauser 2007)
4. The Internet and social media brought an explosion of real-time data, coupled with improved data generation and collection, reduction in computing costs, and advances in statistics (Verhoef et al. 2016).
5. In current times, businesses are using analytics as a significant competitive advantage not just because they can, but also because they should (Davenport 2006)

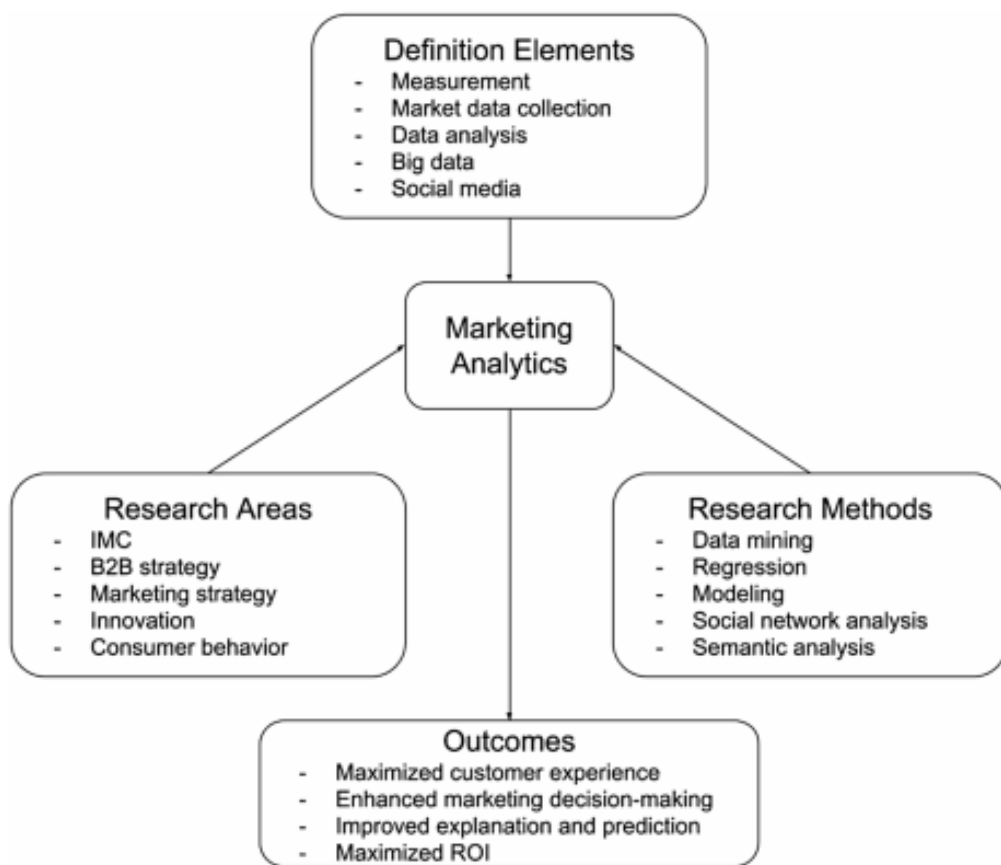


Fig 2: Marketing Analysis in Practice

Objectives

1. To study marketing analysis in market and in education sector.
2. To Improve the overall quality by using different marketing tools.
3. To Suggest areas for improvement in areas of marketing and education sector.

Tools for Data Collection: Data is collected through Secondary source like journal articles, research papers and from various weblinks.

Why Marketers should conduct market analysis

Market analysis should underpin your business plan. Once you have an understanding of the market, you can plan out how best to beat the competition and reach the consumers. This map of the landscape will then allow you to plot your course, optimizing factors that are within your control. These factors are the marketing mix, known as E. Jerome McCarthy's 4Ps.

- **Product** — Your product can be improved based on market trends, what your competitors are doing, the different market segments you are trying to reach, and your key success factors.
- **Price** — The industry costs and market profitability, as well as a more detailed understanding of your competitors, will help you set the right price that keeps both customers and shareholders happy.
- **Place** — The understanding of your distribution models, combined with a better understanding of the market, may be able to highlight new opportunities. From new sales opportunities with franchises and resellers to the logistics of production and distribution.
- **Promotion** — Brands need to have different marketing strategies to effectively reach different demographic and geographic segments. This may include different product lines or differentiated marketing.

Marketing Analytics Techniques

Getting the most out of your investment in marketing efforts requires a firm understanding of marketing data analysis: how it is performed, data tolerances, pulling together disparate data sources and more. Advanced solutions that include predictive analytics tools are also being incorporated into web analytics software, helping marketers understand and predict what that all-important "next-best-action" will be for specific guests. The reason that this type of prediction is still in its infancy is that there are a plethora of data points and it still requires a great deal of individual analysis before a machine can learn to discern the important data points from those that are simply noise.

Predictions based on past purchases is one of the ways that this type of marketing analysis is being used. A perfect example is with Amazon.com and other large retailers. If you purchase an item every three months throughout the year, chances are that the item will be recommended to you not long before you're set to run out. By shifting the buying cycle in this subtle way, retailers can offer a helpful service but also shorten the overall purchase cycle and increase their annual revenue. When you multiply simple effect times millions of customers, you can truly see the value of predictive analytics and next-best-action for sellers. In order to sustain this level of commitment to your analytics, you will likely need an internal data scientist -- or at least a very strong vendor partner that will be able to provide you with ways of measuring analytics in an actionable fashion.

Marketing Analytics can process data to offer three kinds of insights:

1. **Historical trend analysis:** Marketing analytics can report on historical data, giving you a comprehensive view of past performance to take better decisions in the future.
2. **Dynamic metric analysis:** Marketing analytics dashboards can also give real-time visibility into customer behaviour, preferences, and sentiment.
3. **Predictive analysis:** This type of marketing analytics uses a combination of past information and predictive models to throw light on future possibilities. We are also witnessing the emergence of prescriptive analytics, which directly recommends the next best action for marketing.

Importance of Marketing Analytics:

When you utilize marketing analytics to track campaign activities, you are able to pull together marketing analytics, web analytics, and business analytics to create a cohesive view of your marketing activity and results. The data that you capture and analyse could come from a broad spectrum of activities -- everything from social media shares and engagements to website visits and phone calls generated by particular campaigns. When you have a firm grasp of your web marketing analytics, you are even able to track specific campaigns and determine whether they are driving eCommerce sales, too. Where marketing teams of all sizes struggle is in attempting to determine which marketing, metrics are providing the useful insight that you need to make good decisions about your budgets.

Marketing Analytics in Education Sector

Academic marketing departments should include marketing analytics into their overall curriculum to provide students with a compelling career advantage, considering the research and especially practitioner (and job market) interest in this area. This line of coursework presumably begins with a solid statistics class, another in marketing research, and then could span out to cover different types of models for different kinds of data, at least for MBAs and possibly also for advanced undergraduates.

Academic marketing departments should also provide their students with real-world opportunities to practice marketing analytics, data collection, analysis, interpretation, and decision making. This can include collaboration with local businesses on practical projects, internships, and student business incubators. Doing so would help students understand our usual cautions in generalizing results, dealing with populations (as opposed to samples) and biased samples as the basis for understanding customers, in making decisions and developing theory. Much like interpreting qualitative research, the results of non-random samples cannot be generalized.

Exposure to one or more big data datasets will help students understand that with large samples and populations, every effect becomes statistically significant despite being of no importance whatsoever. There are also many proprietary performance measurement models available that are subjective and have no theoretical basis. Finally, one element of education that can be implemented relatively quickly is executive programs.

Traditionally, changes in full-time programs require more bureaucracy and vetting, whereas executive programs can be developed, advertised, staffed, and run with relatively little delay. There is likely a currently unmet demand for such retraining and retooling among marketing practitioners, who would not have been exposed to such material during their MBA or undergraduate days but who can appreciate the need to be facile with the concepts and analytical tools to be part of today's marketing dialog.

Some colleges also have degrees in marketing analytics, such as a Master's in Marketing Analytics .The University of Pennsylvania has developed the Wharton Customer Analytics Initiative, an academic research centre focusing on the development and application of customer analytics methods and has the Marketing Analytics: Data Tools and Techniques course on the free MOOC platform EdX. Other universities, such as the University of California at Berkeley and Columbia University also offers free marketing analytics courses, besides there are courses, on EdX.

Fortunately, there are several free digital marketing analytics course options that will help you gain the knowledge that you need quickly and efficiently. Finding the right digital marketing course that will help you supplement your current knowledge and support the unique needs of your organization can be a challenge.

Here are a few options that you may want to consider:

Udacity: Marketing Analytics and Digital Marketing

edX: Marketing Analytics courses

Udemy: Marketing Analytics courses

Coursera: Marketing Analytics courses

III. Conclusion

Getting the right mix of analytics for your marketing team doesn't happen overnight and is a continual process that could easily take months or years as tactics evolve and new channels for communication emerge. It can be easy to see how marketers could become overwhelmed with the flow of information, which is why it is so important to have tools that will help you bring together marketing analytics, website analytics and digital marketing analytics into a holistic view of your marketing activities.

Marketing analytics help boost the performance of campaigns and ROI by carefully reviewing various metrics, defining benchmarks and utilizing that information to help build future campaigns that are more effective.

As organizations explore new channels to target customers, various technologies have emerged to support these initiatives. However, deploying tactics like SEO, social media marketing, email automation, etc. in isolation can lead to a fragmented campaign. Marketing analytics combines and collates this data on a single dashboard, helping you make smarter decisions.

Academic marketing departments should also provide their students with real-world opportunities to practice marketing analytics, relationship between academia and industry for marketing analytics, perhaps closer than for many other topics areas within marketing, academics and practitioners might benefit for further improve research.

IV. REFERENCES

Journals

- [1]. Aggarwal, P., R. Vaidyanathan, and A. Venkatesh. 2009. Using lexical semantic analysis to derive online brand positions: An application to retail marketing research. *Journal of Retailing* 85 (2): 145–158
- [2]. Goh, T.T., and P.-C. Sun. 2015. Teaching social media analytics: An assessment based on natural disaster postings. *Journal of Information Systems Education* 26 (1): 27–38
- [3]. Ayanso, A., and K. Lertwachara. 2014. *Harnessing the power of social media and web analytics*. Hershey, PA: IGI Global.
- [4]. Corrigan, H.B., G. Craciun, and A.M. Powell. 2014. How does Target know so much about its customers? Utilizing customer analytics to make marketing decisions. *Marketing Education Review* 24 (2): 159–165.
- [5]. Davenport, T.H. 2006. Competing on analytics. *Harvard Business Review* 84 (1): 99–107
- [6]. Krishen, A.S., and M. Petrescu. 2017. The world of analytics: Interdisciplinary, inclusive, insightful, and influential. *Journal of Marketing Analytics* 5 (1): 1–4.
- [7]. Jobs, C.G., S.M. Aukers, and D.M. Gilfoil. 2015. The impact of big data on your frms marketing communications: A framework for understanding the emerging marketing analytics industry. *International Academy of Marketing Studies Journal* 19 (2): 81–94
- [8]. Hofacker, C.F., E.C. Malthouse, and F. Sultan. 2016. Big Data and consumer behavior: Imminent opportunities. *Journal of Consumer Marketing* 33 (2): 89–97
- [9]. Hauser, W.J. 2007. Marketing analytics: The evolution of marketing research in the twenty-first century. *Direct Marketing: An International Journal* 1 (1): 38–54.
- [10]. Gunasekaran, A., T. Papadopoulos, R. Dubey, S.F. Wamba, S.J. Childe, B. Hazen, and S. Akter. 2017. Big data and predictive analytics for supply chain and organizational performance. *Journal of Business Research* 70: 308–317.

Weblinks

- [11]. <https://www.patriotsoftware.com/blog/accounting/how-to-conduct-a-market-analysis/>
- [12]. <https://www.emerald.com/insight/content/doi/10.1108/17505930710734125/full/htm>
- [13]. <https://www.martechadvisor.com/category/marketing-analytics/>
- [14]. <https://www.wordstream.com/marketing-analytics>
- [15]. <https://www.demandjump.com/marketing-analytics-techniques>
- [16]. [https://www.brandwatch.com/blog/complete-guide-market-analysis/Mahajan, Proff.J.S.Chitode, "Waste Bin Monitoring](https://www.brandwatch.com/blog/complete-guide-market-analysis/Mahajan, Proff.J.S.Chitode,)

Virtual Reality- History, Applications and Future Trends

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ABSTRACT

The ongoing appearance of minimal effort Virtual reality (VR) advancements—like the Oculus Rift, the HTC Vive and the Sony PlayStation VR—and Mixed Reality Interfaces (MRITF)—like the HoloLens—is drawing in the consideration of clients and specialists recommending it might be the following biggest venturing stone in mechanical development. Bethat as it may, the historical backdrop of VR innovation is longer than it might appear: the idea of VR was defined during the 1960s and the main business VR instruments showed up in the last part of the 1980s. Consequently, during the most recent 20 years, 100s of analysts investigated the cycles, impacts, and uses of this innovation creating 1000s of logical papers. What is the result of this critical examination work? This paper needs to give a response to this inquiry by investigating, utilizing progressed scientific procedures, the current examination corpus in the field. We gathered all the existent articles about VR in the Web of Science Core Collection logical information base, and the resultant dataset contained 21, 667 records for VR and 9, 944 for expanded reality (AR). The bibliographic record contained different fields, for example, creator, title, theoretical, nation, and all the references (required for the reference examination). The organization and bunch examination of the writing indicated a composite scene described by changes and advancements throughout the time. To be sure, regardless of whether until 5 years prior, the fundamental distribution media on VR concerned both gathering continuing and diaries, all the more as of late diaries establish the principle vehicle of correspondence. Essentially, if from the outset software engineering was the main exploration field, these days clinical territories have expanded, just as the quantity of nations associated with VR research. The current work talks about the development and changes throughout the hour of the utilization of VR in the primary zones of use with an accentuation on the future anticipated VR's abilities, increments and difficulties. We close considering the problematic commitment that VR/AR/MRITF will have the option to get in logical fields, too in human or correspondence and cooperation, as of now occurred with the approach of cell phones by expanding the utilization and the advancement of logical applications (e. g. , in clinical zones) and by changing the social correspondence and association among individuals.

Keywords : Virtual Reality- History, Applications & Future Trends

I. INTRODUCTION

Virtual Reality (VR), also known as Virtual environment, has created a buzz in recent few years. This concept has grown rapidly with extensive media coverage. Very few people are actually aware about VR, its principles,

scope and future implementation in different industries or sectors. This report gives an overview of VR's history, its applications in different fields of science, work, business and environment. Also, this report will provide the information about the hardware's and software's used in VR technology. The future trends or impacts both technologically and socially, which would have a great impact by the utilization of VR in its respective field. Finally, the possible pros and cons of the technology which impact the human life on average is speculated.

Virtual Reality (VR) creates a simulated environment through the use of computer technology. Unlike conventional user interfaces, the user is placed inside an experience. The users are not just viewing a screen in front of them, instead the viewers are immersed in a 3D world. All the senses of a human are considered and a stimulated environment is created for the users which is an artificial world.

Media outlets appear to be the most excited about VR, as VR games and virtual universes are advanced for crowd commitment. Virtual voyages through historical centers, workmanship displays, traveler locales and different areas all through this world can be experienced. Also, on a genuine note, VR can be utilized to propel the fields of configuration, producing, designing, medication, instruction and preparing. A portion of these VR encounters can be seen on a PC, while others need a VR headset for survey. A full vivid encounter would incorporate a headset (a head-mounted showcase) and other wearable gadgets.

Scope and Applications of VR

With the progression in show, detecting and PC innovation, it gives the client another VR encounters which are progressively practical and vivid for various VR applications. VR can prompt new and energizing revelations in various fields. There are wide scope of uses for VR which incorporates:

Entertainment

The capability of VR in amusement is clear and gigantic as media outlets is a multi-billion dollars and buyers are constantly intrigued on its curiosity.

The VR computer game world was advanced as of now by the Disney Movie Tron in 1982. Today the computer games are investigated in huge and authenticity world through a symbol. In VR games, gamers can glance in any area or stroll through the scene.

Hollywood motion pictures offer expanding degrees of authenticity to cause client to feel like they are a piece of the scene. They let the client thoroughly submerge in PC produced world with the assistance of HMD that bolsters a stereoscopic perspective on the scene in like manner to the client's position and direction improved by sound, haptic and tangible interfaces.

Education

Notwithstanding making social mindfulness, the principal individual point of view could reform training situation we have today. Anything that is excessively perilous, costly, or unfeasible to do as a general rule, augmented reality is the arrangement. VR offers representation of geometric connections in troublesome ideas or information that are difficult to decipher. On the off chance that the genuine condition is expensive or dangerous to wellbeing, VR is the best decision to comprehend and learn it. For instance, flight reproduction or firefighting, atomic force plant wellbeing, clinical strategies and so forth are the preparation in VR which are valuable for training. Not simply the normal uses, VR training incorporates history, human studies and unknown dialect obtaining. Understudies can investigate the avenues in seventeenth century, on various time instead of simply perusing a book. <https://youtu.be/EXYZj6qwCck>

Wellbeing

VR innovation can likewise help improve the present circulated medicinal services framework, in which specialist strain to perform routine clinical methodology in remote network the world over. Specialists can submerge themselves in 3D organ models that were created from clinical sweep information for better arranging and groundwork for a clinical strategy. It can likewise be accustomed to clarifying the patient and his family with the goal that they settle on increasingly educated choices. VR can likewise give treatment to individuals experiencing psychological sickness.

<https://youtu.be/AttXbcLUyR0>

Manufacturing

The manufacturing business have utilized virtual reality to the models and structure it before executing it.

https://youtu.be/EA_j9ZYwdMw

Travel industry and Advertisement

Computer generated Reality has been utilized to make verifiable destinations, which at that point empowers clients to encounter it with comfort from your home. For example, you can even make the war that occurred at and area and feel being in war.

The notice and shopping experience would be shockingly better with VR. In the event of shopping encounters even Augmented Reality are utilized to get data of items.

Military

Virtual Reality has been received by Military – Army, Navy and Air Force to prepare the warriors for battle and endurance without placing them in any genuine damage's way. VR preparing has given the entire preparing method a facelift with numerous hazardous settings where the trooper effectively and creatively figure out how to endure and respond in the fitting way.

1. 2. 1 Journalism

VR has additionally discovered its way in news coverage where crowds can visit the locales in the VR and catch the entire activity and news on any subject. The new tasks of VR in Journalism are major, for example, Project Syria which takes individuals through the war torn Syria through a virtual visit.

Significance of Virtual Reality

Experiencing things that have no existence through the computers is now possible with VR technology! Virtual Reality is a trending technology that gives excellent scope to diverse businesses to take a leap and simulate physical presence in the real world as well as the imaginary world. This immersive technology creates a computer - simulated environment, and the advancements offer cutting-edge solutions. The cutting-edge technology crossed the barriers and diverse industrial verticals embrace the technology to create new marketing and communicating strategy. Virtual Reality technology, of course, lifted the gaming experience to an advanced level but, not limited within the gaming industry! The importance of Virtual Reality spreads

across the world involving businesses from diverse fields. VR technology offers a new path to success in the modern world.

• Beyond current technology

Virtual Reality innovation entered the new domains venturing past and the present innovation. Average folks are presently ready to get to and appreciate the advantages of VR innovation. VR doesn't get confined inside the tech devotees. VR innovation has overwhelmed the tech world and modified the desires and minds of the tech devotees. Virtual Reality makes an artificial situation with programming. The counterfeit condition gets introduced to the crowds in a manner which urges them to acknowledge and trust it as a genuine situation. VR innovation makes essential experience concentrating on two detects, i. e. , vision and sound.

• Proves to be effective

Virtual Reality Technology drenches the crowds or clients into the virtual world created by the PC. Aside from the basic idea of making artificial situation with VR innovation, it will be useful to learn and comprehend the innovation behind the vivid innovation. Understanding the fundamental wording of VR innovation will expand psyche and one can comprehend that VR is a long ways past head-mounted presentation or virtual gaming experience!

Virtual Reality recreates the vision with an ideal methodology towards making a noteworthy 3D condition. Aside from making symbolism VR encounters, VR innovation totally charms the virtual condition with certain different components.

The effect of sound impeccably synchronizes with the visuals making drawing in impacts. The clients get affirmation on the virtual condition utilizing an earphone and 3D audio cues. There must be a consistency among sound and the designs. Quickly, fast progression in VR innovation gets expected, and the desire is high for encountering vivid advanced understanding. The computerized advertisers receive the rewards of VR innovation improving the conventional methods of media promoting. VR tech showcasing effort turned fruitful and is useful for the organizations in changed manners. The brands can extend their range and perceivability. Past demonstrating their reality, the brand can accelerate their exchanging making an extraordinary effect on the crowds. The media and advertising world changed drastically with the presentation of VR innovation.

• Benefits offered by VR

Sorting out instructional meetings, gatherings, and gatherings are very simpler with VR innovation. The innovation is likewise useful in making the introductions more eye catching and engaging. With the presentation of VR innovation, the brands can exhibit administrations and items in an engaging structure. The innovation makes a 3D PC created condition that investigates extraordinary human communications. The PC mimicked condition helps in recreating the physical nearness in reality or fictional universe. The bleeding edge innovation goes about as an interface between the cause and the historical backdrop of VR and explains the present innovation in each part of creating and presenting different techniques. Brands of huge just as the

medium scale can communicate their computer-generated simulation encounters. With the one-of-a-kind tech encounters, the brands can construct brand awareness, drive discussion and loyalty in a decent level.

History & Literature Review

History of VR - Timeline of Events and Tech Development

In 1935 Stanley Weinbaum released *Pygmalion's Spectacles* - a science fiction story. The story's main character wears a pair of goggles which transports him to a fictional world which stimulates his senses aptly and features holographic recordings. This was considered as the origin of concept of Virtual reality.

So, the first technical development of VR starts from:

1838

Sir Charles Wheatstone was the first to describe stereopsis in 1838 and was awarded the Royal Medal of the Royal Society in 1840 for his explanation of binocular vision, a research which led him to construct the stereoscope. The research demonstrated that the brain combines two photographs (one eye viewing each) of the same object taken from different points to make the image appear to have a sense of depth and immersion (3-dimensional). This technology enabled Wheatstone to create the earliest type of stereoscope. A pair of mirrors were used at 45-degree angles to the user's eyes, each of which were reflecting a picture located off to the side.

1935

In 1935 American science fiction writer Stanley Weinbaum presented a fictional model for VR in his short story *Pygmalion's Spectacles*. In the story, the main character meets a professor who invented a pair of goggles which enabled "a movie that gives one sight and sound [. . .] taste, smell, and touch. [. . .] You are in the story, you speak to the shadows (characters) and they reply [. . .] the story is all about you, and you are in it."

1956

Morton Heilig, a cinematographer created Sensorama, the first VR machine (patented in 1962). It looked like a huge booth where only 4 people could fit up at a time. Since humans have different senses, multiple technologies were used, like 3D video, audio, vibrations, smell and atmospheric effects. This was done using scent producers, a vibrating chair, stereo speakers and a stereoscopic 3D screen. Heilig thought that the Sensorama was the "cinema of the future" and he wanted to fully immerse people in their films. Six short films were developed for it.

1960

Heilig additionally protected the Telesphere Mask which was the primary head-mounted presentation (HMD). This gave stereoscopic 3D pictures wide vision and sound systems sound. There was no movement following in the headset now.

1961

Until Headsight was made by Comeau and Bryan, two Philco Corporation engineers. Headsight was the primary movement following HMD. It had worked in video screens for each eye and a head-following framework.

Be that as it may, this wasn't utilized for computer generated reality; it was produced for the military to permit them to remotely take a gander at unsafe circumstances. A remote camera imitated the head developments so the client could check out the setting.

1965

Ivan Sutherland, a PC researcher, introduced his vision of the Ultimate Display. The idea was of a virtual world seen through a HMD which repeated reality so well that the client would not have the option to separate from genuine reality. This incorporated the client having the option to interface with objects. This idea included PC equipment to shape the virtual world and to keep it working progressively. His paper is viewed as the key outline for VR. "A definitive presentation would, obviously, be a room inside which the PC can control the presence of issues. A seat showed in such a room would be sufficient to sit in. A bind showed in such a room would be keeping, and a projectile showed in such a room would be lethal. With suitable programming such a showcase could truly be the Wonderland into which Alice strolled."

1966

Thomas Furness, a military architect, made the principal pilot test program for the Air Force. This aided the movement of VR on the grounds that the military accordingly gave a great deal of subsidizing to creating better pilot test programs.

1968

Sutherland, with his understudy Bob Sproull, made the principal augmented reality HMD, named The Sword of Damocles. This head-mount associated with a PC as opposed to a camera and was very crude as it could just show straightforward virtual wire-outline shapes.

These 3D models changed point of view when the client moved their head because of the following framework. It was never evolved past a lab venture since it was unreasonably overwhelming for clients to easily wear; they must be tied in light of the fact that it was suspended from the roof.

1969

Myron Krueger, a PC craftsman, built up a progression of "fake reality" encounters utilizing PCs and video frameworks. He made PC produced situations that reacted to the individuals in it. These activities prompted VIDEOPLACE innovation which is referenced later.

1972

General Electric Corporation constructed an electronic pilot test program which highlighted a 180-degree field of vision by utilizing three screens encompassing the cockpit.

1975

Krueger's VIDEOPLACE, the principal intelligent VR stage, was shown at the Milwaukee Art Center. It utilized PC illustrations, projectors, camcorders, video shows and position-detecting innovation and it didn't utilize goggles or gloves. VIDEOPLACE comprised of dull rooms with huge video screens to encompass the client in "VR".

The clients could see their PC produced outlines impersonating their own developments and activities - the clients' developments were recorded on camera and moved onto the outline. Additionally, clients in various rooms could communicate with other clients' outlines in the equivalent virtual world. These supported individuals could convey inside a virtual world regardless of whether they weren't truly close.

1977

Aspen Movie Map was made by MIT. This program empowered clients to basically meander through Aspen city in Colorado, as with Google Street View. There were three modes: summer, winter and polygons. It was made utilizing photos from a vehicle passing through the city. There were no HMDs yet it was the utilization of first-individual intuitiveness and it proposed that VR could move individuals to different spots.

1979

McDonnell-Douglas Corporation incorporated VR into its HMD, the VITAL cap, for military use. A head tracker in the HMD followed the pilot's eye developments to coordinate PC produced pictures.

1980

Stereo Graphics organization made sound system vision glasses. 1982

Sayregloves were made by Sandin and Defanti. These gloves were the principal wired gloves. They observed hand developments by utilizing light producers and photocells in the gloves' fingers. So when the client moved their fingers the measure of light hitting the photocell changed which at that point changed over the finger developments into electrical signs. This may have been the start of motion acknowledgment.

Furness made a working model of a virtual pilot test program, for the military, called the Visually Coupled Airborne Systems Simulator (VCASS).

1985

Jaron Lanier and Thomas Zimmerman established VPL Research, Inc. This organization is known as the principal organization to sell VR goggles and gloves. They built up a scope of VR hardware, for example, the Data Glove, EyePhone HMD and the Audio Sphere.

1986

Furness built up a pilot test program between 1986-1989 known as the Super Cockpit. The preparation cockpit highlighted: PC created 3D maps, propelled infrared and radar symbolism and the pilot could see and hear progressively.

The cap's following framework and sensors permitted the pilot to control the airplane utilizing motions, discourse and eye developments. Peruse progressively about Thomas Furness.

1987

English Aerospace utilized the HMD comparably to Furness' Super Cockpit and built up the Virtual Cockpit which additionally highlighted discourse acknowledgment.

Jaron Lanier promoted the expression "Computer generated Reality" while at VPL Research. The VR and designs related licenses were later purchased by Sun Microsystems. The organization Dimension International made a product that could construct 3D universes in a PC.

1989

Scott Foster established Crystal River Engineering Inc in the wake of getting an agreement from NASA to build up the sound component of the Virtual Environment Workstation Project (VIEW) - a VR preparing test system for space explorers. Through this organization constant binaural 3D sound preparing was created.

Mattel, Inc released the facility Glove, supported VPL's DataGlove. The Power Glove was a controller accessory for the Nintendo Entertainment System but it never took off as it was difficult to use.

1990

Jonathan Waldern exhibited Virtuality, a VR arcade machine, at the pc Graphics 90 exhibition in London.

1991

Antonio Medina, a NASA scientist, designed a VR system to drive the Mars robot rovers from Earth in supposed real-time despite signal delays between the planets. This system is called "Computer Simulated Teleoperation". These were VR arcade machines where gamers could play in a 3D gaming world. This was the first mass-produced VR entertainment system. A Virtuality pod featured VR headsets and real-time immersive stereoscopic 3D images. Some of the machines could be networked together for multi-player games. Eventually a number of the very fashionable arcade games, like Pac-Man, had VR versions.

1994

SEGA reported that they were dealing with the SEGA VR headset which would be accessible for the overall population to buy. This headset was intended to be utilized for arcade games and the Mega Drive reasure. It had a visor-like look because of the impact of mainstream films, for example, RoboCop. LCD shows were put in the visor, just as sound system earphones and sensors for following head development. Be that as it may, it was never discharged despite the fact that four games were made for it. One of the clarifications for the end was SEGA's anxiety of individual harming themselves as the VR impact was excessively reasonable. Notwithstanding, this appears to be impossible because of the constrained preparing power.

1994

SEGA discharged SEGA VR-1, a movement test system arcade machine. Victor Maxx discharged a VR headset called CyberMaxx.

1995

Nintendo propelled the Virtual Boy support which played 3D monochrome computer games. It was the primary convenient reasure to show 3D illustrations. Be that as it may, it was a business disappointment because of: the absence of shading illustrations, absence of programming backing and it wasn't happy to utilize. After one year it was ceased. Moderate home VR headsets were discharged: Virtual IO discharged the I-Glasses. VFX1 Headgear was discharged by Forte.

1997

Georgia Tech and Emory University specialists utilized VR to make combat area situations for veterans accepting introduction treatment for PTSD. This was known-as Virtual Vietnam.

2001

SAS Cube was the principal PC based cubic room. It prompted Virtools VR Pack.

2007

Google presented Street View. Vivid Media was distinguished as the temporary worker that caught the symbolism for four of the five urban communities at first mapped by Street View, utilizing its licensed dodecahedral camera cluster on a moving vehicle.

2010

Google presented a stereoscopic 3D mode for Street View.

Palmer Luckey, a multi-year old business person, made the primary model of the Oculus Rift headset. It included a 90-degree field of vision, which had never been seen, and depended on a PC's handling capacity to convey the pictures. This new advancement helped and revived enthusiasm for VR.

2012

Luckey propelled a Kickstarter battle for the Oculus Rift which raised \$2.4 million.

2014

Facebook purchased the Oculus VR organization for \$2 billion. This was a vital crossroads in VR's history on the grounds that VR picked up energy quickly after this.

Sony declared that they were chipping away at Project Morpheus, a VR headset for the PlayStation 4 (PS4). Google discharged the Cardboard - an ease and do-it-without anyone's help stereoscopic watcher for cell phones.

Samsung reported the Samsung Gear VR, a headset that utilizes a Samsung Galaxy cellphone as a watcher. More individuals began investigating the potential outcomes of VR, including creative extras, for instance Cratesmith, a free designer, reproduced a hoverboard scene from Back to the Future by matching the Oculus Rift with a Wii's parityboard.

2015

VR potential outcomes began getting broadly accessible to the overall population, for instance: The Wall Street Journal propelled a VR exciting ride that followed the good and bad times of the Nasdaq Stock Market. The BBC made a 360-degree video where clients see a Syrian vagrant camp. The Washington Post discharged a VR experience of the Oval Office at the White House Correspondents' Association Dinner. RYOT, a media organization, displayed Confinement, a short VR film about isolation in US detainment facilities. And so on. Gloveone was fruitful in its Kickstarter battle. These gloves let clients feel and interface with virtual articles.

2016

By 2016 many organizations were creating VR items. A large portion of the headsets had dynamic binaural sound. Haptic interfaces were immature. Haptic interfaces are frameworks that permit people to cooperate

with a PC utilizing their touch and developments - like the Gloveone gloves that were being created. These implied handsets were regularly button- worked.

HTC discharged its HTC VIVE SteamVR headset. This was the principal business arrival of a headset with sensor-based following which permitted clients to move unreservedly in a space.

2017

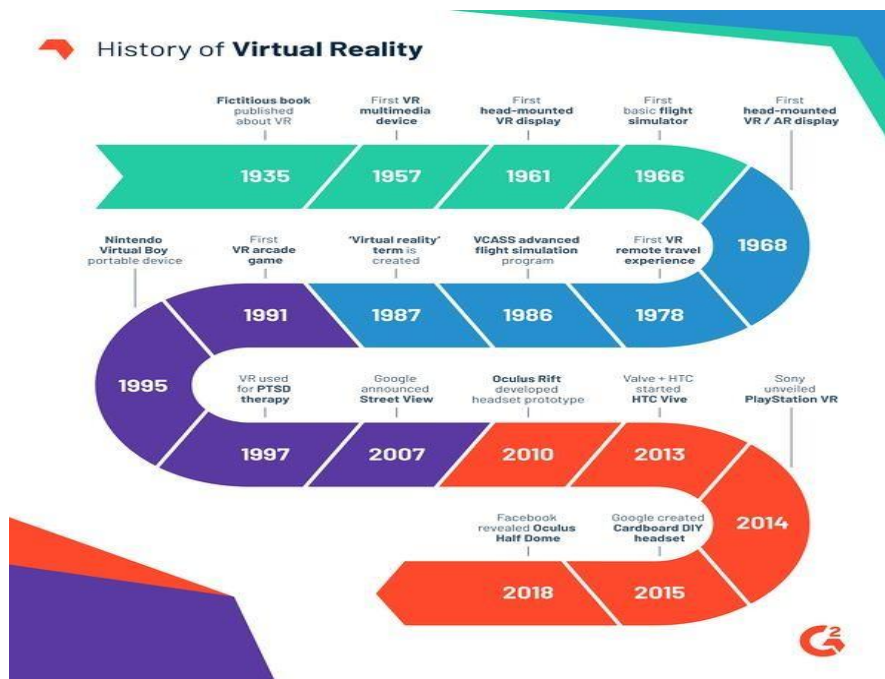
Numerous organizations are building up their own VR headsets, including HTC, Google, Apple, Amazon, Microsoft Sony, Samsung and so forth.

SonymightbebuildingupacomparableareafollowingtechttoHTC'sVIVEforthePlayStation 4.

2018

At Facebook F8, Oculus showed another headset model, the Half Dome. This is a varifocal headset with a 140 degrees field of vision.

Virtual reality has fundamentally advanced and is presently being utilized in an assortment of ways, from giving vivid gaming encounters, to helping treat mental disarranges, to showing newabilitiesandinanyevent, takingatdeath'sdoorindividualsonvirtualexcursions. VRhas numerous applications and with the ascent in cell phone innovation VR will be much increasinglyavailable.



Review of literature

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Carlos III de Madrid Av. Universidad 30, Leganès, 28911 Madrid, Spain eduardo. herranz@uc3m. es (2016)
 “Virtual Reality and its uses - a systematic literature review”

Moorhouse, N. , tom Dieck, M. C. , & Jung. T. (2017). Technological Innovations Transforming the Consumer Retail Experience: A Review of Literature. In. T. Jung&

M. Claudia tom Dieck (Eds.), “Augmented Reality and Virtual Reality - Empowering Human, Place and Business, Springer, Forthcoming”

Laura Freina , Michela Otta Italian National Research Council (2017), “A literature review on immersive Virtual Reality in Education: State of the arts andperspective”

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Universität Oettingenstr. 67 80538 München, Germany (2017), “State of the Art of Virtual Reality Technology” Elliot Hu-Au, Teachers college, Joey Lee Columbia University, (2018), “ Virtual reality in education: A tool for learning in experienceage”

Ronak Dipakkumar Gandhi¹ , Dipam S. Patel² (2018) “ Virtual Reality–Opportunities and Challenges”

Tiffany LEUNG School of Computing, Queen’s University Kingston, ON, Canada Farhana ZULKERNINE School of Computing, Queen’s University Kingston, ON, Canada Haruna ISAH School of Computing, Queen’s University Kingston, ON,

Canada (2019) “The use of Virtual Reality in Enhancing Interdisciplinary Research and Education”

Steven M. LaValle University of Oulu (2019), “VIRTUALREALITY”

Yuhang Zhao*Cornell Tech, Cornell University New York, New York yz769@cornell. edu Edward Cutrell Microsoft Research Redmond, Washingtoncutrell@microsoft. com Christian Holz Microsoft Research Redmond, Washington cholz@microsoft. com Meredith Ringel Morris Microsoft Research Redmond, Washington merrie@microsoft. com EyalOfek Microsoft Research Redmond, Washington eyalofek@microsoft. com Andrew D. Wilson Microsoft Research Redmond, Washington awilson@microsoft. com, (2019), “SeeingVR: A Set of Tools, to Make Virtual Reality More Accessible to People with Low Vision”

LiangchouXue, Christopher J Parker, Helen Mccormik The University of Manchester (2019), “A Virtual Reality and Retailing Literature Review: CurrentFocus, Underlying Themes and Future Directions”

Components ofVR

This segment shows an outline of VR frameworks from equipment to programming to human discernment to comprehend the working of whole VR frameworks.

Hardware

Theequipmentproducesimprovements thatsupersedethefacultiesoftheclient[22]dependent on human movements. The VR equipment achieves this by utilizing sensors for following movements of client, for example, button squeezes, controller developments, eye and other bodypartdevelopments. It likewise considers the physical encompassingworldon the grounds that just designed equipment and programming doesn't establish the total VR framework. The living being (clients) and its communication with the equipment is similarlysignificant.

VR equipment comprise of sensors which go about as transducer to change over the vitality it gets into a sign from an electrical circuit. This sensor has receptor to gather the vitality for change and life form has sense organs, for example, eyes and ears for a similar reason. As the client travels through the physical world, it has its own design space which are changed or arranged correspondingly.

VR Devices

VR gadgets are the equipment items utilized for VR innovation to occur. The diverse key parts of VR framework are talked about beneath. The figure (number) shows the elevated level perspective on Virtual World Generator (VWG). The sources of info are gotten from the client and his environment and proper perspective on the world are rendered to show for VR encounters.

(PC)/Console/Smartphone

PCs are utilized to process sources of info and yields consecutively. To control the substance creation and creation critical processing power is required, consequently making PC/supports/cell phones significant piece of VR frameworks. The VR content is the thing that clients see inside and see so it is similarly significant as different durable goods.

Input devices

Info gadgets gives clients the feeling of inundation and decides the manner in which a client speaks with the PC. It causes clients to explore and collaborate inside a VR situation to make it instinctive and normal as could be expected under the circumstances. Shockingly, the flow condition of innovation isn't propelled enough to help this yet. Most ordinarily utilized info gadgets are joysticks, power Balls/Tracking balls, controller wands, information gloves, trackpads, On-gadget control catches, movement trackers, bodysuits, treadmills and movement stages (virtual omni).

Output Devices

Gadgets that each animate a sense organ. Yield gadgets are utilized for introducing the VR substance or condition to the clients and it is most extreme gadgets to produce a vivid inclination. These incorporate visual, sound-related or haptic presentations. Like information gadgets, the yield gadgets are likewise immature at present in light of the fact that the present condition of craftsmanship VR framework doesn't permit to invigorate human detects impeccable perfect habits. Most frameworks bolster visual criticism, and just some of them are upgraded it by sound or haptic data.

Software

Aside from input, yield equipment and its coordination, the fundamental programming is likewise similarly significant. It is liable for the overseeing of I/O gadgets, examining approaching information and producing legitimate criticism. The entire application is time- basic and programming must oversee it: input information must be taken care of auspicious and the framework reaction that is sent to the yield shows must be expeditious all together not to obliterate the sentiment of inundation. The engineer can begin with fundamental programming improvement unit (SDK) from a VR headset seller and construct their own VWG without any preparation. SDK typically give the fundamental drivers, an interface to get to following information and call graphical rendering libraries. There are some instant VWG for specific VR encounters and has alternatives to include elevated level contents.

Audio

Virtual reality sound may not be as actually unpredictable as the visual segments, in any case, it is a similarly significant part to invigorate a client's detection and accomplishment. Most VR experience headsets furnish clients with the choice to utilize their own earphones related to a headset. Different headsets may incorporate their own coordinated earphones. Computer generated reality sound works through positional, multi-speaker sound (frequently called Positional Audio) that gives the deception of a 3-dimensional world. Positional sound is a method for seeing with your ears and is utilized in augmented reality since it can give signs to increase a client's consideration, or give them data that may not be introduced outwardly. This innovation is as of now very normal and regularly found in home venue encompass sound frameworks.

Human Perception

Understanding a physiology of the human body and the optical hallucinations are imperative to accomplish most extreme human perceptual without symptoms. The human detects utilizing distinctive improvement, receptor and sense organ.

As computer generated reality should reproduce this present reality, it is essential to know how to "fool the clients detects" to realize what are the most significant improvements and what is the acknowledged quality for emotional review? Human vision gives the greater part of data that are passed to our mind followed by hearing, contact and different faculties. Framework synchronization of all upgrades with client's activities are additionally answerable for legitimate working of VR framework.

In the wake of seeing how the various faculties, boost and sense organ cooperates to give computer generated reality to the client it is likewise imperative to know how it functions.

Content Creation

The ongoing remove from computer generated reality and its immense application has empowered numerous organizations to rise for various plans to make substance. There are two different ways of making content for your augmented experience application:

Taking 360-degree video recordings

Taking 360-degree video is the most straightforward methods for making VR content. In the event of 360 recordings you won't have the option to associate with the earth aside from glancing around. We likewise can see heaps of 360 recordings and it is presently bolstered in Facebook and YouTube. Which has empowered individuals to transfer bunches of substance on the web.

To make 360-degree video you will require an extraordinary 360 camera and with better goals. Following stage is recording where you have to keep up camera in still position or with even movement, else it would cause movement infection for the watcher. You can likewise alter your video utilizing virtual products to decrease any issues while recording.

<https://youtu.be/-xNN-bJQ4v>

Making a 3D movement or development

Taking 360-degree video will empower you to make substance of genuine world yet in the event that we need to make further developed and intelligent application.

Contrasted with 360-degree

videowhichwilletclientseeworldfromonepoint, 3Dcreationcanpermitustomakecontent where clients can move in virtualworld.

Simplepathistocatch3Dmodelofgenuineworldandbuilduptheexperience. Theotherway is utilize game motor like Unity and Unreal Engine. There are parcel of motor accessible now which would permit designers not exclusively to make game yet in addition for other 3D development.

<https://youtu.be/0oMb9Xav3AA>

Field of View

FieldofView(FOV)referstohowwidetheimageis[Chineseyoungladyref]andisestimated dependent on the level of show. It additionally gives a sensible view of the earth scene. Today the most very good quality headsets has 100 or 110 degree which is adequate for the majority of the VR contentaccessible.

Framing rate

"Casing rate alludes to the recurrence (rate) at which the showcase screen shows back to back pictures, which are likewise called outlines". In VR, least casing rate required is around 60 edges for every second to keep away from content stammering or opposite reactions to clients and to have a similar encounter. Casing rates for VR headsets will increments inevitably in future giving increasingly reasonable experience.

Latency

The vivid applications additionally relies upon expectation of the reproduction. Dormancy alludes to the measure of time it takes for a picture showed in a client's headset to get up to speed to their changing head position. Inertness can likewise the idea of as a postponement, and is estimated in milliseconds (ms). All together for an encounter to feel genuine, inertness as a rule should be in the scope of 20 milliseconds (ms) or less. Low idleness is expected to cause the human cerebrum to acknowledge the virtual condition as genuine.

Current trends of Virtual Reality in the field of business

Training your employees withVR

<https://youtu.be/K-KjuMv2Ov4>

VR is advanced for the most part for Training which is viewed as one of the most significant uses of VR. There are numerous organizations that acquainted Virtual Reality preparing with plan representatives for an alternate reason. Submerging preparing trains representatives in an exact situation and set them up for occasions which are not regular.

The best piece of these preparation is that dispenses with the requirement for arrangements to prepare the representatives. Aside from that it likewise expels the contribution of typical business tasks for preparing purposes. For instance, Oculus Virtual Speech encourages clients orrepresentativestorehearsetheiroptentalkingaptitudesinarecreateddomain. Theexperience of such arrangements forestalls clients experience unsettling influences, and get continuous criticism on the hour of the preparation. Moreover, the clinical segment is likewise using VR. It empowers medicinal services experts to rehearse in a hazard freecondition.

This is something that is unthinkable in reality. In this manner, with the assistance, VR preparing laborers and representatives of the diverse area can prepare themselves for any conditions generally in high-hazard condition.

Reform Data Visualizations with VR

Business can use the capacities of the VR in an alternate manner. It is here to tackle an issue that can teach workers in a more captivating manner than an ordinary video. This is the better approach for investigating building structures through VR that encourages customers to more readily comprehend a designer with precise data work. Utilizing VR arrangement in organizations customers may get mindful of reality and details that are generally not seen in the preparation. Subsequently, VR as an instrument gives VR empower highlighted answers for instruct customers through their plans before they have been executed.

With precise and legitimate information, providing imperative open doors moment for input and change at the hour of the gathering. Proposals 3D video utilized for VR gadgets can be superimposed in various virtual settings collected with a voiceover vivified content or symbolism.

At the point when we talk about B2B organizations who need an increasingly strong answer for conveying their information to a customer can likewise utilize same or comparative arrangements. Through VR business issue or organizations that need to convey preparing to clients or accomplices can make a decent effect. In this way the advantage is that the VR experience can be constructed with the goal that present finish or significant issues can be checked.

In this way, the significance of Virtual Reality underway has made its own significance. Investigating 3D designs through VR likewise conquers any hindrance between this present reality and a creator's creative mind before the commencement.

Imagining the full-scale impact of the structures with the assistance VR arrangement is another approach to draw in your customer. In straightforward words, we state this new innovation makes it simple to transform paper plans into 3D PC models incorporated with vivid VR re-enactments.

Immersive and simulated based learning

Innovation from a genuine perspective assumed an indispensable job in the training field. VR as a flexibility device has been picking up progress in training division as well as in business area.

In this way it is going about as the medium to a wide scope of exercises in an assortment of arrangements in establishments and association. Numerous associations and foundations began picking VR arrangement with a basic cardboard watcher, for example, the Google cardboard to upgrade the comprehension. Utilizing 3D creation VR instruments permits understudies to turn into the makers of their own virtual substance. It let them make, devour, and associate with the educational program on a totally new stature of learning.

Accordingly, VR instrument adds a supplement to customary showing techniques with submerging involvement with a virtual world Kids as well as instructors can lead the class through imaginative exercises. The instructor can connect with the children with various methodologies like making virtual shows and energized dioramas of notable occasions and deciphering writing in visuals that can be played in VR.

VR likewise can possibly animate energy as a few overviews have revealed that they were intrigued by the effect on clients' inspiration. This is new viewpoint toward learning matter where understudies demonstrated more significant levels of cooperation and better maintenance of the data.

Conferences and Collaboration

Computer generated reality (VR) can possibly assist clients with connecting who are truly at a long separation. From the business viewpoint, it is especially valid in the endeavor and business world where data should be rapidly and precisely shared.

Along these lines, VR is improved in like manner with the need of offering a device to help the client in each perspective. Utilizing the best and most precise data along physical scale models giving the best impression of the last item. VR Meetings permits specialists to utilize virtual space to mutually audit models.

This is a bit of leeway in this day and age where associates can be mainland's separated, the nuances of this data can be difficult to pass on utilizing a level screen and a voice on a phone or Skype association.

We can say the VR devices have attempted to make the procedures simpler giving an inexorably savvy alternative. The advantage of utilizing VR is to make a mutual gathering space is by all accounts achieved. Territories, for example, plan, building, development, and design are exploiting VR.

It is an item that will be accepted will extraordinarily improve the nature of gatherings. The element of VR Meetings, that they have coordinated community-oriented mark-ups, voice over IP and synchronized cloud models to consider simpler sharing of data in a joint space.

Aside from that gathering turning into an out of control situation where one individual becomes assigned as the Presenter among all. All members can see the model. To move members to a area in the model, control the model scale and direction and even quiet others the control is given to moderator. Furthermore, if the moderator needs to guide the others focus toward a area it tends to be done no problem at all.

VR preparing distinct advantage for Sales and Marketing

VR preparing is taking a solid grasp in the field of deals and advertising. In the present market, a business deals group assumes an imperative job. Augmented reality preparing for deals and advertising can profit the business deals group with unfailing results. This is the better approach to enable your deals to group to pitch potential customers. In addition, virtual preparing can urge them to confront any test. Virtual preparing gives an effective standard for dependability and important deals preparing. For the learner, VR offers a one of a kind preparing experience to work on selling and contributing methods this differing market. Organizations in various segments are receiving rewards with the utilization of the VR preparing.

Virtual Reality preparing offers learner or salesmen the opportunity to rehearse a sensible advertising meeting. Virtual reality preparing for deals and show casing permits you to rehearse various deals methods and techniques in a protected, reasonable condition. To get moment execution criticism the sales rep can rehearse in a virtual domain to improve attempt to seal the deal procedures. With VR preparing salespersons don't need to battle to discover particular time to prepare your business group.

Business reaping benefits with VR training for behavior

VR preparing can give a reasonable encounter to create or improve abilities or conduct of the client. VR preparing helps in making a solid feeling of essence and authenticity for the client while rehearsing delicate abilities. Utilizing VR preparing for conduct can help in giving reasonable, multi-tactile and invigorating

encounters to the clients. Hence, VR preparing can be effortlessly applied in the working environment to rehearse genuine circumstances. This can offer security to the client in the virtual world.

Virtual preparing for conduct can assist with examining social information for giving inside and out experiences of the client. Using VR preparing the variables of a person's conduct can be featured. This can assist with improving social or expert conduct of the client. VR experience causes altogether to approve the presentation of the person by rehearsing in the virtual condition. Virtual preparing for conduct gives a deliberate technique to social information catch. The association can assemble the understanding of the member with delicate aptitudes execution investigation.

Give shopping experience and Showcase your showrooms in VR

<https://youtu.be/iqkzxtRDT68>

Online VR Shopping is an alternate encounter. Simply sitting at home client can for all intents and purposes attempt and purchase the new things. Amazon or eBay are the best inspiration right now for others for others in the enterprises.

In this manner computer generated reality presented another method for shopping with social highlights for clients in a significant manner. At the point when we talk about the VR outlets, they are genuinely inventive approaches to make store designs. The best piece of this Virtual store is that there is no compelling reason to stress over development cost, the laws of material science, or the area of the store. Other than stores, showrooms are likewise anticipating looking for devices, gear, and well-known things. Accordingly, VR let the client perceive how the things are being utilized rather than simply laying still on a rack like in a physical store. Clients will likewise have the option to take a gander at showed things and experience all the specs and individually contrast it with different costs. Subsequently, structure business imminent showroom for bigger things like vehicles, pontoons, and houses client can give them a shot in VR before buying it. To lure clients and let them see much progressively simply sitting in a spot is the element of VR. The best model is land that has just offered 360 voyages through houses to connect with their clients.

Examples of Successful Virtual reality Marketing

- Pokémon Go: The VR game Pokémon Go surprised the world when it was discharged to the versatile gaming market in July of 2016. Furthermore, organizations like Samsung have made VR-gaming headsets you can in a flash associate with your telephone. Venture into any innovation store, and you can presumably get a look at computer generated reality coming to fruition. This blast in development for VR is uplifting news for advertisers. The game incorporated a virtual guide that pinpointed virtual Pokémon, contingent on where you went in your city. At the point when you unearthed a Pokémon, it would for all intents and purposes show up in your condition.

- IKEA : VR framework is gathering client information as a piece of statistical surveying and this is fantastically significant information to direct a showcasing procedure. IKEA additionally has a VR-based application that permits clients to "place" furniture into their homes to settle on the look, feel, and fit. This is likely one of the least difficult, generally available and most functional VR applications that we've seen to date. They do the entirety of this utilizing their iPhone application called "IkeaPlace." You can utilize the application to test various household items in your own home. This implies you don't need to head out to the store to check whether the furniture would work in your new house.

https://www.youtube.com/watch?v=5_znFPj5Lis

• StubHub: StubHub, a ticket-selling stage, has exploited computer generated simulation content promoting. They permit clients to interface in virtual situations dependent on the show settings they need to buy tickets for. This permits clients to test the specific seat they will purchase before they even make the buy. Destination British Columbia utilized VR content advertising to make a Virtual reality content. Clients could for all intents and purposes travel to British Columbia to investigate the wild. This is putting content advertising on the following level. They didn't compose a blog entry about activities in BC, and they didn't make a fundamental video. They empowered clients to sincerely associate with the experience to where it made individuals need to visit and see considerably a greater amount of BC. They drove 5% more encounters with the computer-generated experience battle.

• ThomasCook: The magnificent utilization of VR to make content was finished by the Thomas Cook venture out organization to exhibit their items for new clients. They considered it the "Fly Before You Buy" experience where VR clients could take a virtual ride in their planes and helicopters over New York City. With this bit of substance advertising, Thomas Cook had the option to expand their ROI by 40% and saw a 190% expansion in appointments in New York City. <https://www.youtube.com/watch?v=Ax0BmO3DrTc>

• Marriott: They began to include computer generated reality headsets into every single one of their lodgings to give clients the experience of making a trip to new goals. Lodging visitors could basically slide on the headset and for all intents and purposes travel to London, NYC, and Beijing surprisingly fast. Of the new visitors that utilized their computer-generated simulation content, 51% said they needed to remain all the more frequently at Marriott inns.

• Volvo Test Drive: Conceivably probably the best use of VR is utilizing it to test drive a vehicle when you don't have a vendor close by, and that is actually what Volvo did a couple of years prior. They keep on turning out with refreshed renditions that are effectively downloadable onto your cellphone. This is another Google Cardboard activity, which is likewise accessible as a downloadable application. <https://youtu.be/Wuln2bJkp1k>

Facebook and Virtual Reality

Facebook IQ considered the effect of members getting to computer generated reality by means of an Oculus Rift headset on a foundation of human correspondence: a coordinated discussion. We dispatched Neurons Inc., an applied neuroscience consultancy firm, to think about how members in the US reacted both subjectively and genuinely to bantering in computer generated reality as opposed to having an eye to eye discussion.

Neurons Inc. separated 60 members who had not recently met two by two and appointed half to have a short discussion in computer generated reality and half to do as such face to face. All members wore EEG headsets to examine their mind signals and to quantify their degree of solace and commitment. The members in the computer-generated experience bunch cooperated in a situation looking like the inside of a train vehicle – a setting where two individuals may normally fall into discussion.

The exploration uncovered that members, particularly thoughtful people, reacted emphatically to meeting in computer generated reality and had the option to set up credible connections inside the virtual condition.

Peruse on for other key discoveries and to become familiar with how advertisers can get ready for living in a virtual world. Members immediately felt quiet in computer generated reality.

A significant number of our virtual reality simulation members portrayed themselves as “late adopters”, and most had never experienced augmented experience. Notwithstanding this, the normal EEG results for members in the VR simulation bunch reliably communicated positive inspiration levels and showed psychological exertion levels that diminished after some time. This implies they wereslanted to incline toward the discussion and thought that it was simpler to do as such as time passed. Member’s reaction was, “My muscles are not applied, yet I despite everything have a similar mental refreshment as when you leave onvacation. ”

- Communication streams in virtualreality

From wires to instant messages, each new type of correspondence has needed to demonstrate that it’s simple, agreeable and successful to increase expansive selection. Computer generated reality meets this bar with regards to coordinated discussions: when we investigated the EEG consequencesofmemberswhovisitedinaugmentedreality, wefoundthatonnormaltheywere inside the ideal scope of psychological exertion. To put it another way, members in computer generated reality were neither exhausted nor overstimulated. They were additionally in the perfect zone for recalling and handling data. Another pointer that the virtual experience was charming? Time flew: while the computer-generatedexperience, discussionskeptgoing20minutes, onnormalindividualsspeculatedthey had taken13.

- Virtual reality encourages a warm association, particularly forself-observers.

WhenFBtalkedwithindividualsindependentlyaftertheirvirtualdiscussions, anormalof93% said that they preferred their virtual discussion accomplice. Some revealed to us they could imagine heading off to the bar, working out, going to a game or working with their new colleague.

Also, individuals we distinguished through a short overview as increasingly contemplative reactedespeciallydecidedly, maybebecauseassociatingbymeansofasymboldecreasedtheir reluctance and expanded their certainty. While the EEG aftereffects of the two loners and outgoing individuals demonstrated they were locked in 4 in computer generated reality, on normal contemplative people’s outcomes indicated they were more connected by meeting in augmented reality than by meeting face to face. The inverse was valid for socialbutterflies.

- Virtual reality opensauthenticity

We requested that all exploration members start their discussions with casual conversation, at thatpointweincitedthemtotalkaboutprogressivelyclosetohomesubjects. Individualsinthe augmented experience bunch disclosed to us they were astonished by how agreeable they felt uncovering this individual data in the new condition. A few noticed that communicating in augmented reality can lessen appearance-baseddecisions. “I accept (Virtual reality) can remove a feeling of partiality from discussions. ”

-Male VR participant AGE 22

- Facebook reports Horizon, a VR huge multiplayerworld

Facebook reported its own Ready Player One Oasis. Facebook Horizon is a computer-generated simulation sandbox universe where you can construct your own surroundings and games, play and associate with companions or simply investigate the client produced scenes. This is Facebook's interpretation of Second Life.

Propelling in mid-2020 in shut beta, Facebook Horizon will permit clients to plan their own differing symbols and jump between virtual regions through entrances called Telepods, watch motion pictures and devour other media with companions and play multiplayer games together, such as Wing Strikers. It likewise will incorporate human aides, known as Horizon Locals, who can give clients help and secure their wellbeing in the VR world so trolls can't spin out of control.

<https://www.youtube.com/watch?v=Is8eXZco46Q>

II. CONCLUSION

Virtual reality can be depicted as one of the most significant innovations of the cutting-edge world. At first when PC was created, it didn't have a lot of employments. With time, numerous enhancements were made and PC began assuming a significant position at workplaces, homes and ventures. Advancement of web was a wonderful expansion and it made the PC a need for each work place just as homes. Similarly, Virtual reality was grown at first with an extremely essential information. In any case, presently, it has begun assuming a significant position at many works puts particularly those callings which are identified with PC and innovation. Still investigations are being completed so as to make further upgrades in it, and we can foresee its significance in the up and coming time essentially in view of the explanation that the computer generated simulation empowers an individual to visit wherever or condition where it is some of the time for all intents and purposes difficult to go face to face. One can visit the inside body, the space, the atomic structures, remote ocean, structures, sky, planets or whatever one can consider. Science is astonishing and the PC world is giving the humankind an encounter of an absolutely new world which couldn't be envisioned a few decades back.

In this way, Virtual reality can be effortlessly depicted as one of those innovations of science, which convey an incredible flexibility in them and with the exploration work going on in this field, we can plant to show signs of improvement result expected to get extraordinary changes pretty much every field utilizing PC innovation.

III. REFERENCES

- [1]. <https://virtualspeech.com/blog/history-of-vr>
- [2]. <https://www.nettantra.com/2014/11/virtual-reality-new-scope-todays-world/>
- [3]. <https://creware.asia/importance-virtual-reality-holds-modern-world>
- [4]. <https://www.marxentlabs.com/what-is-virtual-reality>
- [5]. <http://web.tecnico.ulisboa.pt/ist188480/cm/technology.html>
- [6]. <https://www.quytech.com/blog/5-ways-businesses-are-using-virtual-reality-right-now/>
- [7]. <https://mbryonic.com/best-vr-marketing/>
- [8]. <https://neilpatel.com/blog/future-marketing-virtual-reality/>
- [9]. <https://digitalmarketinginstitute.com/blog/7-examples-of-successful-virtual-reality-marketing>
- [10]. <https://www.linkedin.com/pulse/scope-virtual-reality-applications-vr-rolve-bhatia>



A Study on Strategic Exigencies for Business Sustainability Post Covid-19 : With Special Reference to Indian Companies

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ABSTRACT

Business strategy can be understood as unique course of action or set of decisions which assist in achieving specific business objectives. Strategies provide intent for organizations to drive their respective business practices. The responsiveness to environment challenges, dynamics and adaptability to VUCA is critical for business sustainability and success. A very important lesson due to the outbreak of novel corona virus to the entire global market is to rethink the strategic intent of the business organizations. Strategic exigencies during the outbreak conditions should be carefully planned and implemented with rationalized business models and practices for sustaining the business. 'Strategy' and its content have been associated in this study to bridge the explanations and arguments on how strategy must be reshaped when unprecedented situations arise. The study attempts to investigate the strategic exigencies for business sustainability and how they need to be connected with proper scenario planning, resulting in a focused-strategic drive. The study intends to understand how Covid-19 outbreak made holistic impacts on economies and societies that ultimately resulted in new-normal adaptation options for businesses. . Included are reviews on global business practices highlighting incidents of few global companies. This study carried out a literature review to unveil the empirical discussions whereas cases of Indian companies were highlighted to explain the real life experiences on how businesses adopted to new-normal scenarios for sustainability. The best business practices undertaken by Indian companies were referred to generate a practice-related knowledge sharing. Finally, this study concludes its essence, whilst proposing the importance of reviewing hands-on cases in India to share insights of new knowledge.

Keywords : Business sustainability, Covid-19 Outbreak, Strategic Exigencies, Global Economy, New-Normal Scenarios, Indian companies.

1. INTRODUCTION

Strategy and its Relevance to Business.

"Strategy means deliberately choosing a different set of activities to deliver a unique mix of value." Strategy is "about being different." (Porter, 1996) Business strategy can be understood as unique course of action or set of decisions which assist in achieving specific business objectives. Most businesses focus on strategies that range long to medium term, considering several factors. Business would always consider the external and internal environment when establishing strategies. The purpose of establishing strategies may be to achieve the goals of the business, which can be profit maximisation, wealth creation or to maintain a better market position than that of their competitors, while business growth would be the most preferred strategy. Strategic planning is an essential for organization performance and it requires proper strategic responsiveness to market conditions. Strategies provide intent for organizations to drive their respective business practices.

1.1 Covid-19: Impact on Business

Covid-19 pandemic has shocked and paralyzed businesses not only in India but all over the world. Business activities were frozen as the business houses came to a standstill with enforced shutdowns, lock-outs and playing close attention to the guidelines of the Central and State governments. Businesses that could work during the lockdown and while its relaxation with adherence to certain guidelines, found that there were drastic disruptions in the supply chain. In order to adapt to such shocks and supply chain disruptions, business were forced to consider tactical exigencies to prevent unbearable losses and to attain financial equilibrium amending their strategies was a prerequisite. Moreover, there was a need to review and re-evaluate the assets of the business and to find means of maximising it. But most organisations realized that people are their most valuable asset, and subsequently changed how people worked productively while protecting them. Immense changes in the behavior of consumer have been noted, as their buying patterns have changed especially with income deterioration, job losses, layoffs, and furloughs happening throughout the world, it led to a situation where people are becoming more price conscious. Furthermore, as per the report by ILO-ADB titled ‘Tackling the Covid-19 youth employment crisis in Asia and the Pacific’, it is estimated that in India 4.1 million youth have lost their jobs. With ‘Work from Home’ trend becoming a forced reality, the potential job losses for Asia-Pacific is estimated to be 68 million if the pandemic is not controlled (Fernandez, 2020). There is a further suggestion that disposable income is expected to recover only in the year 2024 for several countries. E-commerce has become the industry with immense potential to grow as consumers are relying on trusted brands, spending carefully, spending less time on outdoor shopping, focusing on health and wellbeing, need for acquiring new skills (online learning), restricted travel and digital/online entertainment inform of OTT platforms like Netflix, Amazon Prime, Hotstar & Disney. A very important lesson due to the outbreak of novel corona virus to the entire business world is to rethink the strategic intent of the business organizations.

2. Business during Covid-19: An Empirical Review at global level

Future predictability is the biggest dilemma that the strategic managers in business face during this pandemic and the problem is doubled by trying to manage the present situation which is superseded by issues such as drop in income level, job losses, layoffs, lockdowns, and closures. As the global economy and business survival are at stake the model of ‘Un-freeze, Change and Freeze’ suggested by Kurt Lewin was enforced with a rapid un-freeze phase where businesses were compelled to think of strategic exigencies and amend their ways of doing things. Furthermore, behaviour of the consumers and their buying patterns are speculated to remain almost the same for a considerable period of time and may even continue when complete recovery takes place. As per the survey of McKinsey & Co, majority of the respondents envisaged that the global economic recovery could take up to 2 years and beyond. Considering these facts and observations it is clear that business should definitely think of strategic exigencies for sustainability and make the most to survive this period of down turn. Business which dealt with FMCG’s, essential goods, medical and healthcare products remained much unaffected as the demand for these products never rock bottomed. In spite of disruptions in business at global level few industries boomed amidst this pandemic especially during the closures and lockdowns. Business with best strategies were biggest revenue makers which included: Amazon with US\$ 400 billion, Microsoft with US\$270 billion and Apple with US\$219 billion, as a result of people working from home and seeking entertainment from home. Amazon earned from home deliveries and online entertainment, while Microsoft gained from software and Xbox live and Apple from online sales of its products. Interestingly in India, the top gainers were from these 5 sectors: Ed-tech, Online-gaming, Med-tech, Agri-tech and Online media. Once lockdown was lifted and initial relaxations were implemented, liquor business made exorbitant profits with record revenue from the sale of alcoholic liquor. The top 10 earners around the globe mostly are tech-based companies.

2.1 Managing VUCA in Business Environment: reference to India

Volatility, Uncertainty, Complexity and Ambiguity (VUCA) are the key traits of business environment, with the spread of Covid-19 these complexities have compounded manifolds and consequently there arises a need for strategic exigencies for business sustainability. As stated above, those businesses which best performed in the global scenario were business with best strategies and had already well established products or processors that were maximised due to implications of Covid-19. Sustainability of other business organisations presupposes effective strategic exigencies and needed best business practices to innovate as well as to find alternative products and markets to alleviate major losses. With a decrease in global textile and apparel demands, India apparel exporters found alternative markets leveraging on the existing skills by expanding product portfolios in making masks and medical apparel (PPE's), and supplied some of the products as a service at no cost.

Indian companies undertook CSR initiatives to support the Covid-19 fightback, and an example of this was significant monetary contribution to the extent of 2000 Crores with highest being that from Tata group to the extent of 1500 crores, Adani, 100 Crores, Jindal South West (JSW) group 100 Crores to name a few. Reliance Industry Limited (RIL) decided to provide free fuel for all emergency vehicles plying. Parle-G decided to provide 3 Crores biscuits packets to the people in need. Several companies are offering their resorts and hotels to be used for Quarantine purposes or for accommodating doctors and other support staff i.e. TATA, Mahindra and Mahindra. Companies are also resorting to ethical practice by taking due care of contract labourers, daily wagers and also of other under privileged people in their ecosystem. All Tata group companies have committed to pay their daily wagers and temporary workers all across India irrespective of their availability for work due to various reasons. RIL also decided to continue payments to its temporary and contract workers. Vedanta Group has set up a 100 Crores fund to help daily wagers and their contractual workers and to other needy communities across their various plant locations. Similarly Hero Group also set up 100 Crores fund to help their employees, vendors and dealers.

Indian Companies are supporting government also in its fight against COVID 19 by assisting in developing and enhancing infrastructure facilities, Reliance Industries Limited(RIL) has set emergency hospitals and isolation centres. Company is also increasing its manufacturing capabilities to produce 100,000 face masks per day and other protective equipment for health workers to well equip them in this fight against deadly corona virus. Mahindra and Mahindra (M&M) announced manufacturing of Ventilators at a very competitive costing.

Hence from the above it is evident that Indian Companies have used “Values Driven Marketing” as proposed Kottler, Karthajaya and Setiawan (2010) as a tactical measure during this pandemic, which resulted in establishing corporate identity, better brand image and created brand integrity in the society. Businesses were able to tranquilize the losses through such initiatives while other used the current situation and built brand awareness. Such strategic imperatives suffice that CSR initiatives lead to more resilient business with better sustainability and these CSR initiatives could be used as test beds for new normal offerings, such as personal protective equipment (PPE), hand sanitizers, gloves etc.

2.2 Strategic Exigencies for Business Sustainability

Deloitte (2020) emphasized business need to focus on exigencies such as identifying initial geographies to start sales, ensuring product alignment with market needs, identifying new channel partners, maintaining channel health, ensuring efficient allocation of marketing spends, maintaining the supply chain, and developing detailed go-to-market plans. DBS and UBS have made commitments with regards to jobs and skills, while DBS announced its commitment to hiring 2,000 people, at least half of whom will be in new roles. Accenture (2020) suggests that business should customise to the current situation, reset strategies to establish and adhere to new ways of working and how relationships are maintained as well as seek renewal through adaption in the new normal. McKinsey & Co (2020) reiterates that there are specific strategic exigencies and business must consider managing the present, with the basic understanding that cash in hand is the most important factor for

sustainability. Similarly, Kim and Maubaugne (2020) ingeminate importance of building resilience to ride the wave of the pandemic and take into account revival of business in the new normal. It is further understood that business reduced the stock levels during this period and managed inventory to increase cash in hand. One of the comprehensive imperative of PwC was ‘ADAPT’ that outlines five urgent issues faced due to Covid-19 and their implications on business i.e. Asymmetry, Disruption, Age, Populism and Trust. (Figure.2.1 below depicts ‘ADAPT’)

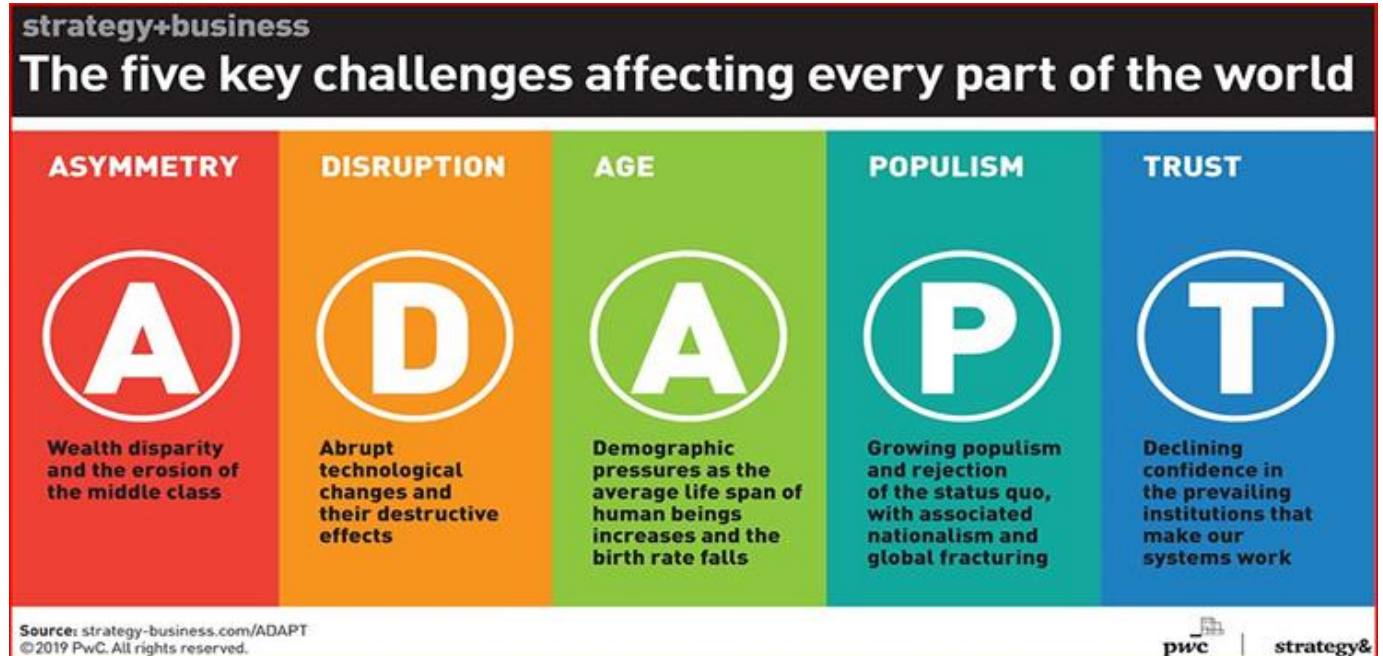


Figure.2.1

2.2.1 Strategic exigencies by Indian Companies

In India business had the best business practices for sustainability amidst Covid-19, to list a few are:

- Godrej Group firm believes that it is a "resurgence time" for its home insecticide segment, as awareness on diseases prevention in general has increased in the COVID-19 times.
- Hindustan Unilever Limited - Collaborations for better medical infrastructure, Donating products for better health, Ensuring safety of employees.
- Amway Enterprises India - transit from hi-touch to hi-tech to mitigate the impact of COVID 19, focus on personal hygiene and immunity building products, a strategic shift towards building an independent last-mile delivery model under clearly structured multi-vendor national alliances and a mega push to immunity and nutrition product portfolio.
- Suguna Foods addresses Covid-19 from immunity angle by increased production of nutritious Vitamin D enriched eggs, first of its kind in the country, as part of its relentless commitment to support the public health and protect their well-being.
- Hershey India Pvt Ltd has distributed 1,20,000 fortified beverages and cookies across India to express their gratitude and support towards the medical staff, police, sanitation workers, migrant laborers and underprivileged children in these tough times.

2.3 Scenario Planning

According to the study carried out by McKinsey & Co (2020) among business leaders concerning the recovery possibilities post Covid-19 emphasized on 9 possible situations, and 33% are of the view that the recovery could

take place gradually over a period of about two years with a few ups and downs. There were recommendations that business should conduct scenario planning and make contingency plans considering their own industries ground realities. Roots of scenario planning were from military planning, it considers several possibilities and plans scrupulously to manage a particular scenario. Scenario planning covers two broad areas of knowledge, one being the element of empirical knowledge or something that is known and the other being unknown elements. Scenario planning presupposes defining the scope of elements that would be considered critical to the stakeholders.

Scenario planning differs from contingency planning which examines “what if” scenarios and computer simulations that consider formal models, and does not consider unquantifiable elements. For exemplification, to highlight companies need to identify the impact of PEST factors of business environment to logically analyse the business scenarios especially during Covid-19 outbreak. In order to create the scenario themes and to consider the feasibility of each scenario under the selected themes needs consideration as well as the establishment of learning and research needs. The most important step in scenario planning is the creation of quantitative models and the decisions that would be required to be built into a quantitative model.

Supplementary to the aforesaid model, an ideal tool should be considered for the options that would make financial sense. One of the most accepted models is the decision tree analysis which could be used for building a finance-based scenario comparative analysis. Few key factors that need to be in consideration in the exercise of scenario planning is that it should be done by an innate team.

2.4 Consumer centric Strategic Exigencies

Disruptions in the business and supply chains due to Covid-19 are inevitable that has impacted the consumer behavior. Because of lockdown restrictions people are required to work from home, and are insisted to avoid crowded spaces. Consequently, the top 3 earners during the pandemic are Amazon with \$400 billion, Microsoft with \$270 billion and Apple with \$219 billion, which is a result of work from home trend and the need for home entertainment. It shall be noted that among the top 10 earners, most are technology-based companies. Through the peaks of the pandemic, delivery technologies ensured that the consumer needs were met and satisfied by making use of Artificial Intelligence, linking online and off-line shopping networks. For example, Amazon adopted drone deliveries as an initiative to have contactless delivery to avoid community spread of the virus among their consumers. It is more convenient and comfortable for the consumers in changing their buying patterns from traditional ways of purchasing from brick-and-mortar stores to online stores.

During the initial days of the pandemic in India, consumers were forced to reach out to local mobile vendors and stores were opened with restricted time. Moreover to practice social distancing only limited number were allowed to purchase at a given time. Most of the supermarket chains in India initiated online sales and were supported by delivery partners that ensured store to door within the day. India being a service sector driven economy, the services have been converting to competitive positions in the market with many innovative marketing practices. I would like to highlight the responsive strategic exigencies undertaken by the Indian modern trade channels by boosting their online strategies to reach consumers even during the lockdown situations with the restricted options. Central government along with respective State governments made some wise decisions to coordinate with essential service providers like supermarkets medical stores to make sure consumers receive essential goods by means of some contingency plans with special permissions. This ensured a safe and an efficient mechanism for the people in India to survive during the extensive lockdown period whilst business practices of modern trade sector started restructuring with technology and digital presence.

Accenture (2020) proposed that consumer behaviours displayed during the pandemic have greater possibilities of continuing in the future. Also, suggests that there are several consumer behaviours that should be taken into consideration while emphasis is on a consumer-focused strategy post Covid-19. It is observed that consumers

were keen on fulfilling the essential requirements and were willing to even change brands to fulfil their basic needs. Consumers are highly conscious about health and would prefer to stay at home than go out to be exposed. Therefore, it is presumed that consumers shall continue to opt for online shopping even though brick and mortar stores re-open in the new normal.

McKinsey & Co (2020) further suggests that since mobility is being limited and restricted, stay at home and work from home trend has increased. Due to this, home based study (online education) and home-based entertainment has peaked, and there has been more interest in Microsoft Teams, Google Classrooms and Zoom. It is further suggested that automation should take a high priority and building a flexible and agile workforce that could be plugged into all types of uncertainties (Ansari, Brown, Eizenman, & Ratner, 2020). For business sustainability post Covid-19 it is critical to focus on consumer centric strategic exigencies.

3. Discussion

India's export industries suffered due to the effects of Covid-19 as global demand fell and also the stock prices went down. Considering VUCA and impact of Covid-19 on business, it is essential to consider short term and medium-term strategic exigencies for its sustainability and selecting the right imperative under stress is something that all companies were forced to consider. The strategies need to consider the customer, and it could be an overseas customer or a local customer. Porter (2011), suggests that a growth strategy leads to trade-offs, which could lead to loss of turnover from a 'low cost strategy' or in turn 'differentiation' could lead to loss of existing customers, and business must be fully aware of such strategies that could adversely affect the current position in the market. Whatever strategy is selected by the business, needs to consider a specific time horizon taking into account the new normal as a solution to the pandemic is yet to arrive. Furthermore, due to the pandemic, global economies are facing the worst recession since the 1930s, and as a result most global and corporate economies resonate frugality, since rebound needs to take place at the shortest possible time (Radjou, 2020).

Successful business have embraced as well as weathered change, even though the change has been painful at times. They have been able to move aggressively with the market and changed lanes swiftly (Andersen, Bradley, Swaminathan, & West, 2020). During a crisis situation such an uncontrolled pandemic, business should take swift decisions. For example, companies geared for online business, saw a huge jump in delivery requirements arising from the limited mobility. Growth in online business was such that the volumes in 8 weeks of the pandemic equaled the total volumes of 10 years prior to the pandemic (Bradley, Hirt, Hudson, Northcote, & Smit, 2020). Many organisations were able to swiftly change their business to online within a very short period of time, and the success was due to the backbone systems established prior to the pandemic. In the Indian context, many establishments were not able to make swift transition. However, eventually, this was achieved and still the systems are evolving. One of the main reasons, business delayed in converting to a digital platform in India was due to the fact that a pandemic situation was not thought of. A scenario planning exercise would have considered the need of creating strong supply chain backbone systems as contingency planning and mitigation activities. Accenture (2020) suggests eco-system partnering along with value chain risk and dependency real time monitoring. The market rivals should collaborate in a situation such as a pandemic or when global supply chains are stressed. Careful consideration should be made on the risks and benefits and appropriate the anti-trust issues need to be ironed out prior to the said corporation.

4. Conclusion

Assessing the response to the pandemic, Indian Companies should seriously consider such disruptions in a scenario planning exercise. Scenario Planning need not be limited to a pandemic, but business can consider natural disasters or even law and order related supply chain disruptions. Scenario planning should be an

integral part of business strategic planning exercise, not limiting to a disaster, and related bear scenarios but also considering a bull market scenario as well. Furthermore, as suggested by McKinsey & Co (2020), business should also stress test the possible scenarios as to validate the plans that are prior planned around such scenarios. The second most important aspect is to establish real time situational monitoring systems and rapid response teams to make quick decisions to mitigate any arising eventualities. Considering a collaboration framework in the supply chain even with the competitors in same industry will be instrumental in managing costs as cash is king in the current scenario. The study embarks the importance of customer centric strategic exigencies for business even during the outbreak context. The major notion that is emphasized is the organic nature of the business models as it creates strategic exigencies for business sustainability. Some of the companies highlighted in this study justify how Indian companies were able to sustain due to their strategic exigencies, dynamic adoption of technology and revamped the business models due to the covid-19 outbreak resulting new-normal thought process to corporate management.

Creating a social laboratory of alternatives in economic and sustainable policy making, the government can explore ideas such as a social impact stock exchange for developmental organisations and non-profits to standardise impact data and funnel funding into high-impact green initiatives. Green investments will not just create more jobs, but also help with quicker and sustained recovery of the economy post-COVID-19. Beyond tangible capital returns, green investment can also limit future climate risk exposure by nurturing a more resilient economy. Thus, future studies could further investigate the cases to unveil how new-normal situations were successfully adopted by different firms to provide new knowledge insights to practice perspectives.

REFERENCES

Web Articles/Websites:

- 1) https://www.ilo.org/asia/publications/WCMS_753369/lang--en/index.htm
- 2) <https://textilevaluechain.in/2020/06/09/impact-of-covid-19-on-exports-of-textile-and-apparel-industry-in-indian/>
- 3) <https://vesim.ves.ac.in/vesimblog/faculty-blog/327-indian-companies-during-covid-19-leading-by-ethical-practices.html>
- 4) <https://www.newindianexpress.com/magazine/2020/sep/06/tech-tonic-medical-innovations-changing-healthcare-sector-2192091.html>
- 5) <https://www.mckinsey.com/business-functions/risk/our-insights/covid-19-implications-for-business#>
- 6) <https://www.strategy-business.com/article/Adapting-to-a-new-world?gko=5b5d0>
- 7) <https://blogs.lse.ac.uk/businessreview/2020/07/09/covid-19-makes-inclusion-a-strategic-imperative-for-companies-and-investors/>
- 8) <https://www.mckinsey.com/industries/retail/our-insights/how-covid-19-is-changing-consumerbehavior-now-and-forever>
- 9) <https://www.downtoearth.org.in/blog/climate-change/post-covid-19-govt-has-opportunity-to-build-eco-institutionalism-73006>
- 10) <https://www2.deloitte.com/in/en/pages/energy-and-resources/articles/lubricants-covid.html>
- 11) <http://www.ciicovid19update.in/best-practices.html>

Articles in Journal:

- 12) Andersen, S., Bradley, C., Swaminathan, S., & West, A. (2020). Why you've got to put your portfolio on the move. New York: McKinsey & Co.
- 13) Ansari, A., Brown, P., Eizenman, O., & Ratner, L. (2020). Consumer organization and operating models: Bold moves for the next normal. New York: McKinsey & Co.
- 14) Arora, N., Charm, T., Grimmelt, A., Ortega, M., Robinson, K., Sexauer, C., Yamakawa, N. (2020). A global view of how consumer behavior is changing amid COVID-19. Boston: McKinsey & Co.
- 15) Bradley, C., Hirt, M., Hudson, S., Northcote, N., & Smit, S. (2020, July 14). The great acceleration.
- 16) Fernandez, H. A. (2020, April 7). ADB: Asia stands to lose 68 million jobs if coronavirus is not contained in six months.
- 17) Kim, W. C., & Mauborgne, R. (2020, April 30). How to Achieve Resilient Growth Throughout the Business Cycle.
- 18) Kotler, P., Kartajaya, H., & Setiawan, I. (2010). Marketing 3.0: From Products to Customers to the Human Spirit. Hoboken: John Wiley & Sons.
- 19) McKinsey & Co. (2020). Covid-19: Briefing Materials. New York: McKinsey & Co.
- 20) Radjou, N. (2020, August 6). The Rising Frugal Economy. (<https://sloanreview.mit.edu/article/the-rising-frugal-economy/?og=Home+Editors+Picks>)
- 21) Schoemaker, P. J. (1995). Scenario Planning: A Tool For Strategic Thinking. MIT Sloan Management Review, 25-40.



Factors Affecting Work Life Balance of Doctors during COVID 19 Pandemic

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ABSTRACT

In this challenging and pandemic situation balancing work life and home life is challenging for any doctor. The work-life balance of the medical profession in the public sector is always a concern. The work life balance condition is in general more severe in densely populated countries like India, where the average working hour is 48.4 hours per week which is higher than the maximum working hour defined by law in many countries. During this COVID 19 pandemic many doctors even stopped practicing medicine, as they were scared of getting infected. Doctors with poor work-life balance have bad effects like unwilling to work, more likely to change jobs, disharmony, lack of exercise, stress, poor diet, exhaustion, insomnia, depression and health problems (e.g. cancer, mental disorder) (Welford, 2008).

An individual may live a life of which is happy, healthy and even successful when there will be work-life Balance. Work-life balance has undeniably become some sort of primary concern to all those wishing to have a high-quality of life (Breitenecker and Shah, 2018). Work-life balance describes a person's ability to effectively manage their paid work commitments on one hand and with their career goals, personal, community and cultural responsibilities, interests and obligations on the other hand. As rightly said by Clark (2000) Work-Life Balance is "Satisfaction and good functioning at work and at home with a minimum of role conflict".

Keywords : work life balance , COVID 19 pandemic

I. INTRODUCTION

In this challenging and pandemic situation balancing work life and home life is challenging for any doctor. The work-life balance of the medical profession in the public sector is always a concern. The work life balance condition is in general more severe in densely populated countries like India, where the average working hour is 48.4 hours per week which is higher than the maximum working hour defined by law in many countries. During this COVID 19 pandemic many doctors even stopped practicing medicine, as they were scared of getting infected. Doctors with poor work-life balance have bad effects like unwilling to work, more likely to change jobs, disharmony, lack of exercise, stress, poor diet, exhaustion, insomnia, depression and health problems (e.g. cancer, mental disorder) (Welford, 2008).

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Balance. Work-life balance has undeniably become some sort of primary concern to all those wishing to have a high-quality of life (Breitenecker and Shah, 2018). Work-life balance describes a person’s ability to effectively manage their paid work commitments on one hand and with their career goals, personal, community and cultural responsibilities, interests and obligations on the other hand. As rightly said by Clark (2000) Work-Life Balance is “Satisfaction and good functioning at work and at home with a minimum of role conflict”

Today, People are not only doing work for survival but also for personal satisfaction as well. If there is no balance between the persons working life and personal life, it will affect their performance and commitment towards the organizations we all know India have acute shortage of doctors.

It’s very much necessary to protect doctors health and there family to protect from COVID 19 infection. In fact most of the doctors are scared of that their family might get infected if the working organization did not provide protection kits and there sanitation needs. So biomedical waste management should be in proper way. If the organizations mishandle the waste management there are high chances that they might get infected. So the organizations should take care of their health and they’re financial needs. Most of the organizations what I have gone through they had given only 70% of the salaries it would leads to financial burden also on them.

Further, there is increasing stress with reference to their future growth in their careers. There is an increasing trend of burnout (losing interest in the profession) among medical doctors due to various reasons. This study is focusing on factors influencing work life balance of medical professionals in India, to sustain interest in the profession.

Indicators	Year	India	USA	UK	Brazi l	China
Hospital Bed Density (per 10000 population)	2000-2009	12	31	39	24	30
Doctor Density (per 10000 population)	2000-2009	6	27	21	17	14
Births attended by skilled health personnel (percent)	2000-2009	47	99	NA	97	98
No of Doctors	2009	6,43,520	7,93,648	1,26,126	3,20,01	18,62,630
No. of Nurses	2009	13,72,059	29,27,000	37,200	5,49,423	12259240
No. of Dentists	2009	55,344	4,63,663	25,914	2,17,217	1,36,520
Avg. no. of doctors per	2009		0.81			0.46

bed		0.6		0.53	0.69	
Avg. no. of nurses per bed	2009	1.27	3	0.16	1.18	3.02
No. of doctors per 1000 population	2009	0.6	2.7	2.1	1.7	1.4
No. of nurses per 1000 population	2009	1.3	9.8	0.6	2.9	1

Source: www.oecd.org, www.whoindia.org High level expert group (HLEG) Secretariat (2011) Numerator: Yearly MCI registration records 1974-

2010 (adjusted for retirement, and 3% attrition from other causes) indicates availability of 5.1 doctors per 10,000 i.e. 1 Doctor per population of 1,953. According to World Health Statistics 2013, WHO, ICMR, Aranca Analysis, India's hospitals bed ratio is 0.9 per 1,000 population physician's ratio, is 0.7 per 1,000 populations. In India there is an acute shortage of doctors; there would be shortage of around 600,000 doctors in the next 10 years. India's hospital bed per thousand populations is below the global average of 2.9 beds.

The entire description gives above reveals that there is huge shortage of medical practitioners as against requirement predicted; therefore work life balance is a major factor. If the issues related to work life balance are addressed, doctors will be able to give their optimum to the Industry. So that real shortage is not further augmented. Recently Indian medical association declared that around 515 doctors have succumbed to death from the covid 19 pandemic. So the need of an hour is how to gain the confidence of doctors and give better work life balance for them.

REVIEW OF LITERATURE

The concept of work-life boundary can better be understood as a process of creating and maintaining more or less "distinct territories of the self [1]. WLB has important consequences for employee attitudes towards their organizations- as well as for the lives of employees [2]. A research study recently conducted in Saudi Arabia [3] has indicated that the emotional exhaustion in Saudi Arabia (2.72) was higher than both US (2.69) and Romanian (2.21) studies. It may be noted that emotional exhaustion is considered the core manifestation of burnout. Depersonalization (impersonal response towards patients) score among Saudi Doctors (1.86) was higher than Romanian score (1.4) and less than US score (2.6). Further Saudi Arabia emergency doctors have comparatively lower personal accomplishment score meaning they deserve attention as there is a higher risk of changing specialty or employment by this group.

Fanny et al (2013) studied the Work-Life Balance of Public Hospital Doctors in a Metropolitan City (Hong

Cong) commented that public hospital doctors had poorer work-life balance as compared to the other professions. More than half of the doctors reported that disturbed work-life balance, dramatically reduced productivity and/or work quality, and prolonged fatigue level, sleepiness and extreme tiredness.

Dyrbye et.al (2013) conducted a survey of U.S. Physicians regarding the impact of work-home conflict (WHC) found that greater work hours for physicians and their employed partners were independently associated with WHC. Physicians and partners who had experienced a recent WHC were more likely to have symptoms of burnout. These conflicts are strongly associated with distress and relationship dissatisfaction.

Keeton et.al (2007) studied predictors of physician career satisfaction, work-life balance, and burnout with an objective to explore factors associated with physician career satisfaction, work-life balance, and burnout focusing on differences across age, gender, and specialty found that both women and men report being highly satisfied with their careers, having moderate levels of satisfaction with work-life balance and having moderate levels of emotional resilience. Measures of burnout strongly predicted career satisfaction the strongest predictor of work-life balance.

OBJECTIVE OF THIS STUDY.

1. To study the Work life balance in Doctors. [1][SEP]
2. To explore factors influencing Work Life Balance of Doctors. [1][SEP]
3. To analyze critical factors among identified factors. [1][SEP]
4. To suggest strategies to improve work life balance of doctors. [1][SEP]

RESEARCH METHODOLOGY

The following methodology is being followed to achieve the objectives of the study. The conceptual scope of the study is limited to the human element in the health care sector directly dealing with the patient care. In particular the scope of the study is limited to the factors influencing work life balance of medical professional in India. A representative sample of medical professionals from Government hospitals (32) and Private Hospitals (46) in Bangalore, India was considered for the purpose of the study. A total of 78 valid questionnaires were considered for the purpose of the study. The data are collected during May- July 2020. Primary data are collected for the purpose of the study by administering a structured questionnaire with 42 questions to the medical professionals.

DATA ANALYSIS

One question with zero variance was deleted for the purpose of data analysis. Statistical Analysis of Critical Factors Affecting Health Care Sector in India are carried out. Suitable statistical tools such as Cronbach's alpha, cross tabs, KMO Bartlett's test, Factor analysis - component analysis, scree plot, principal component analysis, crosstabs and tests hypotheses are conducted to draw meaningful inferences that would help policy makers and medical professionals to bring the desired change where necessary.

Table 1. Cronbach's alpha

Reliability Statistics		
Organization	Cronbach's Alpha	N of Items
Government	.940	41
Private	.896	41

Scale Statistics				
Organization	Mean	Variance	SD	N
Government	156.66	439.910	20.974	41
Private	141.26	304.064	17.437	41

Inference: Cronbach's alpha has been run for to check their reliability. The above table displays some of the results obtained. The overall alpha for the all items (Government and private group wise) are 0.940 and 0.896 respectively, these values are very high and indicates strong internal consistency among the given items in the questionnaire.

Factor Analysis: Before we proceeded for factor analysis, first the researcher tested the eligibility of the data by checking KMO- Bartlett's test which is a measure of sampling adequacy.

Table 2 KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.719
Bartlett's Test of Sphericity	Approx. Chi-Square	2277.813
	Df.	820
	Sig.	.000

The KMO value is > 0.5 indicates multivariate normality among variables. Further since the significance value is less than .005 the researcher preceded with factor analysis.

The researcher calculated total variance, component matrix and extracted 11 components. Rotated component matrix using Varimax Kaiser Normalization rotation method which converged in 23 iterations. The PRINCIPAL COMPONENT MATRIX gave the component matrix which is rotated using the VARIMAX rotation technique which gives the ROTATED COMPONENT MATRIX. Rotation of factors helps in the better interpretation of factors. Since the first factor in the ROTATED COMPONENT MATRIX is heavily loaded with able to spare time for parents, elders in my (medical professionals) family, its factor loading value is 0.892. The

second factor is heavily loaded with good and adequate infrastructure facilities at my work place (like water, sanitary facilities) its factor loading value is 0.909 and thus the subsequent factors can be interpreted based on their factor loading values. The final list of 11 factors which collectively account for 76 % of the variance in the data is given in Table 3.

Table 3. The final list of 11 factors which collectively account for 76 % of the variance

Si no	Factor name	Factor loading value
1	Ability to spare time for parents and elders in my family ^[SEP]	0.892
2	Good and adequate infrastructure facilities at my work place (like water, sanitary facilities)	0.909
3	Proud to be working for this organization ^[SEP]	0.766
4	Counseling patient/ dependent to their satisfaction	0.883
5	Occupation demands time beyond working hours	0.707
6	Willingness to do social service	0.762
7	Comfort with occupational duty timings ^[SEP]	0.777
8	Feeling stressed at work	0.881
9	Often having different demands on my time	0.751
10	job requires creativity	0.791
11	Turn down another job for more pay in-order to stay with this hospital	0.622

Table 4 : Crosstab (Figures indicate % within Org)

Question	O	SD	D	N	A	SA	T
1. Hospital provides sufficient facilities for relaxation	G	6.2	3.1	34.4	37.5	18.8	100
	P	6.5	34.8	21.7	28.3	8.7	100
	T	6.4	21.8	26.9	32.1	12.8	100
2. I am able to	G	3.1	3.1	31.2	28.1	34.4	100

perform my job to my satisfaction	P	0.0	10.9	13.0	54.3	21.7	100
	T	1.3	7.7	20.5	43.6	26.9	100
3. I feel stressed at work	G	3.1	3.1	40.6	31.2	21.9	100
	P	4.3	23.9	37.0	28.3	6.5	100
	T	3.8	15.4	38.5	29.5	12.8	100
4. I am able to spend time with	G	0.0	3.1	21.9	40.6	34.4	100
	P	13.0	19.6	26.1	28.3	13.0	100
	T	7.7	12.8	24.4	33.3	21.8	100
5. My professional work often disturbs my personal life	G	6.2	9.4	28.1	25.0	31.2	100
	P	0.0	28.3	41.3	23.9	6.5	100
	T	2.6	20.5	35.9	24.4	16.7	100
6. I am able to balance work-life	G	0.0	6.2	25.0	28.1	40.6	100
	P	4.3	6.5	41.3	37	10.9	100
	T	2.6	6.4	34.6	33.3	23	100

Abbreviations:

G – Government Hospitals P – Private Hospitals O – Organization SD – Strongly Agree

D – Disagree N - Neutral A – Agree SA – Strongly Agree T - Total

Table 5. Consolidated results of tests of hypotheses

Null Hypothesis	Sig. value	Result	Strength of Association
H ₀ 1: There is no significant association between type of organization and hospital providing sufficient facilities for relaxation.	0.019	Rejected	0.389
H ₀ 2: significant between organization satisfaction.	0.040	Rejected	0.359

There is no association type of and job			
H ₀ 3: There is no significant association between type of organization and feeling stressed at work.	0.062	Accepted	0.339
H ₀ 4: There is no significant association between type of organization and ability to spend time with family.	0.011	Rejected	0.410
H ₀ 5: significant between organization professional work often disturbing personal works.	0.007	Rejected	0.424
H ₀ 6: There is no significant association	0.032	Rejected	0.367

CONCLUSION

The Government of India is keen to provide the state of the art facilities for providing the health care to its citizens. From the review of literature it is being observed that there are not many studies reflecting the work life balance of medical professionals in India during this pandemic in general and Bangalore in particular. This study is being carried out to understand the organizational climate and whether the employees are able to spare time for family and other activities they intend to do in their professional and personal life during this COVID pandemic.

The results indicate that managements of the Hospitals should have empathy with the medical professional and aid in enhancing work life balance in terms of providing time for meeting aspiration of the employees. Good and adequate infrastructure should be provided and personal protection kits like gloves and masks should be provided in adequate numbers. Facilities for drinking water and sanitation needs to be focused. Additional arrangements for counseling of patients / dependents to their satisfaction may be provided. Employees feel that there occupation demands time beyond working hours, expect comfort with duty timings and feel stressed at work. Further the job requires creativity. Hospitals can take policy decisions by sanctioning sufficient posts in departments where employees feel hard pressed for time and take steps to reduce stress and enhance creativity. An incentive plan may also be designed to satisfy the employees working overtime. The employees also have different demands on their time. They need time to spend with parents, elders and other family members. These subtle expectations may be fulfilled on humanitarian grounds.

The results of tests of hypotheses with reference to sufficient facilities for relaxation, job satisfaction, ability to spend time with family, professional work often disturbing personal work, and work life balance, there is significant association with Government hospitals and private hospitals. With regards to feeling stressed at work there is no significant association with Government hospitals and private hospitals. Compared to private hospitals, Government doctors opinioned that they don't have sufficient facilities for relaxation, able to spend time with family, work life balance. Government doctors feel that their professional work often disturbs their personal work and feel more stressed compared to private hospitals. In spite of the above results surprisingly, less percentage of private hospital doctors (in comparison with Government doctors) feel that professional work disturbs their personal work and a higher percentage of private hospital doctors have more job

satisfaction compared to Government hospital doctors and less work life balance. Hence Government hospitals may focus on reducing stress and increase the staff intake and private hospitals may focus of enhancing work life balance of their respective doctors and nurses.

Further studies may focus on a larger sample of Government and private hospitals to get a better picture for taking policy decisions at the national level. Future studies may also focus of department wise analysis to understand various factors influencing work life balance in respective departments of Government and private hospitals.

Suggestions to the Doctors

Following strategies may help the doctors to make a balance in their personal and professional life as well as to improve their morale, satisfaction and attitudes carving in to positive tender warm behavior towards patients

1. Managing Time & Setting priorities are prominent.
2. Identifying time wasters that are consuming their time, energy and encroaching upon their prime time.
3. A little time for relaxation
4. Be honest Social networking.
5. Assertive Behavior and Empathy.
6. Take occasional leave, holidays and long weekends for rejuvenation.
7. Develop support system and peeping in to valuation time of their partners.
8. Take help from counselors and attend seminars, workshops, undergoing short term courses, personality development programs, and time management programs and so on.
9. Use technology to access reports, scans etc. on-line
10. Be organized
11. Use the facilities like leave fair concessions, picnics, membership of clubs and other facilities available for WLB in organizations
12. Sincerely developing deep and honest emotions for their partner spouses
13. Working smart by delegating administrative tasks to others or appoint staff for doing all such work or get it outsourced.
14. Developing positive attitude by looking in to bright side of every problem and so on.

Suggestions to Organizations.

Well-being of Doctors is extremely important not only for the doctors, but also for the patients and organization too. Physician depression, job dissatisfaction, and low quality of life can harm patient care by contributing to major medical and medication mistakes, poor care practices and patient dissatisfaction that will affect the image of the organization too. Following strategies are suggested by Researcher to Organization that helps to improve the balance in work life and improve their morale, satisfaction and performance are:

1. Integration of Work Life Balance issues in to the organization's HR Strategy
2. Facilities for Technological Assistance
3. Flexible working time, Shift Working
4. Facilities like Leave, Child Care, Job Sharing, Part time employment, consultancy services outside the fixed business hours, compressed weeks and sabbatical leave for doctors for pursuing higher studies and looking for better employment elsewhere.
5. Appoint Administrative Staff
6. Better Working Environment
7. Employee Assistance Programmes, Training Programs,

8. Compensation and Rewards
9. Opportunity for Growth and Advancement
10. Doctors Participation in Strategy Making

II. REFERENCES

- [1]. Christena E Nipert-Eng (1996), Home and Work: Negotiating Boundaries Through Everyday Life, The University of Chicago Press, Chiago.
- [2]. Scholarios Dora and Marks Abigail (2004), Work-Life Balance and the Software Workers, Human Resource Management Journal, V o l . 14, No. 2, pp. 54-74.
- [3]. AbdulmohsenAlsaawi et al. (2014), Risk of burnout among emergency physicians at a tertiary care Centre in Saudi Arabia, Journal of Hospital Administration, 2014, Vol. 3, No. 4, pp 20-24.
- [4]. Scandura A and Lankau M J (1997), Relationships of Gender, Family Responsibility and Flexible Work Hours to Organizational Commitment and Job Satisfaction, Journal of Organizational Behavior, Vol. 18, pp. 377-391.
- [5]. Davenport T (1999), Human Capital San Francisco, Jossey-Bass, CA. Dex S and Scheibl F (1999), Business Performance and Family- Friendly Policies, Journal of General Management, Vol. 24, No. 4, pp. 22-37.
- [6]. Ramsay H (1999), Close Encounters of the Nerd Kind, Paper Presented to the Work Life, 2000 Program, Sweden.
- [7]. Piotrkowski C (1979), Work and the Famây System, The Free Press, New York.
- [8]. Finegold D, Mohrman S and Spreitzer G M (2002), Age effects on the Predictors of Technical Workers' Commitment and Willingness to Turnover, Journal of Organizational Behavior, Vol. 23, No. 5, pp. 655-674.
- [9]. Scandura A and Lankau M J (1997), Relationships of Gender, Family Responsibility and Flexible Work Hours to Organizational Commitment and Job Satisfaction, Journal of Organizational Behavior, Vol. 18, pp. 377-391.
- [10]. Wright T A and Cropanzano R (1998), Emotional Exhaustion as a Predictor of Job Performance and Voluntary Turnover, Journal of Applied Psychology, Vol. 83, No. 3, pp. 486-493.
- [11]. Larson J H, Wilson S M and Beley R(1994), The Impact of Job In security on Marital and Family Relation-Ships, Journal of Family Relations, Vol. 43, No. 2, pp. 138-143.
- [12]. Adams G A, King L A and King DW (1996), Relationships of Job and Family Involvement, Family Social Support and Work-family Conflict with Job and Life Satisfaction, Journal of Applied Psychology, Vol. 81, No. 4, pp. 411-420.
- [13]. Sang G J, Dainty R A and Ison G S (2007), Gender: A Risk Factor for Occupational Stress in the Architectural Profession, Construction Management and Economics, Vol. 25, No.12, pp. 1305-1317.
- [14]. Spector P E (1997), Job Satisfaction: Application, Assessment, Causes, and Consequences, Sage, Thousand Oaks, CA.
- [15]. Weisberg J (1994), Measuring Workers Burnout and Intention to Leave, International Journal of Manpower, Vol. 15, No. 1, pp. 4-14. .
- [16]. RashmiFarkiya et al A study of Work-Life Balance in Health Care Industry with special reference to Doctors in Indore City

Logistics and Logistics Outsourcing and Supply Chain Management Practices in Automobile and Auto Component Industries, Bengaluru (India)

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ABSTRACT

The automobile sector isn't just being the globe's financial giver regarding income age, and is the biggest, it likewise leads with different areas, above all the quality necessity at the exactness, item changeability at its pinnacle attempting to fulfill the need at movement of customization, the liveliness in item fluctuation and the complexities in assembling that utilizes the most recent innovation has lead to different logistics and supply chain the board rehearses and furthermore these have been traversed to SME's. As to Indian Automobile setting it may be still obvious, to be a similar when pretty much contrasted with the worldwide principles. India everywhere being positioned fourth on the planet as far as buying power equality because of different uber urban areas viz Bengaluru, Pune, Gurgoan, Noida to name not many have been adding to the developing business sectors. Because of which there is expanded vulnerability in the organizations of supply chain, the differed logistics redistributing strategies and the intricacy that have been emerging because of globalization particularly the globalized organizations in automobile divisions, the intricate framework needs, the decreased life expectancy of items and item assortment productive has become the need of hour to go past the four corners that takes up a main function regarding quality desires, item assortment and cycle unpredictability. The Industry faces the difficulties relating to choosing and connecting with right sellers, right shoppers and the correct supply and logistics specialist organizations to bearing the duty in entrusting for planning the reasonable framework that is practically immaculate with its norms and to encourage efficiently assess the supply chain execution. In this situation we have earnestly made endeavors to introduce some nitty gritty parts of logistics re-appropriating and Supply Chain Management (SCM) practices in Bengaluru, particularly the Automobile Sectors and Auto Component Industries

Keywords : Logistics, Outsourcing, Supply Chain Management, Automobile Industry, Auto Component Industries

I. INTRODUCTION

Logistics is the organized way of transfer of goods from one level to the other level and is the kind of Material Management which is on par with similar systems, there is nothing wrong if we mention that as a tool and too very similar to a system that combines rather integrates the flow of goods and value added information

between the point of source and to the point of consumption at its sink level in order to meet some vital requirements, for instance, of consumers or firms

Logistics Outsourcing: The logistics and the outsourcing that gets integrated with is mainly that leads to see how logistics of any sector mainly the automobile sector becomes logistics outsourcing for which the logistics of a company is outsourced to reduce the time of a customer as well as the organization concerned, cost efficiency of the concerned organization and effective utility of the resources well within the organization and the available sources from external to achieve the former factors as mentioned

Supply Chain Information System is the integration of supply chain process and information system and is a context that tries to cover the entire supply chain networks concerned with the area of study further to which industries use to procure, manufacture, and deliver semi and finished goods and services all over the globe.

Today **SCM** is vibrant across the world/globe irrespective of the industry, in particular the Automobile Industry in which the efficient and effective performance of all the network shareholders is determined by an the best practices that is applied and implied

The **AUTOMOBILE INDUSTRY/SECTOR (AI)** is mainly characterized by several spares and components, vehicles flow as material right from input suppliers to the automobile manufactures and finished vehicles will be distributed through channel partners to satisfy customers keeping the minimum lead time

In an Automobile Industry, SCM is the integration of Supply Chain process involving suppliers, manufacturers, 3PL providers, 4PL providers for balancing demand and supply more efficiently and effectively by implementing required EWIS for instance the ERP.

The Logistics and Supply chain practices caters to source that integrates strategic procurement and supply management system, make to combine manufacturing and service operations, integrate the delivery system i.e. the demand fulfillment, return to integrate reverse logistics, recycle and manufacture, processes along with information systems as the critical enabler to integrate supply chain efficiencies and responsiveness.

Logistics and Supply Chain Management have become increasingly vital over the last 20 years and above that time most of businesses have gone through a significant change. Growth in all respects has become inevitable, rather important for all the organizations, together with achieving the measure of scale and targets. This has initiated an unprecedented wave of mergers and acquisitions across all the industries especially the automobile industry. The latest technologies and practices that include EPOS, RFID, Artificial Intelligence, Meta data Analytics, Clouding Computing, Simulation Outsourcing etc., unwind with consumer requirements. Six-Sigma, and Simulation Software has prompted the companies to expand their business range of goods and in-turn to significantly increase the level of new product induction. The need to meet the demand of shareholders and stakeholders has been understood that the businesses have been focusing on manufacturing and distribution efficiencies and outsourcing seeking ways to reduce costs and increase the efficiency of logistics and supply chain. This indeed has geared companies to seek lower cost locations for manufacturing basis, moving functions to Asian continent and precisely to countries like India and China.

Companies now operate across the globe to meet the customer requirements and mainly by outsourcing today and also is the need of hour to enhance the efficiency throughout the automobile sectors taking the Indian Automobile Industry Scenario.

Most of these changes have drastically affected firm's process of supply chain and logistics need on a whole. Presently, the supply chains have been spanned across almost all continents that include vendors as well as consumers. They are significant and more complex comprising all the movements of road, rail, air, sea and rope

and different types of storage requirements at their capacities as well as the multitude of the associated attributes such as relabeling, replacing, configuring, reconfiguring to delayed date, line and assembly sequencing and reverse logistics which are otherwise equally important. As a competitive and challenging scenario of the organizations, Supply chains have become even more complex for many of the local, domestic, national and international businesses. It is obvious that all this had a profound impact and effect on outsourcing. Also some firms have been outsourcing some parts of their logistics activities for a while now, these variations in business practices and supply chain have driven businesses to seek and provide service availability in the business market across the globe. The outsourced logistics and SC have grown at greater extent crossing more than 25% since mid 2000's. In India above USD 21.5 billion is spent on outsourced contract Logistics seemingly a good practice.

Logistics and Supply chain management principles and practices may be defined as a set of activities that are undertaken to promote effective and efficient management of supply chains which includes vendor partnership, physical movement of goods, meeting customer demands and information sharing throughout the supply chain also through the software's like CRM and SRM with the transaction foundation management as the best practice. Some of the most important logistics and SCM practices that impact performance in terms of efficiency and effectiveness are related to estimation of customer needs, marketing strategies, procurement policies, quality aspects ,efficient and effective delivery, efficiency in manufacturing ,integration and collaboration throughout the logistics and supply chain, sharing of information across all the departments of the automobile industry and vision using ICT as well as formal and informal methods, procedures and use of specialists in identifying the right skill set for performing specific jobs across the logistics and supply chain. All of these practices have a greater impact on logistics and supply chain performance.

In the present day to day highly competitive businesses the automobile sectors globally are shifting their gears towards a paradigm shift of understanding and implementing logistics and supply chain management to the extension that integrates the product, process, methods, procedures and data flows within and across all the organizational boundaries internally as well as external. In such a scenario, there is a pertinent need to understand and evaluate existing supply chain metrics followed by Auto and Auto Component Industries in Bengaluru India, and benchmark them with the best practices within the industry to bring in improvements in the existing system.

LITERATURE REVIEW

Logistics and Supply Chain Management practices form a variety of perspectives with a similar objective of enhancing the performance and competition among the organizations through gaining effectiveness and efficiency. Based on the following literature below, we find that some of the important logistics and supply chain practices are mainly related to in concern with:

1. Collaboration of various stakeholders viz the product developers, suppliers, channel partners and end-users through logistics outsourcing and supply chain integration.
2. Supply Chain network design facilitating the transportation and logistics activities.
3. Forecasting and use of Key Performance Indicators (KPI) such as Supply chain operators reference that can provide valuable details into their efficiency
4. Buyer (Demand) and Supply Relationship Management to cope with supply chain complexity in a cost-effectiveness and delivery-efficiency manner.
5. The use of Information and Communication Technologies of today to ease the above practices.

Though there is plenty of various published literature available on defining and understanding logistics and supply chain management but there is a larger scope in actually understanding the various practices of logistics and supply chain management through proper empirical and exploratory studies and implementing the same in the organization.

Charan (2012) conducted a case study on an Automobile company in India that the Supply Chain performance measurement system practice is needed to analyze the low performance and in building the connectivity at the dealership of sale information to suppliers or vendors. This study helped in covering the analysis at the dealers POS.

Xia and Tang (2011) presented their view through a conceptual paper on Automobile Industry in US that the outsourcing to low cost countries is not sustainable and the strategy of supply chain would be irresponsible to which they proposed a cease-control-combine---practice: a triple 'C' Strategy. Though this study made an impact with the approaches of CCC-practice but at the Indian Context it would rather be at large scale may be the need of advanced ICT practices.

Govindan et al., (2010) developed a framework for an Automobile Industry that the actions of one of the sectors in logistics and supply chain system could influence the overall supply chain efficiency, responsiveness and the overall profitability, opined to the various other supply chain determinants as the major practices that lead to the logistics and supply chain efficiency in terms of Information Technology and Information Sharing, Inventory Planning and Control, Warehouse Planning and Control, Transportation Network and Management, Buyer and Supplier Relationship Management (The practices of CRM) as the major practices for automobile and auto component industry.

Hitachi(2009) They opined that the logistics and supply chain information systems would have the differentiating factors such as Vendor Managed Inventory (VMI), Radio frequency Identification (RFID), Labeling and packaging, Drop shipping and collaboration are the required integrated process for logistics and supply chain efficiency. But he failed to explain how innovation activities are designed and will be the best practices. The present study will identify the other best practices that will enhance the effectiveness and efficiency of logistics and supply chain activities.

Shukla et al.,(2009) conducted personal interviews of 30 firms spanned across Automobile sectors in India that they are still in the early adoption of SC systems which are environmentally responsive, a practice of GREEN SUPPLY CHAIN, This study led to the practice of green marketing and was an edge to survey the kind of practice followed in the present technicalities of Logistics and SCM practices.

Reichhart, Howleng, (2007) His contemplation is that internal logistics focus on the relationship linking procurement, transportation, inventory control with information systems, planning, production, inspection, and delivery of goods in a seamless process, and external logistics links the collaborative operations with sub-suppliers, sales, warehouse management, distribution networks, service providers, contractors, and customers. The practices of this kind may enhance the efficiency and effectiveness but convincingly they may not be the case until the best practices which were surveyed by us will be point of enhancement. The theoretical framework and explorative study served to investigate the influential factors of relationships on internal logistics

Sahay et al. (2003) discusses various supply chain strategies and networks in India scenario of manufacturing sectors. The survey conducted by them projected various ranks with the kind of SC activities practiced in the manufacturing units used as representative samples, the types of hindrances and various management tools for the successful implications of SCM

By and large there is a very little literature available on the kind of practices implied in the Indian automobile industries though the available literature focuses either on the best practices or on re-engineering of internal operations of the firms as well as the logistics outsourcing practices

Tan (2002) conducted a survey on the practices and concerns of SCM followed in some of the US companies to understand the firm's performance based on the data obtained and found that the companies lacked in sophisticated ICT infra-structure and insufficient integration of trust and collaborative relationship among the stakeholders and thereby lack of supply chain effectiveness and efficiencies. At the need of hour this study helped us in conducting the survey that the ICT practice leads to better efficiency of Supply chain and the outsourcing at its best.

Ramcharan (2001) conducted a survey on auto component suppliers and auto manufactures that the practice of Risk management (proper assessment) through the utilization of information is required for better demand management in such industries, his contemplation was suitably justified in the study carried by us.

In context of ICT, Saxena and Sahay (2000) compare the manufacturing intent to be an agile manufacturer and their Information Technology (IT) infrastructure in terms of scope of use, extent of use and integration of IT-based systems. The more recent studies are mainly based on the logistics outsourcing practices that enhances in the reduced lead time, increased profitability, increased ROI's, improved relationship with the shareholder, sustainability in the SC when practiced in a larger scale at the behest of the competitors.

Fernie (1995) conducted a survey of SCM in the grocery retailing industry by comparing with the international standards. He found that the practices of supply chain and logistics varied significantly in the inventory management between the European and US grocery retailers in supply chain with a varied degree of SCM implementation. His opine was by and large same in our case but as contemplated it needed a vigour of sound practice with respect to Inventory Planning and Control mechanism and to an extent the practices were carried better in the Automobile units.

Dale and Galt (1991) conducted a study on ten of the prominent organizations in UK and found that they were working towards the reduction of their supplier base and in improving the relationship with vendors. This study enhanced the approach in due respect to our survey in the Indian Context that is practiced by and large.

The theoretical framework and explorative study served to investigate the influential factors of relationships on internal logistics

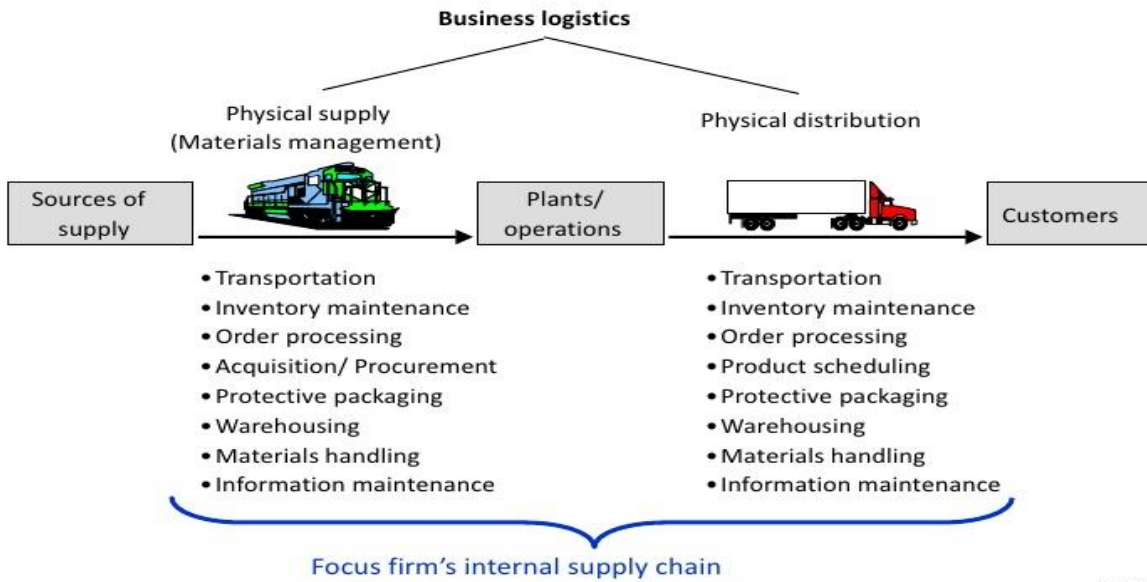
LOGISTICS AND SCM PRACTICES FROM SECONDARY SOURCES

The best practices were identified within the following categories for the automobile and auto component industries, logistics itself being one of the best practices followed in the industries of Bengaluru

•Strategy

- Marketing
- Procurement
- Manufacturing
- Quality
- Information Technology

Scope of the Supply Chain for Most Firms



1-14

Source: Logistics and Supply chain (Search by Image-Google)-Slide Share

Data Analysis and Interpretation.

<i>Outsourcing Strategy</i>	
<i>Practices</i>	<i>Percentage of Respondents (%)</i>
<i>Outsourcing non core activities</i>	<i>73.33</i>
<i>Integration of SCM processes</i>	<i>60.00</i>
<i>Benchmarking SCM Performance</i>	<i>53.33</i>
<i>SCM Performance measurement</i>	<i>26.66</i>
<i>SCM as a business driver</i>	<i>20.00</i>
<i>Of the companies contacted 73 percent of them as a strategy outsource their non-core activities. Only 20 percent of the companies contacted consider Supply Chain Management as a business driver.</i>	

<i>Marketing Management..</i>	
<i>Practices</i>	<i>Percentage of Respondents(%)</i>
<i>Customer service and relationship management</i>	<i>86.66</i>
<i>Demand Management and planning</i>	<i>80.00</i>

<i>Advance Forecasting Techniques and tools</i>	<i>73.33</i>
<i>Postponement Strategy</i>	<i>20.00</i>
<i>Pull and Push Strategy</i>	<i>20.00</i>
<i>During the survey it was found that around 87 percent of the companies were using Customer Service Measurement, while around 81 percent of them were using demand planning. Not many of them contacted were using pull and postponement strategies for marketing.</i>	

<i>Procurement Analysis..</i>	
<i>Practices</i>	<i>Percentage of Respondents(%)</i>
<i>Vendor rating</i>	<i>93.33</i>
<i>Self certified vendors</i>	<i>80.00</i>
<i>Annual Vendor meet</i>	<i>73.33</i>
<i>Vendor managed inventory(VMI)</i>	<i>73.33</i>
<i>Early supplier involvement</i>	<i>73.33</i>
<i>JIT Suppliers</i>	<i>73.33</i>
<i>MRP Systems</i>	<i>66.66</i>
<i>Strategic Supplier Relationship</i>	<i>53.33</i>
<i>Single Sourcing</i>	<i>53.33</i>
<i>Local Sourcing</i>	<i>53.33</i>
<i>Interstate Sourcing</i>	<i>53.33</i>
<i>Global Sourcing</i>	<i>46.66</i>
<i>E-Procurement</i>	<i>40.00</i>
<i>Standardization of similar parts</i>	<i>40.00</i>
<i>Contract manufacturing</i>	<i>40.00</i>
<i>Target costing</i>	<i>40.00</i>
<i>Supplier base relationship</i>	<i>33.33</i>
<i>Aggregate Buying</i>	<i>20.00</i>
<i>Reverse Auctions</i>	<i>20.00</i>
<i>Vendor rating is practiced by around 93 percent of the companies contacted while 80 percent of the companies contacted certify their vendors. Reverse Auctions are yet to find a foothold for procurement and only 20 percent of the companies contacted seem to be using them</i>	

<i>Manufacturing and Production</i>	
<i>Practices</i>	<i>Percentage of Respondents(%)</i>
<i>Preventive maintenance</i>	<i>80.00</i>
<i>Product and Process Layout</i>	<i>73.33</i>
<i>Set up time reduction</i>	<i>66.66</i>
<i>OEM Technology</i>	<i>66.66</i>

<i>MRP I</i>	<i>66.66</i>
<i>MRP II</i>	<i>46.66</i>
<i>Group technology</i>	<i>46.66</i>
<i>Lean Manufacturing</i>	<i>33.33</i>
<i>During the primary survey it was evident that around 80 percent of the companies contacted were using preventive maintenance. Around 73 percent of the companies contacted were using product layout for manufacturing of the products.</i>	

<i>QualityManagement..</i>	
<i>Practices</i>	<i>Percentage of Respondents(%)</i>
<i>Quality Improvement tools</i>	<i>80.00</i>
<i>Total Quality management</i>	<i>73.33</i>
<i>IS/QS/TS Certification</i>	<i>73.33</i>
<i>SQC</i>	<i>66.66</i>
<i>Self Certification of Products</i>	<i>53.33</i>
<i>Quality improvement of vendors</i>	<i>46.66</i>
<i>Failure mode effective analysis</i>	<i>40.00</i>
<i>Quality function deployment</i>	<i>33.33</i>
<i>JIT</i>	<i>33.33</i>
<i>Standardisation</i>	<i>33.33</i>
<i>Simplification</i>	<i>33.33</i>
<i>Six Sigma implementation</i>	<i>26.66</i>
<i>Kaizen and Gamba Tools</i>	<i>26.66</i>
<i>Around 80 percent of the companies contacted use quality improvement tools for improvement of the quality. Total quality management and IS / QS / TS certification are followed by around 73 percent of the companies contacted. Only around 27 percent of the companies contacted seem to use six sigma quality and Kaizen tools for quality improvement.</i>	

<i>Logistics and Logistics Outsourcing</i>	
<i>Practices</i>	<i>Percentage of Respondents(%)</i>
<i>Inventory Planning and control</i>	<i>93.33</i>
<i>Outsourcing logistics</i>	<i>80.00</i>
<i>Traffic Management</i>	<i>73.33</i>
<i>Tansportation Network Management</i>	<i>73.33</i>
<i>Warehousing Planning and Management</i>	<i>73.33</i>
<i>Storage Systems Management</i>	<i>73.33</i>
<i>Tracking and Tracing systems</i>	<i>53.33</i>
<i>Global Logistics</i>	<i>53.33</i>
<i>E Procurement and logistics</i>	<i>33.33</i>
<i>Reverse logistics</i>	<i>33.33</i>
<i>Distribution Resource planning systems</i>	<i>20.00</i>
<i>Milk Run collections</i>	<i>20.00</i>
<i>During the primary survey it was evident that around 93 percent of the dealers contacted were practicing control of inventory. Only around 20 percent of the companies contacted use DRP systems and milk run collections</i>	

<i>Information Communication and Technology</i>	
<i>Practices</i>	<i>Percentage of Respondents(%)</i>
<i>ERP Systems</i>	<i>80.00</i>
<i>CAD/CAM/CAE</i>	<i>66.66</i>
<i>RFID Systems</i>	<i>66.66</i>
<i>Web Technology</i>	<i>53.33</i>
<i>EWIS</i>	<i>53.33</i>
<i>Electronic Data Exchange/Fund Transfer</i>	<i>33.33</i>
<i>SCM Software</i>	<i>26.66</i>
<i>Bar Code Reading</i>	<i>26.66</i>
<i>POS Systems</i>	<i>26.66</i>
<i>CRM Software</i>	<i>20.00</i>
<i>Global Positioning System</i>	<i>20.00</i>
<i>Warehouse Management System</i>	<i>13.33</i>
<i>80 percent of the companies contacted depend on ERP systems whereas it as low as around 13 percent in using warehouse management system.</i>	

DISCUSSIONS

To succeed today and to make ready for a superior future, firms in India particularly Bengaluru need to make solid linkages with their logistics and supply chain accomplices. Increasingly more of them today are understanding the significance of creating and executing a far reaching logistics and supply chain system – and later connecting this methodology to the general business objectives. Embracing these activities most importantly requires taking a drawn out view and having a broad spotlight on all directs in the complete change cycle to make a profitable and solid supply chain. Innovation, which was prior taken to be a driver for working together in a specific manner, has become an "essential empowering influence" for adjusting business to and at purchaser request. It can change the manner in which we try catch on hold and break down data, separate items and benefits, design and sell existing items, crash request process durations, present new items, etc. ICT would thus be able to accomplish discoveries in the region of supply chain planning, coordinating,organising,designing and arranging, which in any case can never be considered. There's a purposeful move to utilize ICT for information assortment and anticipating. The automobile sector and autocomponent industries have become colossal over the most recent couple of years right around a 10 overlay of fold.

Endeavors to expand a typical data framework stage between accomplices will aid the moving of data. In a perfect world one framework should traverse all capacities all through a supply chain. Firms in India are setting themselves up to tackle intensity of ICT to improve supply chains in these areas mainly the automobile and autocomponent industry. The size of the firm presently matters less as the expense of these advancements has been lessening ceaselessly so that considerably littler firm can bear the cost of them. The objective ought to be to actualize a framework that can settle on a choice all the more rapidly and with better precision. Numerous organizations have gone for ERP and MRP systems both with respect to IT and Manufacturing. Prepared admittance to conditional information doesn't naturally prompt improved dynamic. These conditional information must be dissected through successful models to help truth based dynamic. Expository data innovations ought to be useful in accomplishing this reason through the elucidating and regulating models for compelling dynamic inside and outside the firm especially the automobile units. Since estimating includes

sharing rivalry touchy information previously, this training hasn't taken off at the present even. On the off chance that one tests further, apparently guaging of clients themselves is questionable, liquid and dependent on deficient comprehension of patterns and examples, which, thusly, gives the unpredictability to the sellers. Organizations in gadgets, auto, auto ancillaries and IT areas are utilizing the community conjecture practice broadly. It might be seen that the client base in these enterprises isn't as differing or gigantic as in FMCG, which have two or three million of shops and sellers to ask information from. This might be one reason why purchaser situated enterprises don't utilize communitarian anticipating indeed and may receive an appropriate practice that could be more helpful.

CONCLUSIONS

We analyze the condition of logistics and supply chain the the broad practices in India covering a wide range of firms with at any rate one field visit and validate nearby perceptions and casual conversations and meetings with information and data from optional sources. In this way, as recommended by Sahay et al.(2008), we have done the survey with the current degree of logistics and supply chain practices. Our discoveries demonstrate that logistics and Supply Chain Management (SCM) practices are impacted by relevant factors, for example, the type of industry, firm size, its situation in the supply chain, supply chain length and the kind of supply chain. They are likewise impacted by administrative and financial condition, accessible framework and rivalry with other supply chains mainly as competitors. We recognize the logistics and SCM practices of these organizations and observe different developing patterns just as zones of concern. We additionally recommend open doors for enhancements. Indian firms need to act quicker to gain by these options to be on par with changing trends with the world market and its sustainability. The discoveries from this examination give the kind of data on logistics and supply chain and the management practices in India that may push the Indian business to benchmark these practices opposite comparing practices in different nations.

There are numerous roads for enhancements for logistics and supply chain management practices in India. Infra-auxiliary bottlenecks should be survived. The metro and vertical passageway flyover activities and activities by state and local over the most recent couple of months are acceptable markers that the concerned specialists are awakening. The metro venture in Bengaluru will address a portion of the network issues, however the bigger issue isn't to such an extent as six-path street as when contrasted with great streets. Adventures like MWM (Manufacture Work Move) and rung streets all exist - yet the substance is that law implementation about specialized principles must be made tough. ICT execution and use is low and should be bundled up. Guaging dependent on PoS information is probably going to come into utilization once there is more coordinated effort and trust, economies of scale and extension for supply chain substances and empowering ICT are set up. Benchmarking and learning great practices ought to be energized by government, industry affiliations and different partners. Government should move from a controller's function to a facilitator's job. A serious extent of operational productivity and cost proficiency will give the truly necessary serious edge to different supply chains in Bengaluru.

LIMITATIONS OF OUR WORK

We present only a snap-shot view of the logistics and SCM practices in Bengaluru. The firms for on-site observations were selected as a convenience sample and so may not be truly cross-sectional. It is only an exploratory study where data regarding logistics infrastructure was gathered from secondary sources and on-site observation data too was substantiated from secondary sources. Further, as the concept of logistics and SCM is complex and involves a network of companies in the effort of producing and delivering a final product, its entire domain cannot be covered with the pace of time.

FUTURE RESEARCH DIRECTIONS

It will be a real challenge in the future to deliver the right product and service at the most opportune time and at the lowest possible cost to the right customer with all deliverables focused. The challenge will lie on the stresses of the greatest importance in managing cross-boundary relationships between business partners and gaining a competitive advantage. The supply chain management (SCM) is an effective tool to SM&LSE

This research opens the way for in-depth studies of some of the areas of concern identified for logistics and supply chain management practices. Research may be carried out using specific cases to study these practices at firm level in detail. It should be able cover multiple functional areas (Logistics, Marketing, IT, Operations, Lean Manufacturing, Equipment handling and Material Management, JIT and Six Sigma etc.) of a single firm in much more systematic manner and developed manner. Later on, the same may be extended to various supply chains at various levels. It may be worthwhile to investigate how these practices differ across firm size to sector. Business-to-business transactions in India especially in Bengaluru have just started. Some detailed study may be carried out in this area. Further, the idea of establishing a 'third party' Supply Chain Manager Firm to reliably and truthfully share information may be explored by outsourcing various functional and cross functional areas as referred. Finally, research should also focus on establishing actual performance improvements in logistics and supply chain management leading to cost-savings and customer satisfaction.

II. REFERENCES

- [1]. B S Sahay, Gd Sardana and Vikram Sharma. Supply Chain Management Practices of Indian Automobile Industry: International Journal of Information Systems and Supply Chain Management 4(3): 60-78
- [2]. Charan,P.(2012),"Supply Chain Performance issues in an Automobile Company: a SAP-LAP analysis",Measuring Business Excellence,Vol.16 No.1,pp.67-86.
- [3]. Fernie, J., (1995). International Comparisons of Supply Chain Management in Grocery Retailing: Service Industries Journal, 15, 134-147.
- [4]. Galt, J.D.A., and Dale, B G., (1991). Supplier Development: A British Case Study. International Journal of Purchasing & Materials Management, 27, 16-22.
- [5]. Govindan,K.,et al.;"Analyzing supplier development criteria for an Automobile Industry",Industrial Management and Data Systems,Vol.110 No.1,pp.43-62.
- [6]. Hitachi(2009),Six key trends changing supply chain management today,Hitachi Consulting Group 2009,Copy right
- [7]. Sahay, B.S., Gupta, J.N.D. and Mohan, R. (2006). Managing supply chains for competitiveness: the Indian scenario. Supply Chain Management: An International Journal, 11, 15-24.
- [8]. Sahay, B.S. and Mohan, R. (2003). Supply chain management practices in Indian industry: International Journal of Physical Distribution & Logistics Management, 33, 582-606.
- [9]. Saxena K.B.C. and Sahay, B.S. (2000). Managing IT for world-class manufacturing: the Indian scenario. International Journal of Information Management, 20, 29-57.
- [10]. Shukla, A et al.;"Environmentally Responsive Supply Chain: Learnings from the Indian Auto sector",Journal of Advance in Management Research,Vol.6 No.2,pp.154-171.
- [11]. Reichhart, Howleng, (2007),"Creating the customer responsive supply chain:A reconciliation of concepts", International Journal of Operations and Production Management. 27(11),1144-1172

- [12]. Tan, K.C. (2002). Supply Chain Management: Practices, Concerns, and Performance Issues: The Journal of Supply Chain Management, 35, 51-62.
- [13]. Tan, K.C. and Wisner, J. (2000). Supply Chain Management Practices in the United States and Europe. Research Paper Series of the APICS Educational and Research Foundation and The Supply-Chain Council, Stock No. 07029, pp. 43.
- [14]. Xia, Yu and Tang, Thomas. (2011), "Sustainability in Supply Chain Management: suggestions for the auto industry", Management Decision, 49(4):495-512



Future Ready Professionals (Upgrading Skills at Every Stage of Life is Critical)

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ABSTRACT

Just like a child's upbringing and growth is important and relevant, so is the learning and growth at every level in life. Irrespective of one's profession, it is important & critical to upgrade and think forward. Chartered Accountants are considered veterans in the fields of accounting, taxation, audit, assurance etc. However, there are various other areas within the ambit of finance, which remains unexplored by most CAs like fund raising, business finance etc. Adapting to technology and making the best use of it, is both a challenge and an opportunity for the whole industry. Learning and practicing these areas and creating a complete value chain in finance domain will help CAs own the whole piece and command a premium. This paper helps us understand these focus areas to be future ready professionals.

Keywords : Education, Policy, Adult, Profession, Entrepreneurship, Upbringing, mentoring, mindset, finance, curiosity, investments, money management, employment, jobs.

I. INTRODUCTION

The Problem Statement

Chartered Accountants are considered as pioneers of excellence. There is no doubt when it comes to knowledge and quality, CAs are contemplated to be cream Professionals, be it in industry or practice. Finance is the vein of any business since it is prevalent and runs across the organization. Generally, we as Chartered Accountants have a strong hold and competency in various areas of finance viz. accounting, direct taxation, indirect taxation, audit, assurance, FEMA etc. However, when it comes to business - more often than not - CAs seem to lag behind. They are awesome with number crunching but the niche is yet to be created in analytical skills. We miss out on broad business picture and fail to grasp the sense on how a strategic decision impacts business.

We may be experts in specific domains but when it's about integrating and thinking holistically from a business perspective, we flounder many times. While this may not be a characteristic of the entire population, there are many Chartered Accountants who are excelling in business finance, fund raising arena, but they may not be the sufficient sample size representing the larger chunk. Probably, this is the reason, why businesses, CEOs and the founders choose a business finance professional (MBA, CFA etc.) when it comes to business analysis, Mergers & Acquisitions, fund raise, Investor management etc. CAs are called for only when the requirement is for accounting, tax planning, compliance management, controllership etc.

In the world of technology & automation and with the advent of artificial intelligence, IOT, blockchain etc., most of the routine jobs would be automated eventually and no specific qualification may be required in the future to do the same. It would become mechanical, where machines would give outputs based on inputs by the management. Hence accounting, audit, taxation to a large extent may be automated, which pose a threat to the traditional mindset and work practice. What the machines cannot replicate (atleast based on the technology available today) is the skill-based jobs i.e. analytical skills, creativity, innovation etc.

Thus, we see there are two challenges to be overcome for making the Chartered Accountants future ready:

- Competing other finance professionals
- Competing with the technology

While competing the technology may sound insane and is a common challenge that every human being and industry on this earth would face and will have to be tackled in a very creative way, competing with other professionals is something which we should have embraced long back.

As Chartered Accountants, we cannot afford to think small and be reserved in the areas of our comfort. To beat this, we need to learn skills, which is largely missing in our fraternity and thus despite have significant knowledge and conceptual understanding, we lack to command a premium in pricing.

Objective

The objective of this paper is to ponder upon the challenges faced by finance professionals in this ever-changing dynamic world. Further, the idea is to create awareness among them on the new areas of finance to elevate in their professional journey.

Scope

Broadly a finance function can be bifurcated as follows:

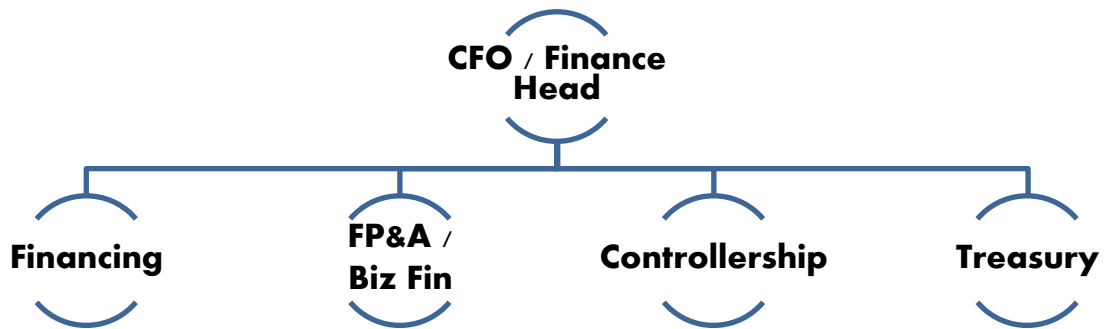


FIG. 1: Finance Function within the Organization

The focus of the paper is on Financing, the financial planning & Analysis and the business finance sub functions of the finance domain.

Research Methodology

The Authors have used the secondary data from various sources to understand the scope of work conducted by finance professionals as well the industry insights. Further, the paper has been prepared basis the experience and longitudinal study of the authors themselves in the industry and academia.

Purpose of the Study

The Paper would be helpful for finance professionals to look forward and prepare themselves for the changes that technology and new age businesses expect and require.

Expand your horizon and embrace the change

In the current Indian scenario, CAs have a strong hold in the areas of Controllership and Treasury, whereas lack when it comes to Business Finance and Fund Raising. No wonder, most of the CAs at the helm become Finance Controllers, few become CFOs and very few become CEOs. Now the question is what it would take to move from the myopic mindset of becoming a Finance Controller (FC) to targeting a coveted role of Chief Finance Officer (CFO), where the complete finance piece is owned by us. If we work towards enhancing our skills in the following areas, this is achievable:

1. Business Finance and Decision-Making

Every decision making in an organization is backed by business finance or a finance planning and analysis team. The decisions are undertaken based on numbers, simulations, projections, analysis, outcomes etc. This is important from various perspective. Only once the business decision has been undertaken and the transaction is through, the accounting or taxation comes into play. Ofcourse, the accounting, taxation and compliance need to be factored in the decision-making process, however, they generally cannot be a core factor to accept or reject a decision or a proposal. Business impact is the most important factor, precisely the reason, why a finance professional with these skills will be valued more by the business than a bookkeeper.

Biz Fin is required in every aspect of business and not limited to cost control, budgeting, allocation of resources etc. The following are important to know in a Biz Fin function:

a. Unit economics

Unit Economics plays an important role from the business finance / FP&A angle. Even the Investors look for and track the unit economics very closely. Let's understand why the unit economics or operative metric is so vital.

Few terms that we shall use here are Revenue, Direct Costs, Indirect Costs, Fixed Costs, Variable Costs, CAC, Gross Margin, Contribution Margin. To make a clear depiction of these terms, please follow the table below:

Particulars	Amount	Particulars	Amount
Revenue	100	Revenue	100
Direct Costs	-60	Variable Costs	-50
Gross Margin	40	Contribution Margin	50
GM %	40%	CM %	50%

Indirect Costs	-20	Fixed Costs	-30
EBIDTA	20	EBIDTA	20
EBIDTA %	20%	EBIDTA %	20%

Table 1. Traditional P/L **Table 2. Marginal P/L**

Source: Authors of the Research paper

The above Profit and Loss statement which has equal Revenue, total Cost and EBITDA has been drawn in two different scenarios which brings out the distinction. In the first P/L (Table 1), direct cost (Costs directly attributable to Revenue) has been reduced to arrive at the Gross Margin, then the indirect cost (Costs not directly attributable to Revenue) is reduced to arrive at the Profit. This is a standard way in which a PL is drawn for reporting / accounting purposes.

However, from an analytical angle, Table 2 is different, the variable costs (Costs that vary with every unit of revenue, say the product sold) are reduced from revenue per unit to arrive at the Contribution margin. The expression contribution itself suggests that per unit of product sold contributes X amount to the business. Thereafter all the fixed costs are reduced to arrive at profits. It is Interesting to note that, the direct costs of 60 (Table 1) consists of both fixed (10) and variable (50) nature of costs (Table 2).

The contribution margin helps us understand, whether the business is operationally profitable or not i.e. Whether the contribution margin is positive. Now, let’s take an example with a detailed PL:

Particulars	Amount	Units Sold	Amount Per Unit
Revenue	1,00,00,000	10,000	1,000
Variable Costs	-50,00,000	10,000	-500
Contribution Margin	50,00,000	10,000	500
CM %	50%		50%
Fixed Costs	-80,00,000		
EBIDTA	-30,00,000		
EBIDTA %	-30%		

Table 3: Uni Economics P/L

Source: Authors of the Research paper

The above PL suggests that the company is making a loss of 30 lacs (3Mn) in the period, but the CM is positive to the tune of 50 Lacs (5Mn), which means operationally the business is doing great, but the fixed costs are very high. On a per unit basis, the company is making a profit of Rs.500 per unit, which essentially means, if the company sells 16,000 units, the company will be breakeven, and every unit sold above 16k, will give a net profit of Rs.500.

Units to be sold (for breakeven) = Fixed Costs / CM per unit = 80 Lacs / 500 = 16,000

The above makes it amply clear, that if the company can sustain and increase the volume from current 10,000 units to 16,000 + units, it is a great business to be in. To a layman, seeing the above business, one may feel, business is bad, however, an Investor looks at the business from an unit economic business angle to see if the business can scale, increase the volume to capture the market share and really make money in the future.

Precisely the reason most of the startups are burning cash and are in deep red, while they create the market for themselves by acquiring customers.

This brings us to another important discussion on the unit economics:

Particulars	Amount	Per Unit
Revenue	100	
Variable Costs	-50	
Contribution Margin 1	50	
CM %	50%	
CAC	-60	
Contribution Margin 2	-10	
CM %	-10%	
Fixed Costs ((Absolute Value))	-	80,00,000
EBIDTA	xxx	
EBIDTA %	xxx	

Revenue / CM1: $100 / 50 = 2$

Revenue / CAC: $100 / 60 = 1.7$

TABLE 4. Unit Economics

Source: Authors of the Research paper

[Customer Acquisition Costs (CAC) comprises of the sales and marketing costs incurred to acquire the customer. Generally, it does not include the brand building costs].

In the above table, the CM has been calculated at two levels i.e. CM1 and CM2. CM1 is positive Rs.50 per unit. However, after reducing the Customer Acquisition Cost (CAC), the CM2 is negative, which means, to earn Rs. 50 from a customer, the company is spending Rs.60 to acquire the customer, which apparently looks to be a not-so-good strategy (This depicts why do the customers get so much of cashbacks!).

From the above PL, to breakeven at the CM2 level, the ideal ratio of *Revenue / CAC* will be equivalent to *Revenue / CM1 i.e. $100/50 = 2$* , which essentially means, if the ratio of *Revenue / CAC* is 2, there is no profit no loss and we are good to go. If we spend CAC of 50, the CM2 becomes zero.

While in the above example, the *Revenue / CAC* ratio is $100 / 60 = 1.7$. Let’s go a step deeper, imagine, if the same customer comes back to the platform and purchases a second product, our CAC per customer does not change, since the customer is a repeat customer, but gives us the CM1 of $50 \times 2 = 100$, against which we spend a CAC of 60 only, thus making a CM2 margin of 40. Suddenly the *Revenue / CAC* ratio becomes $200 / 60 = 3.33$, which is good.

This repeat customer’s revenue / margins (through retention of customers), is called Life Time Value (LTV) of the customer, which typically means, if the customer stays in the platform and purchases the product, how

much money will the company make till the time it is able to sell the products again and again without incurring additional expense on him / her.

Thus LTV / CAC gives the clear picture of the business performance and is a very common metric used to gauge businesses' operational health by the Investors.

It is important to understand that the LTV of a Customer can be viewed in two different ways:

1. Revenue or Sales from the Customer x No. of repeat purchases = Total Revenue that we expect to generate from a customer
2. Contribution Margin (CM) from the customer x No. of repeat purchases = Total Margins that we expect to generate from a customer.

Hence, while communicating, it is good to be clear on the correct reference to either LTV (Margins) or LTV (Revenue), since it impacts the equation and ratio significantly.

Another critical metric that is tracked is called Churn i.e. the customers dropping out from the system. The companies, which follow the SaaS (Software as a Service) model or a Subscription model of revenue, the LTV / CAC and churn are the most important metric to be tracked even from the internal business perspective.

The various costs discussed above may sometimes have an element of subjectivity; for instance, a particular cost item which is an indirect cost but also 100% variable, there may be questions around would it form part of the contribution margin E.g. payment gateway charges for collection of revenue. There can be various similar dilemmas. The answer to the same would lie on the industry, nature of business model and the company. There may also be a cost item which may be partially variable and partially fixed in nature, best is to bifurcate the same to get the correct picture. Now, one can make sense that once we understand the unit economics well, a strong grip on the business is possible.

It is advisable for every entrepreneur to keep a close tab on the unit economics of business from the very beginning since this works like a nerve of the company. Often companies in their desire to expand and gain the market share, forget the operational metrics, which costs them a lot in later stages.

From an Investor pitch perspective, there are various hacks that can be / are being used by entrepreneurs worldwide. For instance, if the company operates in multiple cities, the company can prepare city wise P/L and showcase profitability in one city and go to the investors and claim that if one city can be profitable, it can be easily replicated to other cities. This may be true considering it's the same management running the business but could not be done presently due to want of funds. There are other ways too to showcase positive unit economics by considering pre-variable cost profitability, pre-marketing profitability since every business is different and Investor do respect entrepreneur's thoughts if the same is aligned to the model.

b. Pricing

Using the above Unit economics, one can always work the right pricing of a product or a service. It is pertinent to note that, unit economics as the process through which pricing can be worked out is based on costing, however, other important factors are equally important to be kept in mind like benchmarking of the pricing of similar products in the market.

c. Cohorts analysis

A cohort is a group of data of common characteristics. Cohort data is very helpful in analysis and can give astonishing results. Even the investors love the data presented in cohorts as it gives a great insight of the data facilitating in decision making.

Let us understand the same through an example, say a company (subscription model) acquired 360 customers in a quarter Apr-Jun. In July, 220 customers continue to avail the service, thus the company has an overall retention of ~61%. However, once we do the cohort analysis i.e. group the customers based on the month of acquisition, the following is revealed.

No. of customers		Acquisition Months		
		Apr	May	Jun
Retention Months	Apr	100		
	May	90	110	
	Jun	60	50	150
	Jul	60	40	120
	% Retention (Jul)	60%	36%	80%

TABLE 5. Cohort Analysis

Source: Authors of the Research paper

The above table shows the customers, who joined in April and June had 60% and 80% retention respectively. However, the retention of customers joining in May dropped significantly to 36%. Further deep diving into May data revealed that due to some technical glitch, there were huge drop out in the month of June, which is also validated for the month of April customers too dropping from 90 to 60 in June. Thus, these kinds of analysis are helpful in root cause analysis.

2. Fund Raising

Considering the current Startup Ecosystem, and the new budding entrepreneurs, India is witnessing record capital inflow in the new age technology companies. Fund raising is a skill, an art and a science. There are various steps to fund raising, which one need to understand, and finance professionals play a significant role in the whole process. While it starts with proper business understanding, knowing the growth history and selling the futuristic story.

Apart from the business knowledge and soft skills, the following is important for a finance professional to have knowledge of and master it:

a. Types of Investors and its stages

Types - Friends & Family; Angel Investor; Venture Capitalist (VC); Private Equity (PE); Strategic Investor
Stages – Bootstrapped; Seed Round or Angel Round; VC or PE Round; Series A,B,C..

b. Startups funds supply chain

The Pension funds, Family offices, Insurance Companies, Large corporates, UHNIs etc. invests money in startups through funds (VC / PE) and make money by exiting from the investee companies through Mergers & Acquisitions, IPOs, Strategic Sale, Buy back etc.

c. Valuation

Understanding Valuation is the trickiest part of fund raising. Traditionally, valuations were only done using Discounted Cashflow (DCF), Comparable Companies method, Multiple valuation method (P/E ratio) etc. However, in the startup world, there are new innovative ways of valuations which may not fit the old school thought process, e.g. Valuation expectation method or Lifetime value (LTV) per user multiplied by the number of users active in the platform etc.

d. Fund raising process

Fund Raising is a long process comprising of Initial and followup meetings, getting a term sheet, planning the round construct, passing the due diligence test, negotiating the agreements (Shareholders agreement and Share subscription agreement), closure and cash in the bank.

e. Financial instruments, Capital structuring and legal / tax compliance

The instruments being issued - be it equity shares, compulsorily convertible preference shares (CCPS), debentures etc. voting rights, tax implications, ROC and FEMA compliance are equally critical and important.

3. Soft Skills

We really need to invest in our soft skills, be it the way we speak, the way we carry ourselves, the way we represent oneself in a forum etc. A good practice is required on representation of the financial and business numbers in front of the internal senior officers, preparation and presentation in front of the board of directors, investor management, inter-function communications etc.

Conclusion

While Chartered Accountants are doing great in the fiancé field, we need to ask a question to ourselves “Are we future ready?”. The answer may not be simple, but there is a way and since we are equipped with the right skills and talent, we can push more members of our fraternity towards these areas of finance.



Impact of Pandemic on Service Quality of Hotel Industries in Bengaluru

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ABSTRACT

Service quality is an essential practice to be followed by all services sectors. Hotel industries can be successful only if they adopt good quality of service according to customer expectations. Outbreak of pandemic has created an adverse effect on service sectors. Government restrictions like Lock down, social distancing has reduced the number of customers visiting the hotels. Hotels are adopting many practices to retain the existing customers and attract new customers. In spite of it, customers are apprehensive to visit hotels. Hotels should follow all the guidelines of the government for preventing the spread of COVID 19 and ensure the safety of customers.

Keywords : Service quality, Hotel industry, Pandemic

I. INTRODUCTION

The hotel industry is playing a crucial role in service sector in India catering to needs of customers. Broadly speaking, a hotel can be viewed as a managed building or establishment, which provides accommodation to guests for a short period in exchange for money. The services provided to guests can vary from one hotel to another depending on the expectations of customers. Hotel owners generally aim to attract a particular type of customer through their services and pricing model.

1.1. Types of Hotel establishments

Hotels

The most common type of service in the hotel industry is overnight accommodation, meals and other services. They are mainly aimed at travellers or tourist. Locals may also use them.

Motels

Motels are a form of overnight accommodation tailored towards motorists. For this reason, they are typically located conveniently by the roadside and offer ample free parking. A motel will generally have a number of guest rooms and may have some additional facilities, but will usually have fewer amenities than hotels.

Resorts

Resorts are commercial establishment, which will usually consist of a hotel and a variety of additional services and amenities, on site. Guests will usually have access to lodgings, restaurants, bars, entertainment options, recreational activities and shops, which can all be accessed without leaving the premises.

Guest Houses

Typically, a guest house is a private house, which has been converted for the specific purpose of providing guest lodgings. It is common for the guest area to be kept completely separate from another area, where the owner may live. Some guest houses provide additional services, but many are operated on a self-service basis.

Holiday Cottages

A holiday cottage, also known as a holiday home, which is let to people on a temporary basis, for holiday purposes. Essentially, a guest pays to use the property for a short period of time.

Roadhouses

Finally, roadhouses are relatively small establishments, which are situated next to a road, in order to attract passing customers. In some ways, they combine the features of a motel, and inn.

1.2 Service quality

Service quality generally refers to a customer's comparison of service expectations as it relates to a company's performance. A business with a high level of service quality can meet customer needs and remaining economically competitive. In their respective industry. A service has quality can satisfy customers needs and demands. ... Service quality is more important and necessary due to increasing customer expectations, competitor activity, environmental factors, services nature, and organizational internal factors.

It consists of three dimensions: physical facilities, staff, and materials. It also divided into two aspects: functional quality and technical quality.

Service in the Hotel **industry** is the level of assistance provided by staff members to facilitate the purchase by the client. It also encompasses efforts made by **hotels** to make the customers get a pleasant experience. In a hotel business, it is essential to ensure quality service to customers. **Service quality in hotel management** is crucial for developing brand value and increasing the customer base. Every hotel strives to conduct proper presentation and improvement of quality services with numerous hotels offering similar services, it has thus become imperative to adapt to specific **service quality management** principles to retain old customers and face competition and also to attract the new customers.

1.3 Pandemic

In December 2019, China witnessed the outbreak of COVID a Novel Virus. Within a short span, different countries of the world were affected. In March 2020, COVID cases were reported in India also. To face the situation of COVID the country declared a rigid Lockdown for twenty one days. From there on the lock down continued periodically. Measures like Social distancing, restriction on movement of people in public places affected all services including Hotel Industries. The Hotel industry had to convince the customers by taking additional safety measures and improving the service quality. This research paper aims at explaining the impact of COVID pandemic on Service quality of hotel industries.

2 Review of literature

Service quality reflects the extent to which the delivered level of service matches Customer expectations (Lewis and Booms, 1983). Service quality is crucial for service sector industries. Quality means the degree of excellence in service performance. Consumers perceive the quality of a service by availing the services. Service organizations are responsible for quality performance through an effective strategic framework.

SERVQUAL is a well-known research instrument for evaluating service quality in all service sectors. SERVQUAL covers the dimensions that are considered by a customer in evaluating quality of service in all service sectors. (Parasuraman et al. 1988)

The role of service quality in the success of hotel businesses is vital. Hotel managers should have a good understanding on the expectations of customers. Identifying the specific expectations of customers and rendering services for customers in hotel industry would definitely help managers in the challenge of improving the service quality.

The hotel business is rapidly developing due to growing opportunities for travel. Hotels face demanding customers.. The hotels, in order to increase the competitive ability and to obtain a higher number of loyal customers, should firstly make the expectations of customers coincide with the offered service quality.(Edmundas jasinskas and others 2016)

Some of the characteristics and activities of a successful hotel business are proper presentation and constant improvement of qualitative services, which exceeds the expectations of customers. The choice of hotels is based on factors like variety of the hotel services, quality, reliability, and price. Since there are many hotels in the market providing the same or similar services, it is very important to attract and also retaining the guests. In order to maintain the position held and to compete in future, it is necessary to provide quality services by which old customers may be retained and new customers may be attracted (Team Trilyo-2018).

Hotels are one of the hardest-hit industries by COVID-19. As a result of massive cancellations of flights, tours, events, hotel reservations and a resultant decline in inbound travel, hotel occupancy rates and average room rates have dropped sharply causing unprecedented declines in profit margins. The problem is compounded by lockdowns and other social distance protocols announced by governments in an attempt to 'flatten the curve'. The unlock phase has begun in the country and Hotels must adopt survival strategies against COVID-19. This calls for repackaging the hotel service to make it more attractive in this CIVID-19 era(Ishmael Mensah 2020).

COVID-19 has changed customer service drastically. The way that hospitality businesses operate and deliver experiences will undergo a raft of edits and adaptations to form a new normal in the long term. Hotel industries have to adopt to the changing pattern of rendering services

In addition to complying to government guidelines on COVID hotels will need to look closely at the expectations of customers.

Flexible booking policies Cleanliness and hygiene Contactless check-in, room entry, room service etc Wellness services and amenities are some of the service practices which can be adopted by hotels in pandemic situation([Siteminder.com2020](#)).

3Methodology of study

3.1Statement of the problem

The crisis created by COVID Pandemic has resulted in unforeseen challenges. As Lockdown imposed restrictions on the movement of people, Hotels in Bangalore had to be closed. Lock down was lifted in various phases with some restrictions such as Social distancing. Inspite of lockdown release, people are apprehensive to

use Hotel services for the fear of getting infected by COVID. Hotel industries are facing a greater challenge to attract the customers and convince them about their safety. Hence the study is taken up.

3.2 Objectives of the study

- To study the general Service quality Practices adopted by Hotel industries in the pre COVID scenario
- To understand the impact of pandemic on Service quality measures adopted by Hotel industries
- To suggest Measures for maintaining better service quality

3.3 Scope of the study

The study covers Hotels of various categories like Small scale and large scale situated at Bengaluru,

3.4 Sample size is taken as 100.

3.5 Sampling units: Customers and Hotel staff

3.6 Type of Sampling: Simple random sample

3.7 Tools for data Collection: Primary data is collected with the help of questionnaire. Secondary data is collected from journals, Magazines ,Website and news papers.

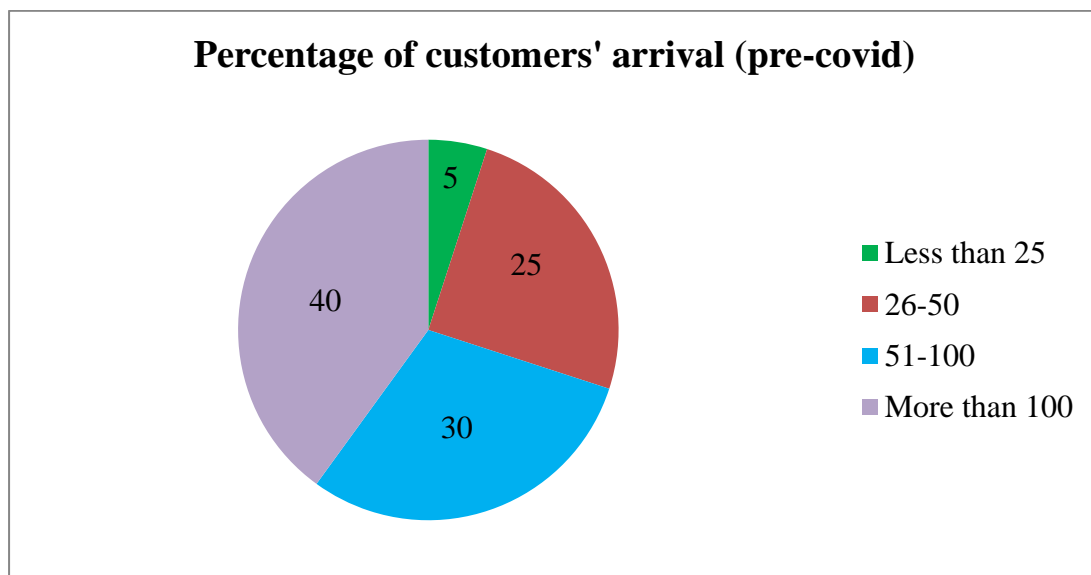
3.8 Limitations

- Element of time constraint
- Sample size is restricted to only 100
- Honest opinion may not be given by the Hotel staff

4. Data analysis and interpretation

Table-1: Number of customers visiting the hotel daily (pre-covid)

Number of customers	Percentage
Less than 25	5
26-50	25
51-100	30
More than 100	40
Total	100

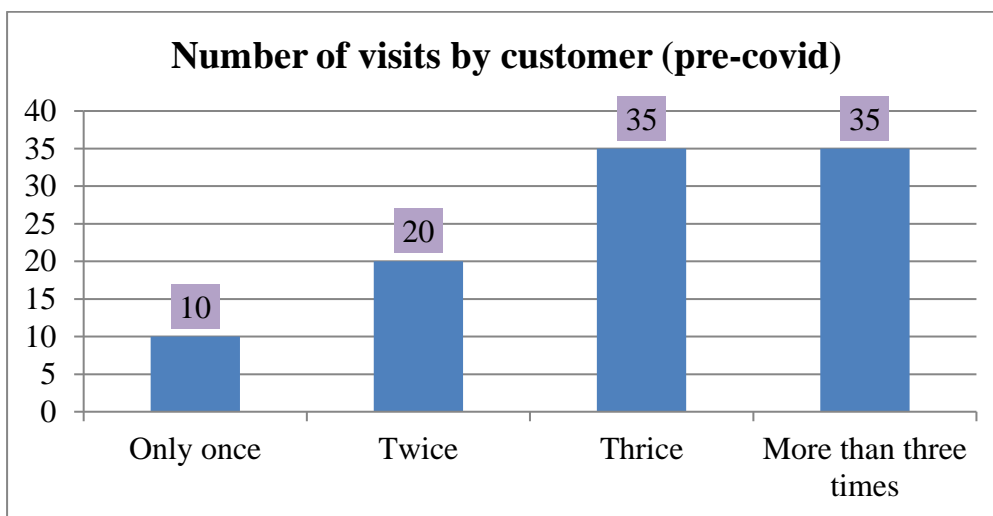


Graph1

Interpretation: It is observed from Graph 1 that 5% of the time, less than 25 customers arrive in a day; there are 25% chances of arrivals of 26 to 50 customers in a day; 30% chance of having 51-100 customers in a day and 40% chance of arrival of more than 100 customers in a day.

Table-2: Number of visits to hotel per month by a customer (pre-covid)

No of visits	Frequency
Only once	10
Twice	20
Thrice	35
More than three times	35
Total	100

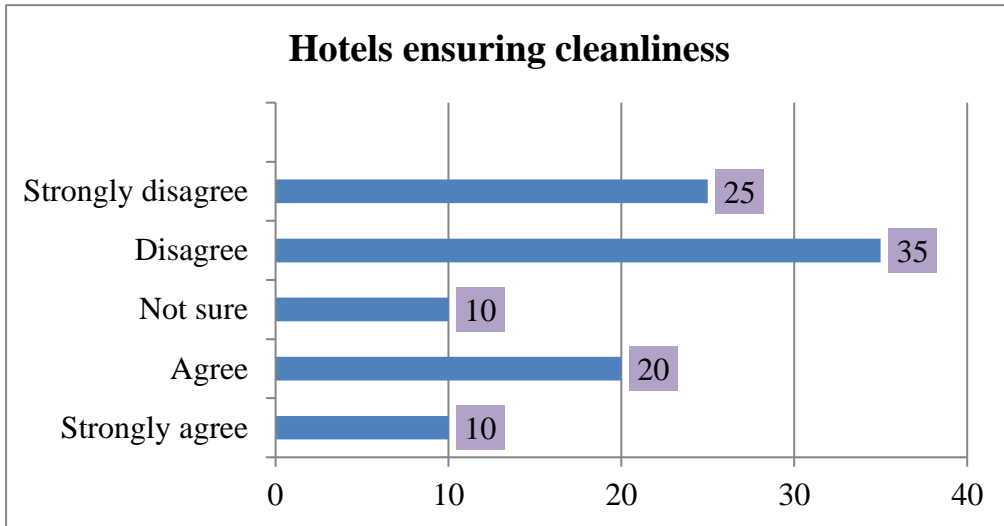


Graph 2

Interpretation: From Graph 2, it is observed that, out of 100 customers, 10 customers visit the hotel only once, 20 customers visit twice, 35 customers visit thrice and 35 customers visit the hotel more than 3 times in a month.

Table-3: Hotels ensuring cleanliness

Liker scale	Frequency
Strongly agree	10
Agree	20
Not sure	10
Disagree	35
Strongly disagree	25
Total	100

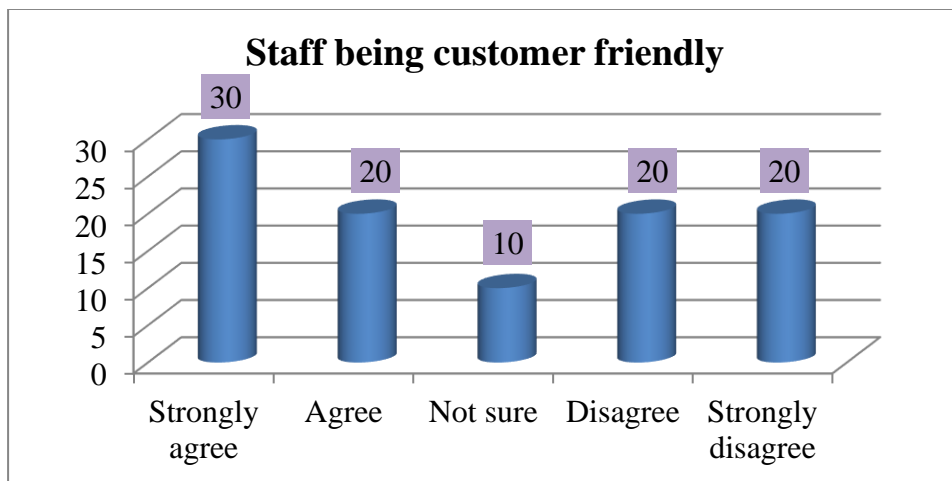


Graph 3

Interpretation: It is observed from Graph 3 that 30% of the respondents agreed that the hotel ensures cleanliness, while 60% denied it. 10% remained neutral about this claim.

Table-4: Staff being customer friendly

Likert scale	Frequency
Strongly agree	30
Agree	20
Not sure	10
Disagree	20
Strongly disagree	20
Total	100

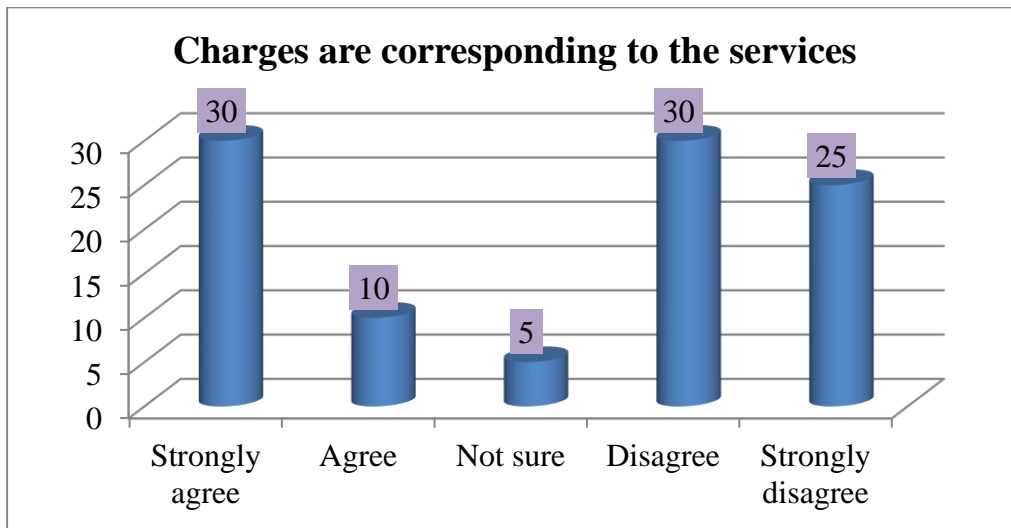


Graph 4

Interpretation: From Graph 4, it can be inferred that 50% of the respondents agreed to the fact that hotel staff are customer friendly, while 40% did not feel so. 10% remained neutral.

Table-5: Charges are corresponding to the services

Likert scale	Frequency
Strongly agree	30
Agree	10
Not sure	05
Disagree	30
Strongly disagree	25
Total	100



Graph 5

Interpretation: From Graph 5, it can be inferred that 40% of the respondents felt that charges are corresponding to services, while 55% did not feel so. 5% remained neutral.

Table-6: Safety is ensured in the hotel

Likert scale	Frequency
Strongly agree	30
Agree	25
Not sure	05
Disagree	30
Strongly disagree	10
Total	100

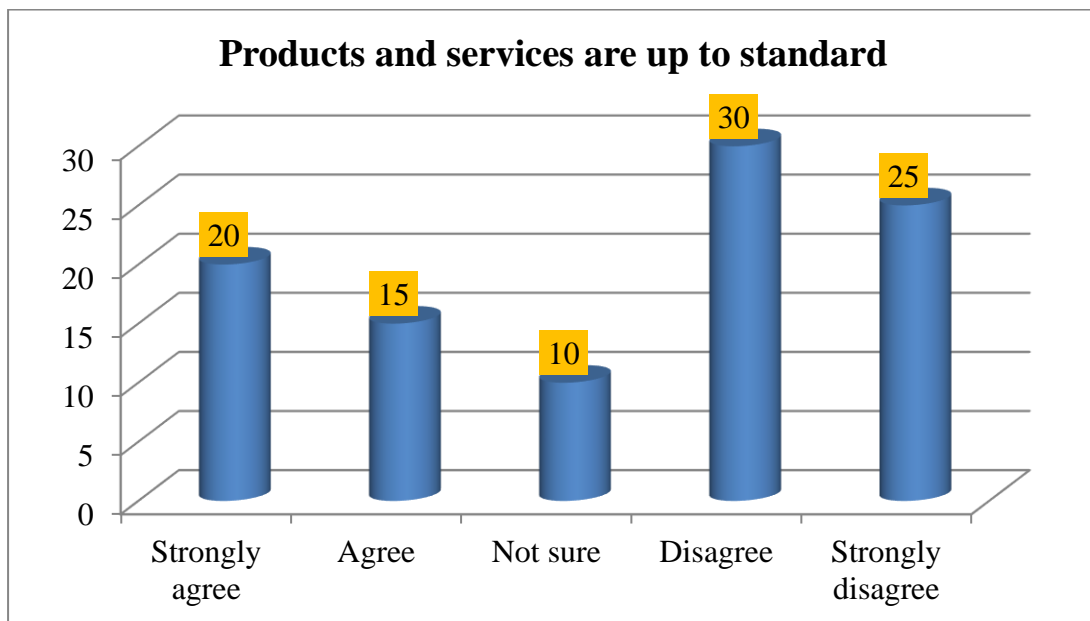


Graph 6

Interpretation: From Graph 6, it can be inferred that 55% of the respondents are of the opinion that safety is ensured in the hotel, while 40% did not feel so. 5% remained neutral.

Table-7: Products and services offered by hotels are up to expected standards

Likert scale	Frequency
Strongly agree	20
Agree	15
Not sure	10
Disagree	30
Strongly disagree	25
Total	100

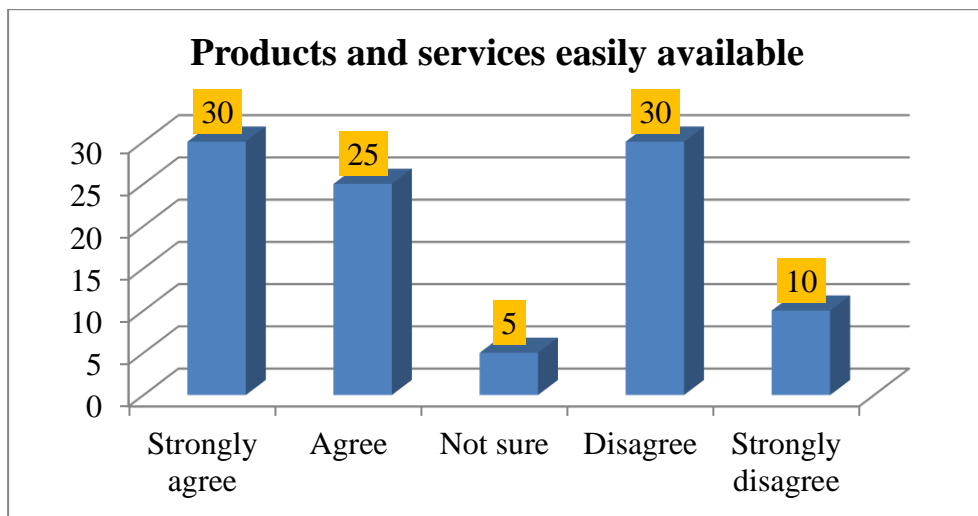


Graph 7

Interpretation: From Graph 7, it can be inferred that 35% of the respondents felt that products and services offered by the hotel meet their expectations, while 55% did not feel so. 10% remained neutral.

Table-8: Products and services easily available?

Likert scale	Frequency
Strongly agree	30
Agree	25
Not sure	05
Disagree	30
Strongly disagree	10
Total	100

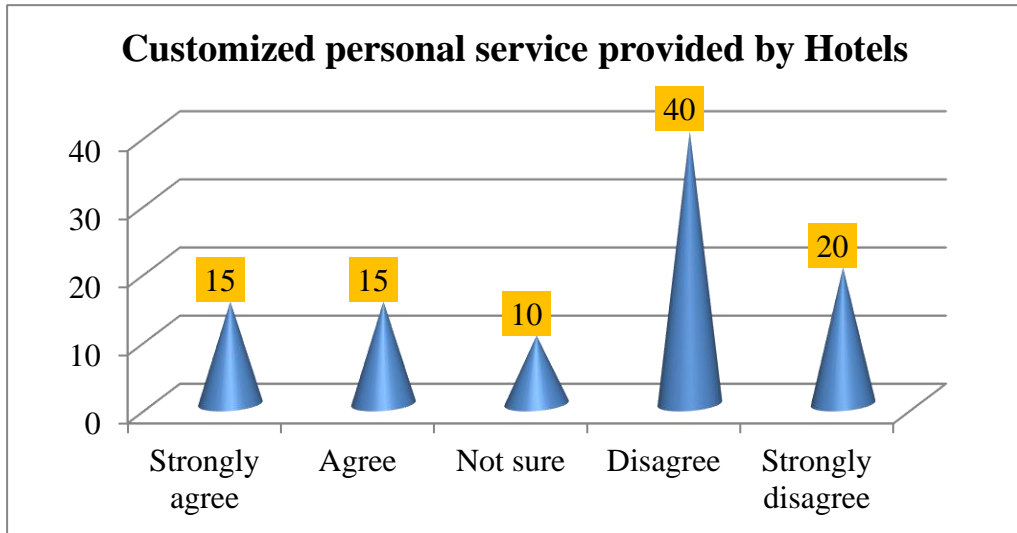


Graph 8

Interpretation: From Graph 8, it can be inferred that 55% of the respondents opined that products and services are easily available, while 40% are not of that opinion. 5% are neutral to this claim.

Table-9: Customized personal service provided by Hotels

Likert scale	Frequency
Strongly agree	15
Agree	15
Not sure	10
Disagree	40
Strongly disagree	20
Total	100

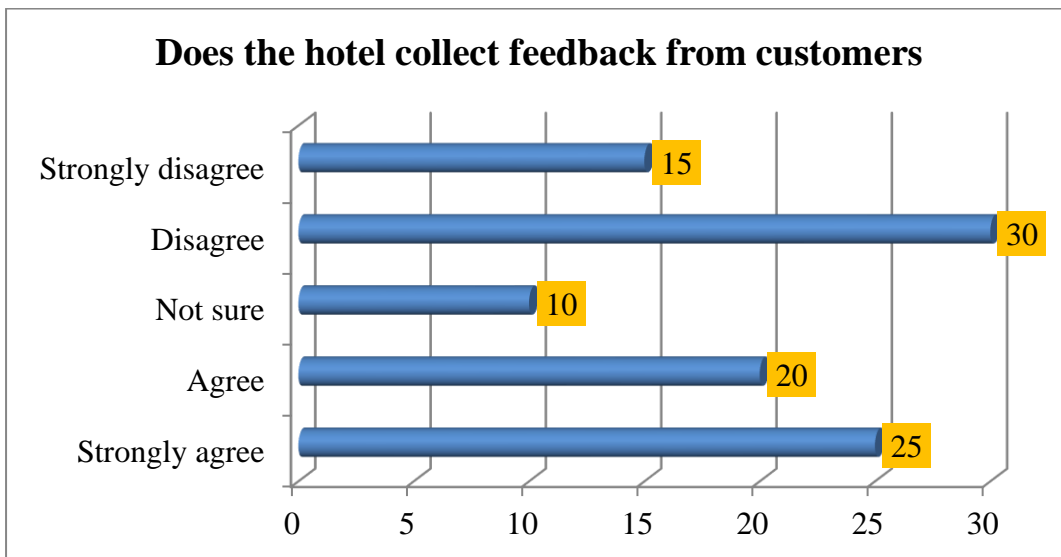


Graph 9

Interpretation: From Graph 9, it can be inferred that out of 100 respondents, 30 felt that customized personal service is provided by the hotel. However, 60 of them did not agree to it. 10 were unable to comment on this.

Table-10: Does the hotel collect feedback from customers?

Likert scale	Frequency
Strongly agree	25
Agree	20
Not sure	10
Disagree	30
Strongly disagree	15
Total	100

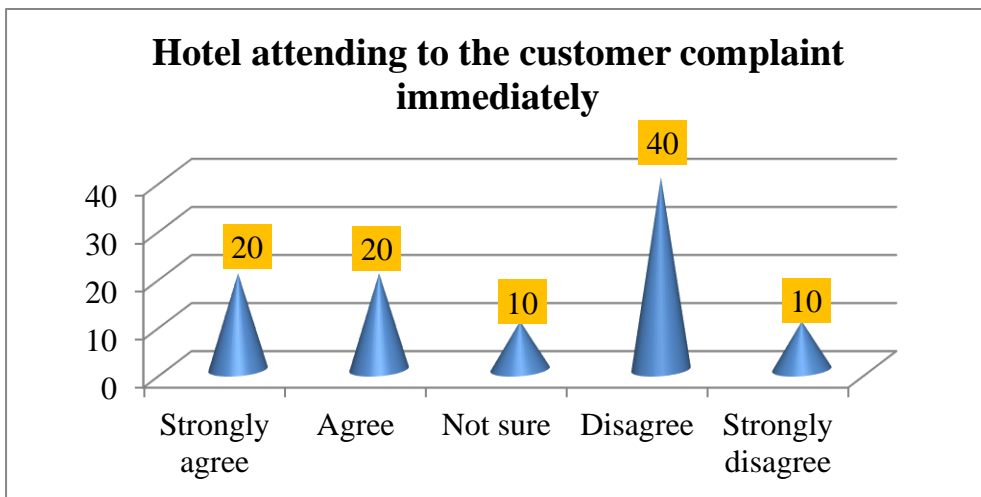


Graph 10

Interpretation: From Graph 10, it can be inferred that out of 100 respondents, 45 admitted that hotel collects feedback from customers. However, 45 of them did not agree to it. 10 of them were unable to comment on this.

Table-11: Hotel attending to the customer complaint immediately?

Likert scale	Frequency
Strongly agree	20
Agree	20
Not sure	10
Disagree	40
Strongly disagree	10
Total	100

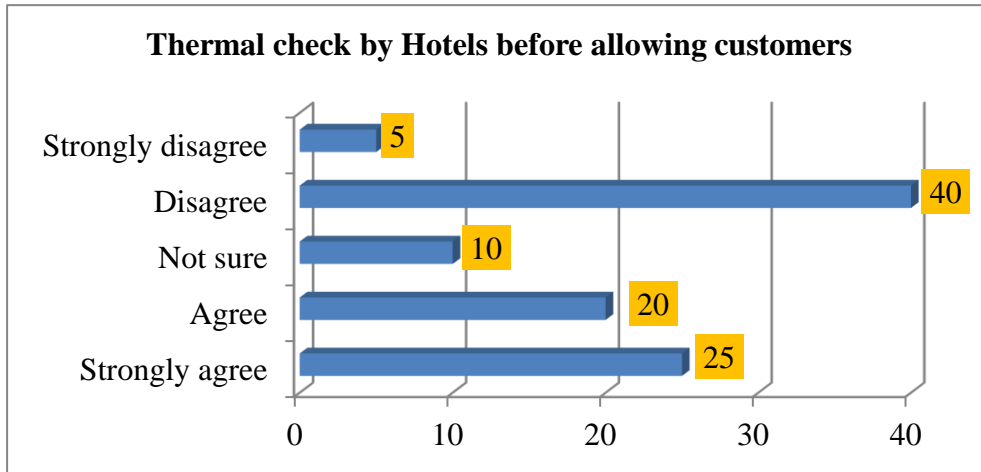


Graph 11

Interpretation: From Graph 11, it is observed that out of 100 respondents, 40 admitted that hotel attends to customer complaints immediately. However, 50 of them did not admit this claim. 10 of them were unable to comment on this.

Table-12: Thermal check by Hotels before allowing customers

Likert scale	Frequency
Strongly agree	25
Agree	20
Not sure	10
Disagree	40
Strongly disagree	05
Total	100

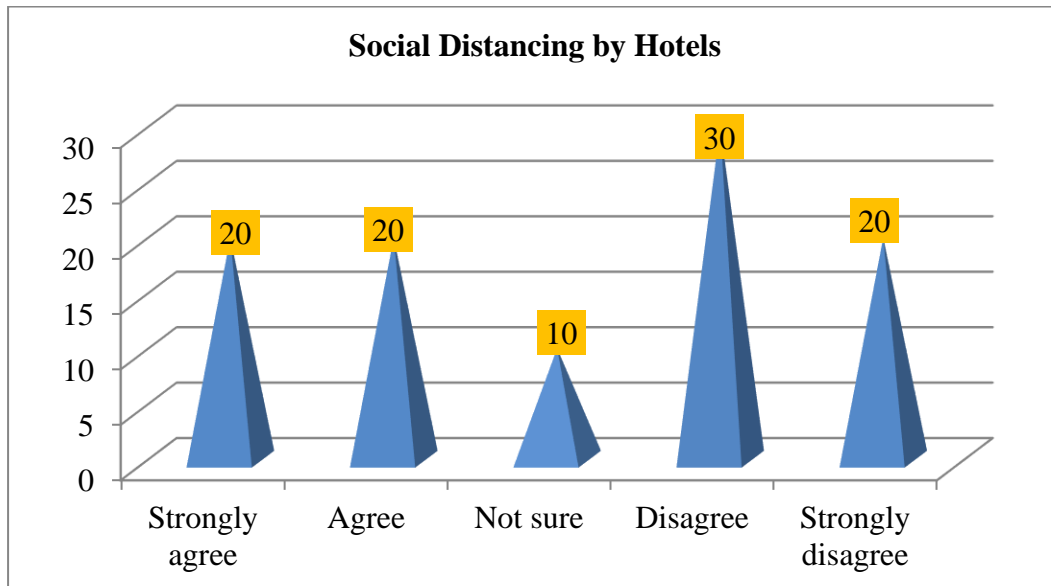


Graph 12

Interpretation: From Graph 12, it is observed that 45% of the customers agreed that hotels use thermal check before allowing customers and 45% denied it. 10% did not feel either.

Table 13: Social Distancing by Hotels

Likert scale	Frequency
Strongly agree	20
Agree	20
Not sure	10
Disagree	30
Strongly disagree	20
Total	100



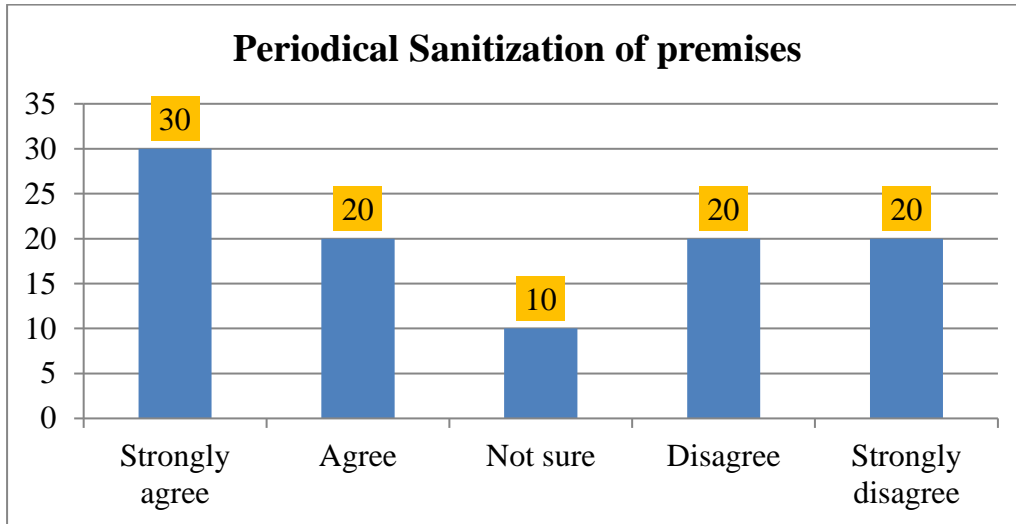
Graph 13

Interpretation: It is observed from Graph 13 that 40% of the customers felt that hotel followed social distancing norms, while 50% did not feel so. 10% were not sure of this.

Table-14: Periodical Sanitization of premises

Likert scale	Frequency
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Strongly agree	30
Agree	20
Not sure	10
Disagree	20
Strongly disagree	20
Total	100

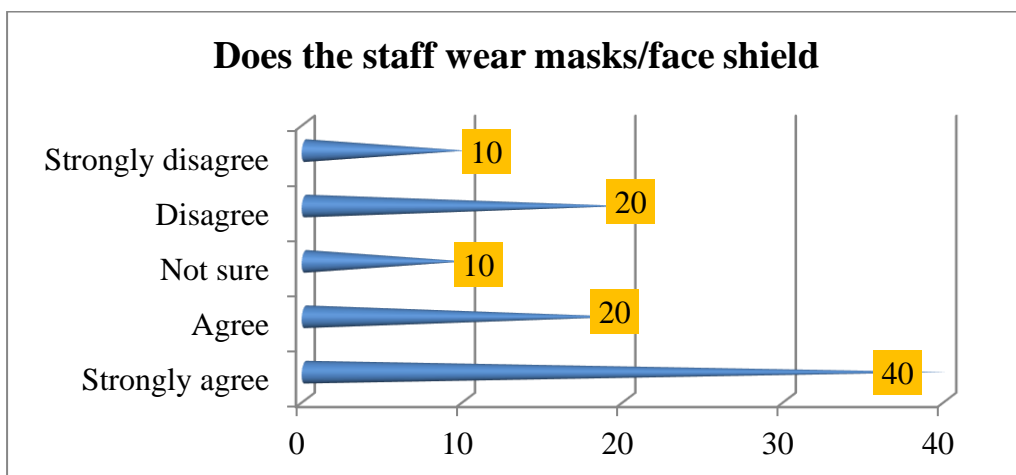


Graph 14

Interpretation: It is observed from Graph 14 that 50% of the customers are of the opinion that hotel premises were sanitized periodically, while 40% did not feel so. 10% did not feel either.

Table-15: Does the staff wear masks/face shield

Likert scale	Frequency
Strongly agree	40
Agree	20
Not sure	10
Disagree	20
Strongly disagree	10
Total	100

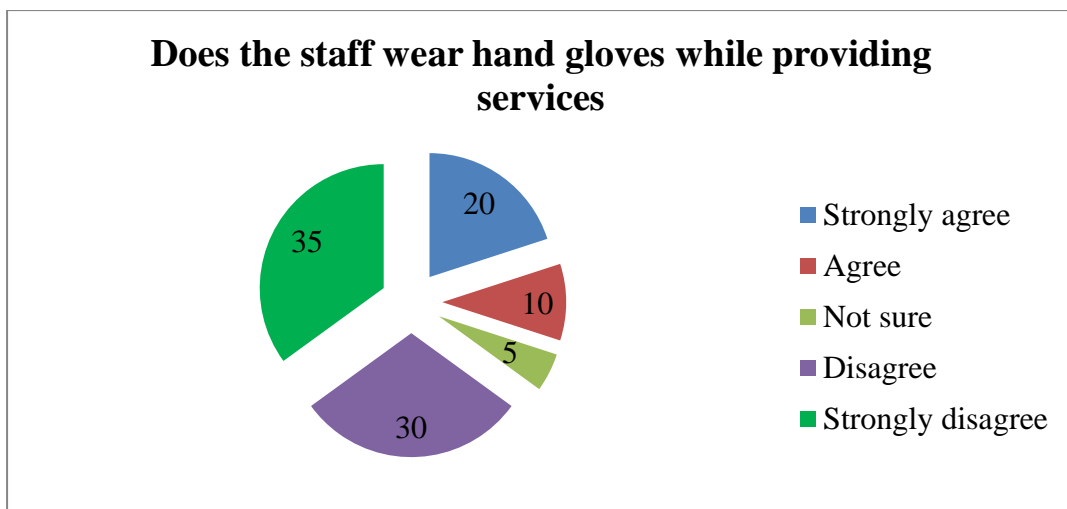


Graph 15

Interpretation: It is observed from Graph 15 that 60 of 100 customers agreed that staff wear masks/face shield, while 30 of them did not agree to it. 10 customers were neutral about the claim.

Table-16: Does the staff wear hand gloves while providing services

Likert scale	Percentage
Strongly agree	20
Agree	10
Not sure	05
Disagree	30
Strongly disagree	35
Total	100

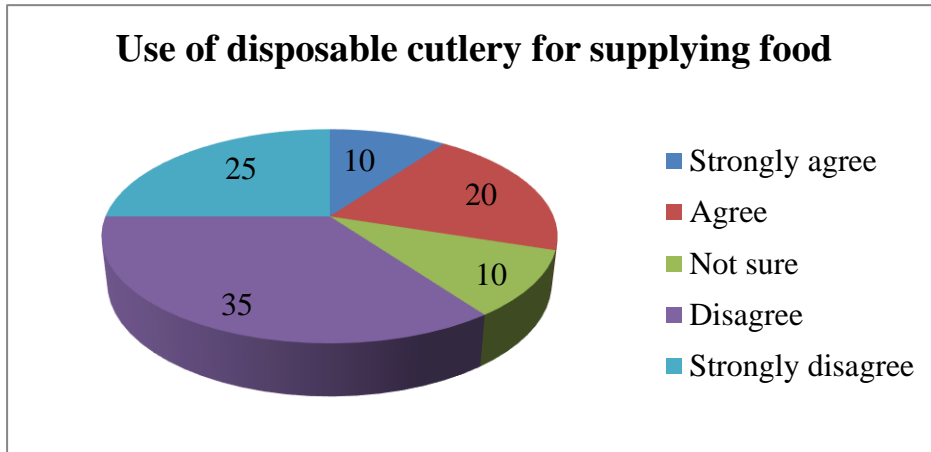


Graph 16

Interpretation: It is observed from Graph 16 that 30% of the customers agreed that staff wear hand gloves while providing service, while 65% of them disagree to it. 5% of the customers were neutral about the claim.

Table-17: Use of disposable cutlery for supplying food

Likert scale	Percentage
Strongly agree	10
Agree	20
Not sure	10
Disagree	35
Strongly disagree	25
Total	100

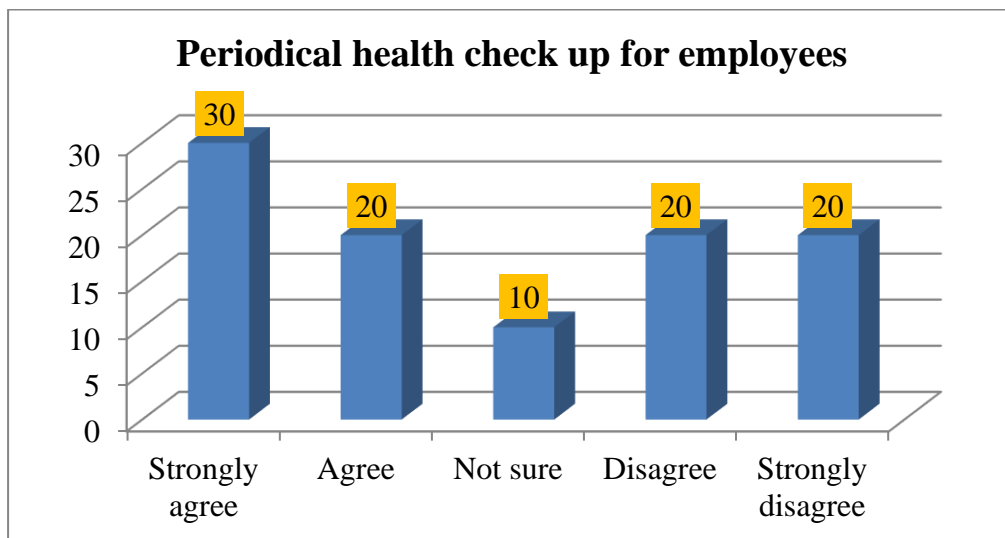


Graph 17

Interpretation: From Graph 17, it is inferred that 30% of the customers agreed that disposable cutleries are used in supplying food, while 60% of them disagree to it. 10% of the customers were neutral about the claim.

Table-18: Periodical health check up for employees

Liker scale	Frequency
Strongly agree	30
Agree	20
Not sure	10
Disagree	20
Strongly disagree	20
Total	100



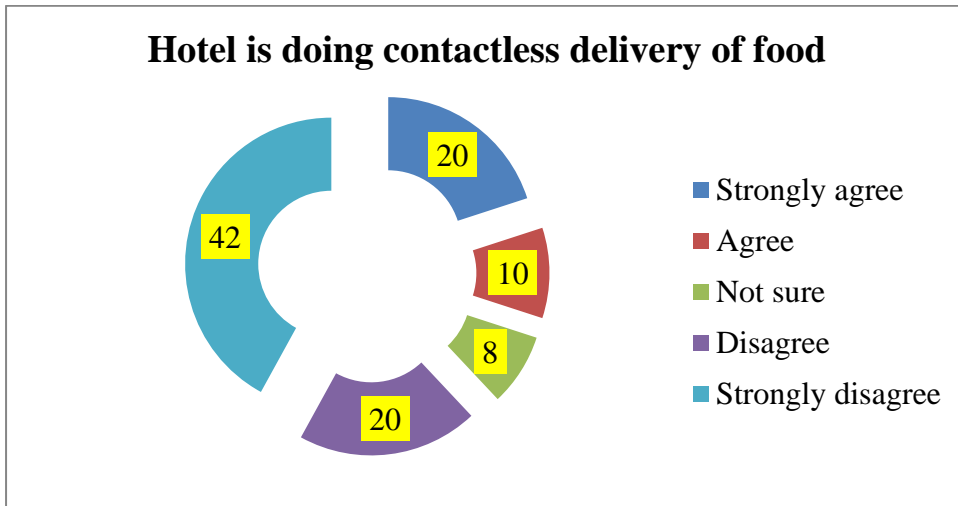
Graph 18

Interpretation: From Graph 18, it is inferred that 50 of 100 respondents agreed to the fact that periodical health check up is done for employees. However, 40 of them did not agree to it and the remaining 10 were neutral to this claim.

Table-19: Is the hotel using a practice of contactless delivery of food

Likert scale	Percentage
Strongly agree	20

Agree	10
Not sure	08
Disagree	20
Strongly disagree	42
Total	100

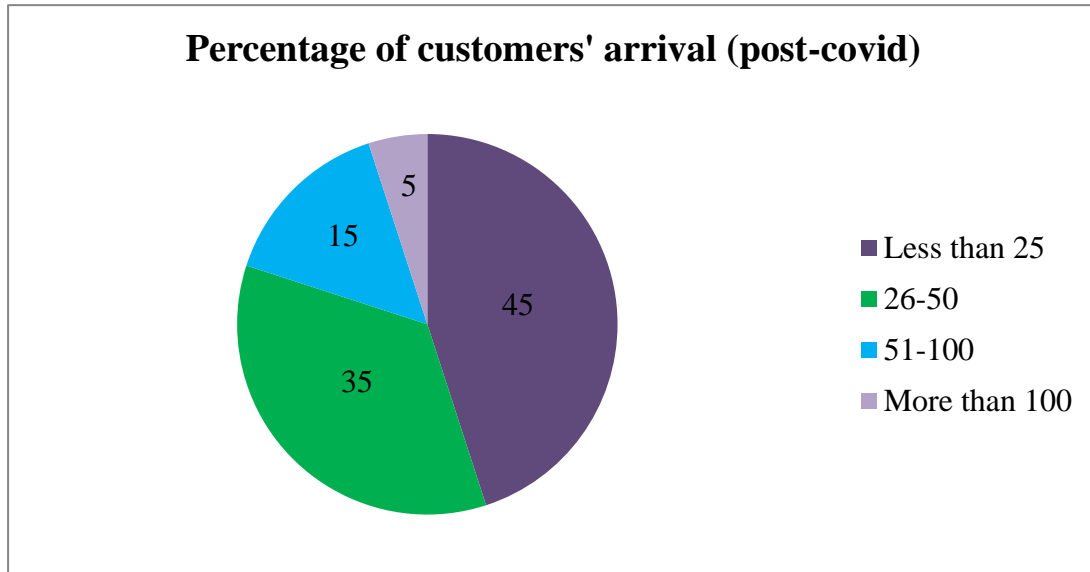


Graph 19

Interpretation: From Graph 19, it is inferred that 62% of the respondents denied that hotels are doing contactless delivery of food, while 30% felt that hotels provide contactless delivery. However, 8% were not sure of this claim.

Table-20: Number of customers visiting the hotel daily (-covid)

Number of customers	Percentage
Less than 25	45
26-50	35
51-100	15
More than 100	5
Total	100

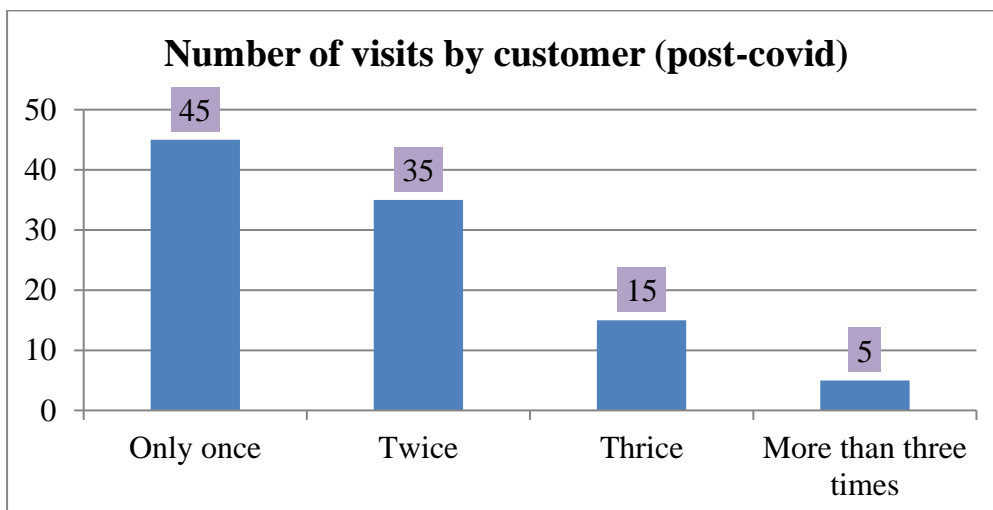


Graph 20

Interpretation: It is observed from Graph 20 that 45% of the time, less than 25 customers arrive in a day; there are 35% chances of arrivals of 26 to 50 customers in a day; 15% chance of having 51-100 customers in a day and 5% chance of arrival of more than 100 customers in a day.

Table-21: Number of visits to hotel per month by a customer (During-covid)

No of visits	Frequency
Only once	45
Twice	35
Thrice	15
More than three times	5
Total	100



Graph 21

Interpretation: From Graph 21, it is observed that, out of 100 customers, 45 customers visit the hotel only once, 35 customers visit twice, 15 customers visit thrice and 5 customers visit the hotel more than 3 times in a month.

It is intended to compare the scenario of hotels pre and during covid. The following hypotheses are framed in investigating the same.

Hypothesis 1:

H₀: There is no significant difference in the frequency of customer arrivals to the hotel.

H₁: There is significant difference in the number of arrivals to hotel pre and post covid.

Significance level of 0.05 is taken in testing the hypothesis. Null hypothesis is rejected if p value is <0.05.

Two sample z-test is used in testing this hypothesis. Data of Tables 1 and 20 are made use of in carrying out the analysis. The following numerical values are taken for indicating the number of customers:

- 1- Less than 25 customers.
- 2- 26-50 customers.
- 3- 51-100 customers.
- 4- More than 100 customers.

Table 22 shows the mean number of customer arrivals to hotels pre and during covid and their standard deviations.

Table-22: Mean and standard deviation of number of customers

Variable	Mean	Std. Deviation
No of customers (pre-covid)	3.05	0.925
No of customers (during -covid)	1.8	0.876

Interpretation: It can be observed from Table-22 that in the pre-covid scenario, on an average, around 100 customers were arriving in a day, while during-covid, the average has been reduced to around 25 customers.i.e., there the arrival of customers has drastically reduced to almost a quarter.

Table-23 denotes the table of results after applying z-test.

Table-23: Results of z-test

z (Observed value)	9.810
z (Critical value)	1.972
DF	198
p-value (Two-tailed)	0.0001

Since p value is < 0.05, the null hypothesis is rejected and the alternative accepted. Hence it can be inferred that the difference in the average number of arrivals to hotel pre and during covid is significant.

Now, it is intended to test whether the frequency with which customers arrive in a month has changed post covid. Thus, it is intended to test the following hypothesis.

Hypothesis 2:

H₀: There is no significant difference in the number of visits per month by the customer.

H₁: There is significant difference in the number of visits per month by the customer.

The above procedure of hypothesis 1 is applicable here too. The following numerical values are taken for indicating the number of visits per month:

1. Only once.
2. Twice.
3. Thrice.
4. More than 3 times.

Table-24 denotes the means & standard deviations pre and post covid and Table-25 represents the calculations pertaining to the test.

Table-24: Mean and standard deviation of number of visits/month

Variable	Mean	Std. Deviation
No of visits/month (pre-covid)	2.950	0.978
No of visits/month (post-covid)	1.800	0.876

Interpretation: It is observed from Table-24 that on an average, a customer would visit the hotel about 3 times in a month before covid, while during covid, the average number of visits by the customer reduced to slightly less than 2 visits.

Table-25: Results of z-test

z (Observed value)	8.757
z (Critical value)	1.972
DF	198
p-value (Two-tailed)	0.0001

Since p value is < 0.05, the null hypothesis is rejected and the alternative is accepted. Hence it can be inferred that there is significant difference in the number of visits per month by the customer pre and during covid.

Finally, the relationship between the working of hotel pre and during covid is to be analyzed. For this analysis, the following hypothesis is to be tested.

Hypothesis 3:

H₀: There is no significant relationship between the working of hotel pre and during covid.

H₁: There is significant relationship between the working of hotel pre and during covid.

The correlation between various parameters of functioning of the hotel pre and during covid are considered and are indicated in Table-26. Pearson coefficient of correlation is considered as a measure of relationship. In this table, variables V_i (i=1 to 9) represent measures before covid and variables P_j (j=1 to 8) denote measures during covid.

Table-26: Correlation matrix (Pearson)

Variable	P1	P2	P3	P4	P5	P6	P7	P8
V1	0.907*	0.944*	0.908*	0.858*	0.950*	1.000*	0.906*	0.948*
V2	0.937*	0.955*	0.996*	0.948*	0.892*	0.906*	1.000*	0.903*
V3	0.946*	0.963*	0.940*	0.896*	0.932*	0.966*	0.938*	0.944*
V4	0.942*	0.916*	0.970*	0.954*	0.882*	0.881*	0.974*	0.899*
V5	0.943*	0.970*	0.928*	0.876*	0.959*	0.965*	0.924*	0.958*

V6	0.942*	0.916*	0.970*	0.954*	0.882*	0.881*	0.974*	0.899*
V7	0.903*	0.954*	0.903*	0.834*	0.953*	0.975*	0.900*	0.952*
V8	0.980*	0.962*	0.962*	0.915*	0.902*	0.913*	0.959*	0.923*
V9	0.955*	0.980*	0.923*	0.887*	0.924*	0.930*	0.922*	0.945*

*p-val=0.001(Significant)

Interpretation: From Table-26, a strong relationship is observed among the measures of pre and during covid. Further, these relationships are significant, as p value is 0.001 in each case. Hence, it can be inferred that covid has an impact on the functioning of hotels.

5. Major findings

1. There is reduction in the number of visitors to the hotel.
2. There is reduction in the number of visits of the customers to the hotel in a month, in spite of the precautions and protocols taken by the hotel staff.
3. Pandemic has an impact on service quality practices of hotel industries.

Suggestions

*Many of the respondents expressed that the cleanliness in hotels is not up to the mark. Hence Hotels should focus on maintaining cleanliness

*Hotels should be more customers friendly

* Hotels should ensure that the charges are corresponding to the services rendered

* Safety should be ensured in the hotels

* Hotels should design their products and services up to customer expectations

* Hotels should provide more customized personal services

* Hotels should attend to customer complaints immediately

* Hotels should strictly follow social distancing norms

*Hotels should be periodically sanitized

*All the staff should wear mask and hand gloves compulsorily

*Hotels should use disposable cutleries

*Periodical health check up should be conducted for employees a*Hotels should focus on contactless delivery of services

Conclusion

Pandemic has created an adverse impact on business of Hotels. Though lock down has been lifted, people are apprehensive to visit hotels. At this hour of crisis it is utmost important for hotels to build up confidence in the mind of customers by ensuring the best safety services

All possible steps are to be taken by the hotels to prevent the spread of COVID in their premises for customers.



Smart Teacher Deals Camouflaged Stress rather being a Social Chameleon

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ABSTRACT

Teacher stress is inevitable in the education industry. Stressors causing stress are dynamic in nature. These stressors could be visible or invisible. Visible stressors are directly job-related whereas invisible stressors termed as camouflaged stress are specifically related to the teacher. Work-related stressors have been exhaustively listed in ample previous research works but the impact of VUCA (Volatility, Uncertainty, Complexity and Ambiguity) world needs an emphasis on the study of teacher stress. Dealing with teacher stress is although a challenge but is quintessential for well being of a teacher. Earlier studies suggested stress coping strategies that need extra time and sources like, exercise, nutritional diets, sleep patterns, meditation, yoga, time management and alike. This paper aims to study the mindset as a stress-coping strategy. The root cause of stress is mind thus it should be dealt at the mental level. The human mind can be classified into two viz rational mind and emotional mind. The intensity of emotions decides the level of domination by the emotional mind over the rational mind. Striking the right balance between the two minds paves way for coping stress. The paper concludes that stressors causing stress should be understood, acknowledged and dealt appropriately. Varied emotions behind the stressors that may be either related or unrelated should be sorted and acknowledged rather putting a facade of bravery. The art to deal stress is to understand the emotional mind and not become a social chameleon deceiving self and others. This study suggests further research on the unidentified stressors causing camouflaged stress.

Keywords : Teacher Stress, Camouflaged Stress, University, Stress Management, VUCA world

I. INTRODUCTION

Teaching profession demands huge emotional investment by a teacher (Zhang & Zhu, 2008). Teacher stress is inevitable in the education industry (Inamdar & Parveen, 2020). Work-related stressors have been exhaustively listed in ample previous research works but the impact of VUCA (Volatility, Uncertainty, Complexity and Ambiguity) world needs an emphasis on the study of teacher stress (Sharma, 2014). There are various elements to consider as volatile, uncertain, complex and ambiguous in the education industry. It's in every aspect right form people, process and procedures. Teacher stress cannot be removed however it can always be reduced. Stress coping strategies differ based on individuals, organization and available resources. Stressors causing stress are dynamic. These stressors could be visible or invisible. Visible stressors are directly job-related whereas invisible

stressors termed as camouflaged stress (Inamdar, 2019) are specifically related to the teacher. Dealing with teacher stress is although a challenge but is quintessential for well being of a teacher. Earlier studies suggested stress coping strategies that need extra time and sources like, exercise, nutritional diets, sleep patterns, meditation, yoga, time management and alike. A glance on these suggestions through the lens of a teacher is cumbersome. These suggestions resolve the stress issue either temporarily or needs extra efforts. This paper aims to study the mindset as a stress-coping strategy. The root cause of stress is mind thus stress should be dealt at the mental level. Stress is often understood in negative context. However an optimal level of stress is a healthy sign to achieve success (Pestonjee & Pareek, 1987). Stress can be handled by evaluation of the specific stressors affecting an individual (Crum et al., 2017). The human mind can be classified into two viz rational mind and emotional mind (Goleman, 1996). The intensity of emotions decides the level of domination by the emotional mind over the rational mind. Striking the right balance between the two minds paves way for coping stress. Feelings and emotions dominate the emotional mind. The present study reviews earlier research works to determine a coping strategy that would work at root cause. The combination of VUCA world with teaching profession and its challenges with in-built unidentified stress referred as camouflaged stress is the crux of the present study.

Literature review

The literature review for the present study is classified into three contexts viz

1. People
2. Process
3. Procedure

The study involves camouflaged stress among teachers impacted by regular job duties and VUCA world impact. The literature considers the people, process and procedures that are volatile, uncertain, complex and ambiguous in nature moulding in as camouflaged stress among teachers. Education industry is rich in human resource. Its benefactor and beneficiary both are humans. Thus complexity is at a very high level. Human nature is enormously complex. The rate of volatility is also high as it gets frequently influenced by environment. A study on teacher burnout revealed perceived superiority makes a teacher feel much better reducing the existing burnout (Brenninkmeijer et al., 2001). Teacher stress is directly correlated to student behaviour and is a concern causing stress as reported by many teachers (McCormick, 1997). In the present scenario the concern of student is behavior is adverse with excessive exposure to social media causing social media fatigue among students (Malik, et al., 2020). Due to pandemic crisis of coronavirus the shift from campus mode to online mode has forced parents to provide students with gadgets and gizmos deviating to excessive social media exposure. Social disparity is one of the reasons for societal vulnerability during pandemic crisis (Blumenshine et al., 2008). Teachers have to deal with social disparity among students conscientiously to maintain classroom harmony. Globalization brought different cultures and ethnicities under one roof. Classroom diversity is a challenging task for teachers (Collier, 2002; Bucklow & Clark, 2000). Outwardly it can be considered as a regular feature but is a difficult task to deal every day. Extracurricular activities for students create additional work for teachers. These activities are not part of teaching schedule and hence are without compensation to teachers predicting anxiety, stress and depression (Ratanasiripong et al., 2020). Teachers often mask their emotions related to any of the above people related issues to justify their job. Frequent concealment of emotions may lead to burnout (Navarro et al., 2010). Neglected stress is perilous affecting efficiency both at work and life (Selye, 1974). Teachers traverse a rough patch when it comes to processes in an organization. Cornu (2003) referred drastic transformation of society, Education and Knowledge due to the paradigm shift of teaching profession from a hierarchical type to network type driven by Information and Communication Technology (ICT). At an early age students are exposed to technology where as a teacher have to unlearn and learn to keep the pace with the students. A study on use of digital tools by students and teachers disclosed better performance by students from online and distance learning universities (ODL) compared to regular university students (Amin & Mirza, 2020). Commercialization of education flooded the profession with student entertainment packages to attract intakes under the pretext of new teaching and learning methods. Teachers are weighed down with teaching related activities and teaching and learning process focusing on student entertainment rather achievements (Cooper, 2002). Beyond people and process, procedures

play a vital role in adding to camouflaged stress among teachers. Teaching is no more confined to teaching only. Role ambiguity at work leads to stress and burnout among teachers (Srivastav, 2007). Teaching staff is overloaded with teaching and administrative duties. Being a mediator between student and parent and management and parent, teachers are given task of evaluators and administrators. Lamentably teachers are even appraised these performances for which they are least qualified (Rasheed et al., 2011). In conjunction with above a teacher is expected to be adept, technologically shrewd, emotionally stable and always self-motivated. The wave of digitization has raised the benchmark of teaching profession (Kaur et al., 2018). Every human in any profession yearn an upward graph, same is for a teacher. A sluggish career forms a stressor for teachers. The constraint of student achievements restricts teachers from further professional development (Soslau, 2016). Professional development in teaching is essential but unworkable without family support (Tall et al., 1997). Professional development demands multitasking seeking extra time and additional investment. To go that extra mile for professional development social support is a prerequisite.

Teacher stress and camouflaged stress

Exploration of literature manifested various elements of people, process and procedure contributing to camouflaged stress. These elements are volatile, uncertain, complex and ambiguous at varied levels. The volatility and complexity of student behaviour include an uncertain response and an ambiguous result. Every expected backlash from the student side that may occur or may not but a teacher always has to be prepared for the worst. The uncertain and ambiguous classroom diversity includes a volatile characteristic and uncertain number in every intake for a new academic session. Mental preparation of this diversity either for a new academic session or an ongoing is equally arduous. Digitization and commercialization of education industry carried its advantages and disadvantages that vary from individual to individual depending on the skills they possess and lack. The academic procedures engage teachers less in teaching and more in administrative duties. Anxiety, stress or depression forms a consequence of the inadequacy of professional development. Though physically a teacher would be working, professionally recognized and financially earning despite the feeling of emptiness persists at the back of the head. Every teacher endures specific stress at an individual level that remains camouflaged as its acknowledgement is equivalent to declaring a self failure. The fears to be announced as a failure coerce teachers to suffer the camouflaged stress. This emotion of fear is like a two-sided coin. One side as observed is of failure and the other side is of success. The other side of success is unveiled only when the failure side is acknowledged. Using the right attitude towards camouflaged stress can turn the tables. A mindset of success seeks solution, growth and achievement. An optimistic approach to difficult situations establishes a solution generating mindset. When there is a mismatch in thinking and doing then there exists a wandering mind. A wandering mind is restless consequently less happy, less content and lacks rational decision making.

Discussion

The broad heading of stressors under teacher stress category is sub-headed as camouflaged stress. Camouflaged stress identified as unidentified stress that rests at the back of the head weakening the rational mind. Camouflaged stress is different for every individual as it is personally characterized. As it is specific to individual the coping strategy would also be specific to the individual under stress. The master key to all types of camouflaged stress is the mindset. The human mind is programmable. Past incidents, accidents or experiences leaves its impression affecting the decision making in present and future (Osho, 2012). This provides a scope for programming positive results in negative situations. The root cause of stress is mind thus it should be dealt at the mental level. The intensity of emotions decides the level of domination by the emotional mind over the rational mind. Striking the right balance between the two minds paves way for coping stress. High emotional intelligence results in lowering the perceived stress (Urquijo et al., 2016; Yin, 2015). Teachers with high emotional intelligence are professionally more satisfied and broaden their self (Perry & Ball 2007). Mindfulness could help teachers in stress mitigation, self-awareness and building healthy relations (Smith-Carrier et al., 2015). Responding to negative situations with an optimistic understanding results in a happier self (Taylor & Brown, 1989; Taylor & Brown, 1994). The body and mind should traverse in a way to void the effects of stress. The subliminal self speaks through ideas, hunches,

intuitions, intimations, impulses and urges. Understanding these emotions with rational justification would bridge the body and mind. This bridge reduces the negative impact of stress and generates positive energy (Murphy, 2013). A stressed teacher cannot surface quality lectures. An empirical study in universities revealed that quality lectures contribute positively to academic achievement and retention of students (Setiawan et al., 2020). It's like a vicious cycle of events wherein mentally sorted teachers prepares quality lectures that in turn enhances student academic achievement which in turn retains student motivating the teacher and boosting to improve more. The vicious cycle would go vice versa with a negative mindset.

Conclusion

Material possessions do not contribute to the happiness of any life. It is the mental peace that accords satisfaction at work and in life. A tendency to use emotional wiles to attract sympathy from others is addictive in nature. This addiction further encourages self-sympathy dragging the individual deep into the stress pit. The other way to avoid camouflaged stress is either to ignore or discredit its existence. But the fact is its existence, to let it grow in an unacknowledged fashion is like allowing a malignancy. The paper concludes that stressors causing stress should be understood, acknowledged and dealt appropriately. Varied emotions behind the stressors that may be either related or unrelated should be sorted and acknowledged rather putting a facade of bravery. The art to deal stress is to understand the emotional mind and not become a social chameleon deceiving self and others. This study suggests further research on the unidentified stressors causing camouflaged stress.

II. REFERENCES

- [1]. Amin, H., & Mirza, M. S. (2020). Comparative study of knowledge and use of Bloom's digital taxonomy by teachers and students in virtual and conventional universities. *Asian Association of Open Universities Journal*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/aaouj-01-2020-0005>
- [2]. Blumenshine, P., Reingold, A., Egerter, S., Mockenhaupt, R., Braverman, P., & Marks, J. (2008). Pandemic influenza planning in the United States from a health disparities perspective. *Emerging Infectious Diseases*.
- [3]. Brenninkmeijer, V., Vanypere, N.W. & Buunk, B.P. (2001). I am not a better teacher, but others are doing worse: burnout and perceptions of superiority among teachers. *Social Psychology of Education* 4, 259–274 <https://doi.org/10.1023/A:1011376503306>
- [4]. Bucklow, C. & Clark, P. (2000). The role of the institute for learning and teaching in higher education in supporting professional development in learning and teaching in higher education. *Teacher Development*, 4(1), 7-13, <https://doi.org/10.1080/13664530000200101>
- [5]. Collier, M. (2002). Changing the face of teaching: preparing educators for diverse settings. *Teacher Education Quarterly*, 29(1), 49-59.
- [6]. Cooper, T. (2002, July 7–10). Quality interventions: examining the unintended effects of quality policies on academic standards and staff stress [Conference presentation]. *Quality Conversations*.
- [7]. Cornu, B. (2003). The Teaching Profession: A networked profession in new networked environments. In: Dowling C., Lai KW. (eds) *Information and Communication Technology and the Teacher of the Future*. IFIP — The International Federation for Information Processing, 132. Springer, Boston, MA
- [8]. Crum, A. J., Akinola, M., Martin, A. & Fath, S. (2017). The role of stress mindset in shaping cognitive, emotional, and physiological responses to challenging and threatening stress. *Anxiety, Stress & Coping*, 30(4), 379-395. <https://doi.org/10.1080/10615806.2016.1275585>
- [9]. Goleman, D. (1996). *Emotional intelligence: Why it can matter more than IQ*. London: Bloomsbury.

- [10]. Inamdar, S. (2019). A study on camouflaged stress among teaching staff - an international review. *MERC Global's International Journal of Management*, 7(1), 85.
- [11]. Inamdar, S. & Parveen, S. (2020, February 3-4). An odyssey of teacher stress via stress and occupational stress– a conceptual paper [Conference presentation]. International Conference on “Multi-Disciplinary Research”. Vishwabharati Research Centre, Mumbai, India.
- [12]. Kaur, I., Shri, c. & Mital, K. M. (2018). Performance management model for teachers based on emotional intelligence and social media competencies. *Journal of Advances in Management Research*, 15(4), 414-433. <https://doi.org/10.1108/JAMR-09-2017-0086>
- [13]. Malik, A., Dhir, A., Kaur, P., & Johri, A. (2020). Correlates of social media fatigue and academic performance decrement. *Information Technology & People*, ahead-of-print (ahead-of-print). <https://doi.org/10.1108/itp-06-2019-0289>
- [14]. McCormick, J. (1997). Occupational stress of teachers: biographical differences in a large school system. *Journal of Educational Administration*, 35(1), 18-38, <https://doi.org/10.1108/09578239710156962>
- [15]. Murphy, J. (2013). *The power of your subconscious mind*, Dr. Joseph Murphy. Wildside Press.
- [16]. Navarro, M.L. A., Mas, M. B. & Jiménez, A. M. L. (2010). Working conditions, burnout and stress symptoms in university professors: validating a structural model of the mediating effect of perceived personal competence. *The Spanish Journal of Psychology*, 13 (1), 284–296.
- [17]. Osho (2012). *Fear: understanding and accepting the insecurities of life*. New York: St. Martins Griffin.
- [18]. Perry, C. & Ball. I. (2007). Dealing constructively with negatively evaluated emotional situations: the key to understanding the different reactions of teachers with high and low levels of emotional intelligence. *Social Psychology of Education* 10, 443–454. <https://doi.org/10.1007/s11218-007-9025-z>
- [19]. Pestonjee, D. M. & Pareek, U. (1987). *Organization role stress and coping*. Rawat Publications.
- [20]. Rasheed, M. I., Aslam, H. D., Yousaf, S. & Noor, A. (2011). A critical analysis of performance appraisal system for teachers in public sector universities of Pakistan: a case study of the Islamic university of Bahawalpur (iub). *African Journal of Business Management*, 5(9), 3735-3744.
- [21]. Ratanasiripong, P., China, T., Ratanasiripong, N. T., & Toyama, S. (2020). Resiliency and mental health of school teachers in Okinawa. *Journal of Health Research*, ahead-of-print (ahead-of-print). <https://doi.org/10.1108/jhr-11-2019-0248>
- [22]. Selye, H. (1974). *Stress without distress*. Philadelphia: J.B. Lippincott.
- [23]. Setiawan, R., Aprillia, A., & Magdalena, N. (2020). Analysis of antecedent factors in academic achievement and student retention. *Asian Association of Open Universities Journal*, 15(1), 37–47. <https://doi.org/10.1108/aaouj-09-2019-0043>
- [24]. Sharma, E. (2014). Stressors: A challenge for the faculty members of the higher educational institutions. *Case Studies in Business and Management*. <https://doi.org/10.5296/csbn.v1i2.6711>
- [25]. Smith-Carrier, T., Koffler, T., Mishna, F., Wallwork, A., Daciuk, J. & Zeger, J. (2015). Putting your mind at ease: findings from the mindfulness ambassador council programme in Toronto area schools. *Journal of Children's Services*, 10(4), 376-392. <https://doi.org/10.1108/JCS-10-2014-0046>
- [26]. Soslau, E. (2016). Student-teachers' emotional needs and dichotomous problem-solving: non-cognitive root causes of teaching and learning problems. *Educational Action Research*, 24(4), 479-502, <https://doi.org/10.1080/09650792.2015.10720>
- [27]. Srivastav, A. K. (2007). Stress in organizational roles - individual and organizational implications. *Icaian Journal of Management Research*, 6(12): 64-74.

- [28]. Tall, G., Upton, G. & Smith C. (1997). The impact on teachers of changing patterns of professional development. *Teacher Development*, 1(1), 105-122, <https://doi.org/10.1080/13664539700200006>
- [29]. Taylor, S. E. & Brown, J. D. (1989). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, 105, 131-142.
- [30]. Taylor, S. E. & Brown, J. D. (1994). Positive illusions and well-being revisited: Separating fact from fiction. *Psychological Bulletin*, 116(1), 21-27.
- [31]. Urquijo, I., Extremera, N. & Villa, A. (2016). Emotional intelligence, life satisfaction, and psychological well-being in graduates: the mediating effect of perceived stress. *Applied Research Quality Life* 11, 1241–1252. <https://doi.org/10.1007/s11482-015-9432-9>
- [32]. Yin, H. (2015). The effect of teachers' emotional labour on teaching satisfaction: moderation of emotional intelligence. *Teachers and Teaching*, 21(7), 789-810, <https://doi.org/10.1080/13540602.2014.995482>
- [33]. Zhang, Q., & Zhu, W. (2008). Exploring emotion in teaching: emotional labor, burnout, and satisfaction in Chinese higher education. *Communication Education*, 57 (1), 105–122.



Issues and challenges faced by teaching professionals during Covid 19

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ABSTRACT

Covid 19 pandemic has affected the life of people all over the world. From common people to professionals of every field has been affected in one way or the other. it has affected the social and economic life of people .organizations have taken the drastic decisionv of reducing the number of employees ,whereas some have taken the decision to reduce the compensation paid to their employees etc. compared to other factors of workplace, survival become a very important for the people rather than passion for work. Technology played a very important role in order to survive in any industry. Education sector is no exception. it has bought a lot of challenges for teachers in order to learn about the tools of technology and teach the students. The main purpose of this paper is to find out the Issues and challenges faced by teaching professionals while teaching online as well as other issues faced by teachers during this pandemic situation. Data was collected using Google forms and analyzed using percentage method .the major findings show that majority of teachers find it difficult to teach and manage the students online due to their personal and professional issues

Keywords : Covid-19 Pandemic, Workplace, Teaching Professionals

I. INTRODUCTION

Covid 19 pandemic has affected the lives of a people in one way or the other all over the world. every sector has been affected by the effect of Covid 19. Education sector is no exception. it has faced a lot of challenges during the pandemic situation where schools and colleges are closed and teachers were asked to conduct and manage students through the online classes. there were lot of problems faced by teachers and students during online classes like network issues, power, poor digital skills etc(Edeh Michael & Dr. Nwafor Chika Eucheria ,2020).Replacing face to face teaching with technology became difficult for many of the teachers. As up gradation of skills become mandatory during this situation. some of the issues identified during this pandemic are:

- 1.Shift from traditional to modern way of teaching
- 2.work life balance
- 3.survival or passion for teaching

Shift from traditional to modern way of teaching

Majority of the teachers who depended on traditional way of teaching find it difficult to use technology as a means to teach the students, some of the issues like internet connectivity, lack of knowledge about technical tools, time allocated for class became hurdle in teaching learning process.

Work life balance

Since the schools and colleges has given the option of work from home for teachers it has become difficult for people to balance between personal and professional life especially lady teachers.

Survival or passion for teaching

Due to the pandemic effect social and economic life of teachers are also affected as many of the colleges has reduced the salary paid to the employees, increased workload, reduced the number of staff. so, there is no option left with teachers other than accepting the increased workload and decreased compensation. the passion has now become the survival for teachers.

The main purpose of this research paper is to find out such issues and challenges faced by teaching professionals during covid 19.

LITERATURE REVIEW

Some of the recent researches about the topic reveals that teachers are more comfortable in traditional teaching than in modern way of teaching (Gunjan & primavada,june2020) teachers have a positive attitude towards teaching but due to the lack of training for teachers they felt that they are comfortable in traditional way of teaching.(seeema & Anita,2020),whereas The readiness of teachers to adopt to technology helps to provide quality of education to students as virtual classes became madatory(Zamira and Linda,April2020).on the other hand creating a good learning environment online is very beneficial to teachers in the technological era(Chrysi Rapanta1 & Luca Bottur,Aug 2020).according to (Tartavulea, Cristina Venera,Aug 2020) the effectiveness of online teaching is low compared to offline teaching as student assessment becomes difficult in online classes.upgradation of skills of teachers,students,educational institutions are required to face the emerging global trends and realities in education(Edeh Michael Onyema1& Dr. Nwafor Chika Eucheria,2020) . Coronavirus is upsetting the social life of individuals as many of the schools, colleges, universities, pubs, restaurants, cafes, etc. have been shut down in India. Dr. Ramya(2020).

Objectives

1. To know the issues faced by on teaching professionals while teaching online.
- 2.To identify the Issues and challenges faced by teaching professionals from personal & professional aspect during Covid 19.

Research Design

In this study, descriptive survey is used. The questionnaire is designed through google forms and circulated among teachers The sample size is 65.

Sample

Total 65 teachers participated in the survey.

Tools used

The data was collected through Online questionnaire using google forms.

Statistical Analysis

The data was analyzed using percentage method .

DATA ANALYSIS AND FINDINGS

Objective 1:To identify the challenges faced by teachers while engaging students online

Do you think that students are more engaged in online class?	Yes 12(18.5%)	No 28(43.1%)	Maybe 11 (16.9%)	Cant say 14 (21.5%)
Do you feel confident in capturing each and every student's attention?	Yes 22(33.8%)	No 22(33.8%)	May be 21(32.3%)	Cant say 0
Do you find it easy to interact with students while teaching online?	Yes 19(29.2%)	No 46(70.8%)		
Do you think students attend the classes regularly and attentively?	Yes 8(12.3%)	No 30(46.2%)	cant say 12(18.5%)	Maybe 15(23.1%)
Do you think that assigning and monitoring of homework is easy?	Yes 11(16.9%)	No 40(61.5%)	Maybe 14(21.5%)	Cant say 0
Do you think that the visual representation of the content significantly increases the chances of learning among students?	Yes 32(49.2%)	No 6(9.2%)	Maybe 19(29.2%)	Cant say 8(12.3%)

From the above table it is seen that 43.1% of teachers feel that the students are less engaged in online class. whereas 33.8% of teachers are confident in capturing the attention of students in online class.70%of teachers find it difficult to engage the students online.46.2% of teachers think that majority of students do not attend the class regularly and they are not attentive in the class.60% of teachers find it difficult to provide and

monitor homework in online mode. Whereas 49% of teachers feel that visual representation of the subjects increases the learning capability of the students.

Objective 2: To identify the Issues and challenges faced by teaching professionals from personal & professional aspect during Covid 19

Do you find the various online Fdp's conducted regarding issues & challenge related to new technological teaching is useful or not?	Useful 30(46.2%)	Very useful 6(9.2%)	Average 20(30.8%)	Not useful 5(7.7%)	Cant say 4(6.2%)
During pandemic what are the major challenges faced by you in teaching online ?	Adopting new technology for teaching 11(16.9%)	engaging students online 15(23.1%)	worklife balance 9(13.8%)	content preparation 1(1.5%)	all the above 29(44.6%)
Do you think that the use of online methods has positively affected your teaching style?	Yes 32(49.2%)	No 10(15.4%)	Maybe 12(18.5%)	Cant say 11(16.9%)	
Do you think that you are trained and prepared for conducting online classes?	Yes 30(46.2%)	No 20(30.8%)		Maybe 15(23.1%)	
Do you feel distressed in managing your family while working from home?	Yes 18(27.7%)	No 21(32.3%)		Sometimes 26(40%)	
Did you face any difficulty in shifting from traditional teaching to online teaching?	Yes 13(20%)	No 19(29.2%)		Sometimes 33(50.8%)	
Do you find any issues in explaining your subject through online methods?	Yes 14(21.5%)	No 17(26.2%)		Sometimes 34(52.3%)	

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From the above table it is clear that 46.2% of teachers think that the FDP's conducted regarding usage of technical tools, online classes helped them to conduct the classes in a proper way.44% of teachers believe that content preparation, worklife balance, adapting to new technology, engaging students are the major challenges they have faced during the pandemic situation whereas 49.2% of teachers think that teaching online has a positive impact on their teaching styles.46%of teachers feel that they have been trained by the organisation for teaching online .40% of teachers find it difficult to manage the work and family together. whereas 52.3% teachers feel that sometimes it is difficult to change from traditional teaching to modern way of teaching especially when the subjects include numerical methods and 52.3% find it difficult to explain their subjects through online mode.

CONCLUSION AND SUGGESTIONS

From the above findings it is clear that there are lot of changes that have happened in the education sector and the teachers have faced a lot of challenges in teaching and managing the students online ,as many of the teachers have tried the online teaching for the first time .technology plays a important role in learning the things in a new manner whereas many people find it difficult to teach the practical subject through online. As there are many changes happened due to COVID 19 ,changes in the teachings methods is also required. online teaching is an need of the hour and it is the responsibility of the every person with the technical skills required to face the future challenges.very few issues have been analyzed in the study due to the time constraint, further study can be made analyzing the other variables.

II. REFERENCES

- [1]. Dr. Seema Sareen, Dr. Anita Nangia. Online Teaching during COVID 19 : Attitude and Challenges faced by School Teachers International Journal of Disaster Recovery and Business Continuity Vol.11, No. 1, (2020), pp. 3012-3018
- [2]. Mrs. Gunjan Verma & Ms. Priyamvada, COVID-19 and Teaching: Perception of School Teachers on Usage of Online Teaching Tools, <https://www.researchgate.net/publication/342199884>
- [3]. Dr. Ramya(2020), Psychological impact of Corona quarantine on the society, Journal of Xi'an University of Architecture & Technology,5525-5535.
- [4]. Alawamleh, M. (2020). COVID-19 and higher education economics. Journal of Economics and Economic Education Research, 21(2), 1-2.
- [5]. Arora, A.K. and Srinivasan, R. (2020). Impact of COVID-19 on the teaching learning process: A study of higher education teachers. Prabandhan: Indian Journal of Management, 13(4).

Women and Tech Disruption

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ABSTRACT

On women's quality of life and economic empowerment automation had a positive impact. Nevertheless, the recent brandish of technical automation and artificial intelligence (AI) could be a peril as there is an elevated focus of women in lower and middle-skilled jobs that would be the initial to be automated. These technologies could also open up fresh prospects as digital platforms offer a broader range of ways to up skill, or allow the possibility of working remotely. This could provide new or higher earnings and help balance work and home responsibilities. Hailed as the 'fourth industrial revolution', technology commotion could be a key intensification driver for economies in the coming years. However for women, progresses in technology also facade a hazard, as a lot of of their jobs could be dislocated. It is significant that women are enhanced and represented in information and technology fields and in management positions, as these are the types of roles that will not only survive digital transformation, but be the key to economic prosperity.

Design/ Methodology/ Approach - The research is based on secondary data. Researcher collected the information from Internet and reported information.

Findings - The paper discusses about the strategies which can be initiated that would facilitate women can professionals to cope up the setbacks arising from different barriers and also scale up in her contribution to the economy.

Practical Implications-The paper has a practical implication for Government, Organizations, women professionals and also society at large.

Keywords - Automation, Economic Prosperity, Disruption, Digital Transformation.

I. INTRODUCTION

Although many of us fear about automation and disruptive technological changing the future of workplaces, it is not evident if both the genders-men and women will stumble upon the same tests and consequences. The McKinsey Global Institute (MGI) (Heubl, 2019)- illustrated, women may find it harder to adapt to technological change than the opposite gender.

On accessing ample mobility, dexterity and tech-readiness in the age of automation, women could facade subtle barriers .This would create navigating the conversion in the future of work for women much more intricate, and raise gender disparity if not dealt with. Women and men need to be sensitive and take cognizant stroke in

order for women to progress in their careers. Women need to grip emerging technology as an enabler and a tool in their own variety, and adjust their expertise sets to move ahead in their careers and not be left at the back. India needs to increase women's participation in the workforce to global average of 48 per cent in next 10 years as it will add another USD 700 billion to the GDP growth.

Niti Aayog CEO Amitabh Kant says, it is not possible for India to grow at high rates of 9-10 per cent if half of the population is not in the workforce, and necessarily, that responsibility falls on men to ensure that women get into position of leadership. (Times, Aug 09, 2019.) Increasing automation is predicted to hit women's roles disproportionately: women will lose five jobs as compared to three for men.

Objectives of the study:

1. To identify the barriers for women in taking more employment portions than men.
2. To identify strategies to cope up the barriers.

Significance of the study:

The findings of this study highlights the barriers of women entering into the phase of automation in her workplace along with the strategies which can be inculcated by Governments, Organizations and educational institutions to initiate and aid in the process which would in return growth of the economy.

Scope of the study:

The study covers the barriers of women employees with special reference to Indian women professionals entering the digitized workplace and also touches the comparison of other different sectors w.r.t employers hiring candidates countries wise along with gender pay gap of different sectors. The paper also tried to cover the facet of gig economy with reference to participating women professionals in the same.

Design/ Methodology/ Approach :

The research is based on secondary data. Researcher collected the information from Internet and reported information.

Barriers:

McKinsey Global Institute finds that automation is likely to displace men and women more as a result of that displacement, women will need to make far more significant transitions compared to men and may find it more difficult to capture new opportunities because of the persistent barriers they face.

In the age of automation, both the genders need more than ever to have the (a) right expertise, (b) to be itinerant and flexible, and (c) to be tech-savvy. Due to the barriers they face, women lag behind men on all three. (Madgavkar, Krishnan, & Ellingrud, 2019)

1. Right set of expertise:

According to the World Economic Forum (The Global Gender Gap Report, 2018) in Western Europe, on average 79.8% of women hold a tertiary qualification, compared with 66.7% of men. But, it is observed that women are not

graduating in fields where skills will be in high demand. Official Statistics in the United Kingdom (HESA, 2018) for instance, show that only 37% of first-year full-time female students studied science subjects, compared with 48% of men.

1.1 India and expertise of women

In emerging economies, like India, many women work in subsistence agriculture—in India, more than 60% of employed women—and have low education levels and slim skill sets; so it will be hard for them to find employment elsewhere without a step up in both. In three of the four emerging economies highlights net labor demand for occupations requiring secondary education could rise strongly. While girls enrolling in science for higher studies in India, doesn't display the same proportion with the number of women entering the workplace. According to United Nations (Nations-Women), Women constitute just 14% of the total 280,000 scientists, engineers and technologists in research and development in India. Eventhough 40% women in India, who graduate in STEM, but neither the country nor the graduated yield any proper returns for their leanings. (SINDWANI, 2020).

Strategies to cope up the right barrier:

To tackle these needs, schools, colleges, governments, along with educations institutions like school and colleges should support girls and women to study and pursue science, technology, engineering and math (STEM) fields; which might be also initiate to work in partnership. Once in work, women (and men) need constantly to refresh and sharpen their skills, and here their employers need to do more. With the global economy gradually strengthening over the past decade, employers are more hopeful and hiring demand is stronger. (Group, ManpowerGroup Employment Outlook Survey – Q3 2018, 2018) Combined with changing skills needs, talent shortages have been pushed to their highest levels. In 2018, employers in Japan (89%), Romania (81%) and Taiwan (78%) and in India (54%), USA (46%) report the most difficulty filling positions, while those in the UK (19%), Ireland (18%) and China (13%) report the least difficulty. (Group, Solving the Talent Shortage Build, Buy, Borrow and Bridge, 2018)

Employers reported difficulty in filling positions country wise:

Country	% as reported by employers
Japan	89%
Romania	81%
Taiwan	78%
India	54%
USA	46%
UK	19%
Ireland	18%
China	13%
<i>Source: (Group, Solving the Talent Shortage Build, Buy, Borrow and Bridge, 2018)</i>	

In Japan, the lack of labor supply, aging demographics and immigration restrictions continue to ignite the problem; while in Romania and Taiwan it reflects the upward trajectory of near shoring and off shoring over recent years. The result is that employers are left with unfilled roles, threatening growth and operational efficiency (Group, Solving the Talent Shortage Build, Buy, Borrow and Bridge, 2018) (Madgavkar, Krishnan, & Ellingrud, 2019). While artificial intelligence (AI) is fast-growing what can be automated, technology is getting redefined rather than replacing the roles. Jobs of – electricians, welders, mechanics and more – as well as sales representatives, engineers, drivers and technicians are amid the top five hardest roles to fill. But it has been observed that almost one-third of employers say the main reason they can't fill roles is a lack of applicants. Another 20% say candidates lack the necessary know-hows. (Madgavkar, Krishnan, & Ellingrud, 2019)

27% of employers say applicants lack either the hard skills or the human vigor. More than half (56%) of employers say communication skills, on paper and oral skills, are their most valued human strengths followed by collaboration and problem-solving methods. (Group, Skills REvolution 2.0 Robots Need Not Apply: Human Solutions for the Skills Revolution, 2017). Locating suitable candidates with the correct skill sets are really difficult. Due to the fact that companies undergoing digitization, the right mix of technical skills and human potencies is more important than before.

2. Itinerant and flexible:

For Women, it is tricky to toggle occupations unlike men as they have to hop in between their responsibilities which come from their families, work within the estimated time, and because of which they are not able to travel. This in return impacts their employability possibilities. (Madgavkar, Krishnan, & Ellingrud, 2019). Technology on the other hand if captivated can give these gender new flexibilities in their work. A Survey by Manpower group, found that only 23% of employers were offering flexible or remote working options. A recent U.S based study (Blau & M. Kahn, 2017) showed that women's sectoral and professional choices accounted for more than 50% of the gender pay gap.

According to ILO's flagship Global Wage Report 2018/19, (ILO, 2018/19) women continue to be paid roughly 20 % less than men. Gender pay gap has spread its wrath through the world with certain variations between the Republic of Korea, with a high 32 per cent of gender pay gap, compared to Belgium, where it is just 3 per cent. The report also states that the wage inequality is higher in low-income countries like Namibia as opposed to high-income countries like Sweden.

2.1 India and gender pay gap

In India the gender pay gap is relatively wide. According to the Monster Salary Index (MSI), 2019 (Monster Salary Index, 2019), women in India earn 19% less than men. The survey revealed that the median gross hourly salary for men in India in 2018 was ₹242.49, while ₹196.3 for women, meaning men earned ₹46.19 more than women.

Sector	men earn more than women (%)
IT/ITES	26%
Manufacturing sector	24%
In healthcare, caring services, and social work	21%
Banking and Insurance	2%
<i>Source: https://www.insightsonindia.com/2019/03/10/monster-salary-index-report/</i>	

A study by AVTAR Career Creators and Outlook in 2010 as documented by Dr. Saundarya & Anju Rakesh,(Saundarya & Anju, 2014) showed that Indian women were very much in need of work flexibility as they take up responsibilities of being a mother. In a recent survey of Indian Women Professionals by the professional networking site LinkedIn, (Moyes, 2013) it was found that 57%% of them felt that they will slow down their careers once they have children (Indian women prefer more flexibility at workplace: LinkedIn, 2013). (Line, 2013). These disturbing and dismal numbers can be rewritten if organizations and the society recognize the role of work flexibility in sustaining the careers of IWPs (Indian Women Professionals).

2.2 Flexibility and Career breaks:

Career breaks can be avoided and women can maintain equilibrium of her personal and professional life if proper flexibility was rendered to her in her workplace. While some of the obstacles to successful implementation of flexi work are due to lack of concern within the organization, the others are because of lack of sufficient effort on the part of the employee, found a recent study (Saundarya & Anju, 2014) . According to them, some of the concerns that employers of flexible workers had in common were moderate/great extent about abuse of policies, the reactions of customers and clients, difficulties with supervising employees working in a flexible manner, resentment of coworkers, loss of productivity etc. Yet another 2012 report stated that organizations were not completely ready to the take the risk of enabling a flexible culture that might require continuous innovation from them (The Benefits of Flexible Working Arrangements:A Future of Work Report, 2012) (Saundarya & Anju, 2014), lack of trust with regard to working from remote by the organizations. (Flexible working in businesses being held back by cultural barriers, 2013)

2.3 Communication from employees:

Moreover, deficit of reliable, logical and convincing narrative messages to employers regarding the business advantages of flexible working by way of a on the same was what was mainly primarily stopping the blend of flexibility into the work place customs (Stewart & Rowlatt, 2009).

A 2008 survey showed that expense of implementation and start up costs associated with FWAs(Flexible working arrangements) further retarded an organization's will to initiate policies to this end (Leach, 2008). Insurgent outlook to the varying culture of work further also comes in the way of flexible working. Lots of managers think that flexible working speaks of under performance of the employee availing it. Bitter attitude of full time workers shooting from their lack of sensitization on the requirements of flexible working further reduces the acceptance levels for such arrangements. (Saundarya & Anju, 2014).

Strategies to cope up the right barrier:

Recommended Next Steps:

It is significant that companies are aware of the barriers to flexibility and have the capacity to triumph over cultural inertia. Raising awareness around the barriers is necessary in preventing undue failures in flexible working arrangements. Education around the enablers of flexibility is also essential. (The Benefits of Flexible Working Arrangements:A Future of Work Report, 2012).A study (Flexible Work Arrangements) Suggested to conduct an

employee survey. And to get employees' input so you can implement flexible work arrangements that best suffices the interests and needs of employees. Also educate management and employees in order to make sure each one appreciates the benefits and worth of flexible work arrangements which can be done by conducting staff meetings to continuous discussion and clear the qualms if any.

With clear guidelines and policies. a pilot or test trial can be conducted . for both employers and employees to determine its effectiveness during which, absenteeism, turnover, productivity, etc. can be adequately evaluated. (Flexible Work Arrangements).

3. Tech-savy:

Technology has and can unlock economic opportunities for women, helping them to participate in the workforce. Especially , automation has enabled the routes of changes. Globally, women now work independently which is popularly known as in gig economy.

Lesser than 20% of tech workers are female in many mature economies. Only 1.4% of female workers have jobs developing, maintaining, or operating information and computer technology (ICT) systems, compared with 5.5% of male workers. (Madgavkar, Krishnan, & Ellingrud, 2019).

3.1 Indian women and Gig technology:

India has a large market of freelance professionals where, the United States leads the same. (~53 million) (Kasliwal, 2020) which in India is almost 15 millions of professionals in the country. In spite of the dimension of growth, women abstain from practicing gig work which is because of gender gap in terms of flexibility and employment status that is prevalent in the gig technology. (Line, Business, 2020).

The global growth of Gig economy in 2019:

Country	Growth % in 2019
United states	78%
United Kingdom	59%
Brazil	48%
Pakistan	47%
Ukraine	36%
Philippines	35%
India	29%
Bangladesh	27%
Russia	20%
Serbia	19%
<i>Source: (Pathak & Jha, 2019) (Gilchrist, 2019)</i>	

In 2018, a survey said that a third of women displayed indifference in this evolving area due to job insecurity and ambiguity in employment status. (Line, Business, 2020)

According to Deloitte data, , nearly 80% of the organizations have less than 10% of their staffs who are mostly contractual staffs. India's gig economy is predicted at a market size of \$455 billion in next three years, which might go beyond that too, which can contribute largely to the unorganized sector. (Deloitte).

Strategies to cope up the right barrier:

Social security schemes should be extended for Gig workers, eventually this has been proposed by Finance Minister Smt. Nirmala Sitharaman on May 14,2020. (Line, Business, 2020).

Again, Organizations and companies should play a vital responsibility - for example collaborating with nonprofits and colleges to extend a broader pipeline of women going into tech fields and offering internships. (Madgavkar, Krishnan, & Ellingrud, 2019).

However, women lag behind in access to technology, the skills to use it, and participating in its creation. Globally, men are 33% more likely than women to have access to the internet, and women only account for 35% of science, technology, engineering and math (STEM) students in higher education. (Madgavkar, Krishnan, & Ellingrud, 2019). Fewer than 20% of tech workers are female in many full-grown economies. Only 1.4% of female workers have jobs developing, maintaining, or operating information and computer technology (ICT) systems, compared with 5.5% of male workers.

Conclusion

Automation offers new prospects for economic development for women but, along with, comes new defies along with long-established ones. To utilize their full potential of women employees, companies, jointly with governments, need to facilitate women through concerted and inventive solutions to endow them for the transformation that lies ahead.

II. REFERENCES

- [1]. Blau, F. D., & M. Kahn, M. (2017). The Gender Wage Gap: Extent, Trends, and Explanations. *Journal of Economic Literature* , 789-865.
- [2]. Deloitte. Opportunity or Challenge?Empowering women and girls in India for the Fourth Industrial Revolution.
- [3]. Flexible Work Arrangements. Wage Gap Reduction Initiative.
- [4]. Flexible working in businesses being held back by cultural barriers. (2013, March 18). Retrieved from <https://smallbusiness.co.uk/flexible-working-in-businesses-being-and39held-back-by-cultural-barriersand39-2239058/>
- [5]. Gilchrist, K. (2019). The 10 countries with the fastest-growing earnings for freelancers. Retrieved from <https://www.cnbc.com/2019/08/07/the-10-countries-with-the-fastest-growing-earnings-for-freelancers.html>
- [6]. Group, M. (2018). ManpowerGroup Employment Outlook Survey – Q3 2018.
- [7]. Group, M. (2017). Skills REvolution 2.0 Robots Need Not Apply: Human Solutions for the Skills Revolution.

- [8]. Group, M. (2018). Solving the Talent Shortage Build, Buy, Borrow and Bridge. Manpower group.
- [9]. HESA. (2018). Higher Education Student Statistics: UK, 2016/17 - Qualifications achieved.
- [10]. Heubl, B. (2019, June 11). Women will find it harder to adapt to tech disruption, McKinsey report suggests. Retrieved from <https://eandt.theiet.org/content/articles/2019/06/women-will-find-it-harder-to-adapt-to-tech-disruption-mckinsey-report-suggests/>
- [11]. ILO. (2018/19). Global Wage Report 2018/19 What lies behind gender pay gaps. ILO.
- [12]. Kasliwal, R. (2020). Gender and the Gig Economy: A Qualitative Study of Gig Platforms for Women Workers. Observer REsearch Foundation (ORF) .
- [13]. Leach, G. (2008). Flexible working: The new world of work.
- [14]. Line, B. (2013, March 04, 2013). Indian women prefer more flexibility at workplace: Linkedin. PTI New Delhi .
- [15]. Line, Business. (2020, May). Indian women don't like being gig workers — the potentially \$455 billion industry has to woo them with fair pay to start wit. Retrieved from <https://www.businessinsider.in/careers/news/indian-women-dont-like-being-gig-workers/articleshow/75757460.cms>
- [16]. Madgavkar, A., Krishnan, M., & Ellingrud, K. (2019, July 03). Will Automation Improve Work for Women — or Make It Worse? Harvard Business Review Home .
- [17]. (2019). Monster Salary Index.
- [18]. Moyes, N. (2013). What Do Women Want? At Work, That Is.... What Do Women Want? At Work, That Is... .
- [19]. Nations-Women, U. (n.d.). In Focus: International Day of Women and Girls in Science. Retrieved from <https://www.unwomen.org/en/news/in-focus/international-day-of-women-and-girls-in-science>
- [20]. Pathak, M., & Jha, S. (2019). India: India And The Gig Economy. IndusLaw. Retrieved from <https://www.mondaq.com/india/employee-rights-labour-relations/832012/india-and-the-gig-economy>
- [21]. Saundarya, R., & Anju, R. (2014). Barriers to Flexible Working for Indian Women Professionals:A Cross Industry Study. Global Journal of Management and Business Research: A Business Research: A administration and amangement .
- [22]. SINDWANI, P. (2020). India tops the world in producing female graduates in STEM but ranks 19th in employing them.
- [23]. Stewart, E., & Rowlatt, A. (2009). Flexible Working:working for families, working for business A report by the Family Friendly Working Hours Taskforce. .
- [24]. (2012). The Benefits of Flexible Working Arrangements:A Future of Work Report. Future of Work Institute.
- [25]. (2018). The Global Gender Gap Report. World Economic Forum.
- [26]. Times, E. (Aug 09, 2019,). India needs to increase women workforce to global average of 48% in 10 next years: Amitabh Kant. Aug 09, 2019, .
- [27]. Women in Technology Leadership 2019. (n.d.). Retrieved from https://www.svb.com/globalassets/library/uploadedfiles/content/trends_and_insights/reports/women_in_technology_leadership/svb-suo-women-in-tech-report-2019.pdf



Role of Business Analytics in the Competitive World

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ABSTRACT

Business Analytics refers to the skills, technologies, applications and practices for the continuous exploration of data to gain insight that drive business decisions. Business Analytics is multi-faceted. It combines multiple forms of analytics and applies the right method to deliver expected results. It focuses on developing new insights using techniques including, data mining, predictive analytics, natural language processing, artificial intelligence, statistical analysis and quantitative analysis. In addition, domain knowledge is a key component of the business analytics portfolio. Business Analytics can then be viewed as the combination of domain knowledge and all forms of analytics in a way that creates analytic applications focused on enabling specific business outcomes.

Keywords - Business Analytics, data mining, predictive analytics, natural language processing, artificial intelligence, statistical analysis, quantitative analysis

I. INTRODUCTION

The word analytics has come into the foreground in last decade or so. The proliferation of the internet and information technology has made analytics very relevant in the current age. Analytics is a field which combines data, information technology, statistical analysis, quantitative methods and computer-based models into one. This all are combined to provide decision makers all the possible scenarios to make a well thought and researched decision. The computer-based model ensures that decision makers are able to see performance of decision under various scenarios.

Marketing analytics consists of processes and technologies that enable marketers to evaluate the success and value of their marketing initiatives, identify trends and patterns over time, and make data-driven decisions. In general, your marketing analytics will try to accomplish four goals:

- Measure the performance of marketing campaigns
- Find opportunities in marketing performance
- Understand your customers
- Understand your competition

HR analytics is the application of statistics, modeling, and analysis of employee-related factors to improve business outcomes. HR analytics is also often referred to as

- People analytics
- Talent analytics
- Workforce analytics

HR analytics enables HR professionals to make data-driven decisions to attract, manage, and retain employees, which improves ROI. It helps leaders make decisions to create better work environments and maximize employee productivity. It has a major impact on the bottom-line when used effectively.

II. RELATED WORK

“Can You Provide the Current Trends in HR on People Analytics?”-K Wang, J Taylor - 2017

People analytics is an increasingly hot topic and many companies are working to gain insight through this emerging field. Business leaders are asking how analytics can help drive better decision-making in order to improve business results. Among these questions, turnover prediction and succession planning are two key areas that HR professionals identify as high value. Since there isn't a one-size-fits-all solution to these questions, we compiled our most noteworthy insights and put forward several steps that an organization should follow in order to create its own internal models.

A novel social media competitive analytics framework with sentiment benchmarks W He, H Wu, G Yan, V Akula, J Shen - Information & Management, 2015 - Elsevier

In today's competitive business environment, there is a strong need for businesses to collect, monitor, and analyze user-generated data on their own and on their competitors' social media sites, such as Facebook, Twitter, and blogs. To achieve a competitive advantage, it is often necessary to listen to and understand what customers are saying about competitors' products and services. Current social media analytics frameworks do not provide benchmarks that allow businesses to compare customer sentiment on social media to easily understand where businesses are doing well and where they need to improve. In this paper, we present a social media competitive analytics framework with sentiment benchmarks that can be used to glean industry-specific marketing intelligence.

Advanced analytics: opportunities and challenges

R Bose - Industrial Management & Data Systems, 2009 - emerald.com

Advanced analytics - driven data analyses allow enterprises to have a complete or “360 degrees” view of their operations and customers. The insight that they gain from such analyses is then used to direct, optimize, and automate their decision making to successfully achieve their organizational goals. Data, text, and web mining technologies are some of the key contributors to making advanced analytics possible. This paper aims to investigate these three mining technologies in terms of how they are used and the issues that are related to their effective implementation and management within the broader context of predictive or advanced analytics.

III. BACKGROUND

Let's take a moment and go way back if only for the sake of giving ourselves a baseline example. Imagine how one might have tracked the first barter system without access to pencils and paper, let alone computers.

Numerical markings on cave-dwelling walls or with wood and stones are our first glimpse at the evolution of business analytics. A tracking system of sorts would have been needed to trace who had what and when. This is an obvious oversimplification, but from this example, we can better understand how and why business analytics evolved as industry expanded.

The industrial revolution which began in the mid- to late-1700s brought with it new manufacturing processes with water and steam followed soon after by railroads, steel, and oil. These are complex industries that quickly grew out of their local storefronts into nation-wide companies. During the

late-1800s Frederick W. Taylor introduced the first formalized system of business analytics in the United States. Taylor's System of Scientific Management began with time studies that analyzed production techniques and laborer's body movements to find greater efficiencies that ultimately boosted industrial production. Taylor acted as a consultant to Henry Ford and directly influenced Ford's car assembly line time measurements.

In the early 1900s, Ford measured the time each component of his Ford Model T took to develop through completion on his assembly line. Perhaps a seemingly simple task, but Ford singlehandedly revolutionized not only the automobile industry, but manufacturing world-wide. It's safe to say that the earlier days in the evolution business analytics focused mostly on improving production; its efficiencies, quantities, and cost-effectiveness.

Computers continued to boom throughout the 1980s and into the 1990s (and certainly beyond) in what's commonly called the Information Age. A big part of this information was initially historical information. With the technology boom of the Information Age comes a tremendous increase in information storage capacity. Suddenly, data warehouses could save historical computer data (market trends, growth, pricing) gathered over time and prepped for data analysis. Earnings and operations reports became a regularly accepted way to understand businesses and began to fuel business dealings, investments, and decision-making.

IV. RESEARCH METHODOLOGY

The purpose of this study is to use the literature as a framework to answers our research questions. Because our questions are profound, and therefore hard to measure, an analytical research approach that promotes measurement and a quantitative model is not appropriate for our study. Since Business Analytics is an upcoming trend, information regarding the subject can only be gathered through deep interviews/studies.

The methodologies used are:

- 1) Explanatory research
- 2) Sampling Technique
- 3) Data is gathered from secondary sources.
- 4) Magazines and newspaper
- 5) Online research

V. FINDINGS

Organizations are increasingly under competitive pressure to not only acquire customers but also understand their customers' needs to be able to optimise customer experience and develop longstanding relationships. By sharing their data and allowing relaxed privacy in its use, customers expect companies to know them, form relevant interactions, and provide a seamless experience across all touch points. Security and fraud analytics aims to protect all physical, financial and intellectual assets from misuse by internal and external threats.

Efficient data and analytics capabilities will deliver optimum levels of fraud prevention and overall organizational security: deterrence requires mechanisms that allow companies to quickly detect potentially fraudulent activity and anticipate future activity, as well as identifying and tracking perpetrators. Products are the life-blood of any organization and often the largest investment companies make.

The product management team's role is to recognize trends that drive strategic roadmap for innovation, new features, and services. Companies are still struggling with structured data, and need to be extremely responsive to cope with the volatility created by customers engaging via digital technologies today. Being able to react in real time and make the customer feel personally valued is only possible through advanced analytics. Big data offers the opportunity for interactions to be based on the personality of the customer, by understanding their attitudes and considering factors such as real-time location to help deliver personalisation in a multi-channel service environment.

HR analytics helps HR to make better choices based on historical data. A great HR analytics tool can make a difference by enabling HR to easily derive the best candidates to hire from the historical data.

For example, if you hired 10 candidates and 4 out of them belonging to a particular background couldn't qualify beyond a level, perhaps you will not hire someone from a similar background again. HR analytics prevent you from making such mistakes. Moreover, it also allows the recruiter to learn more about candidates through online databases, applications, social media profiles, job portals, records, etc. Data-driven recruiting strategies provide the insight needed to cast a more accurate net to ultimately build a larger pipeline.

With the help of HR Analytics, it is easier to know who to target for a particular position when a requirement arises in the company. It is easier to understand the type of person required, the knowledge required along with other aspects that might be missed in a regular talent acquisition process. When talent is scarce for a specific industry or role, it might seem that talent isn't there at all. The talent is there, but finding them can be quite challenging.

Once the company has enough data to provide to the experts to come up with accurate statistics and patterns, the company can then use it to make the recruitment process much quicker and efficient. Hiring managers will know which positions in the company require what type of talent, people, background and experience, along with the type of people that will not be suitable. Then it becomes much more elementary to target a specific audience and talent pool and get much faster solutions to their challenges.

HR analytics help the company look at the employee's professional life by tracking, sharing, and analyzing performance-related data. This is why companies track and record the behavior of its employees with customers, co-workers and how they spend their time. Furthermore, the employee's performance data could be used by the hiring manager to identify great talents. This data not only provides more insights about the employees but also shapes the strategies to boost employee morale, retention, and engagement.

VI. CONCLUSION

Conclusively, business intelligence and business analytics form the essential components required by a company to manage its information effectively. The two terminologies seem to have similarities in a way that make learners deduce that they are connected. In fact, it is worth acknowledging that analytics is a function of business intelligence.

The information analyzed through analytics to predict the future is the same information obtained from the company intelligence component. Both BI and BA focus on propelling the company to move forward briskly. Most industries that lead BI platforms have been seen to include more complex tools that can perform different types of analytics including descriptive analytics, making discoveries through visual patterns, and modeling predictions and data mining.

The two business components have also showed numerous benefits in what has seemed to contribute to competitiveness. From the articulations raised in this paper, it is, therefore, important for the organizations to endorse high levels of analytics oriented systems that can revolutionize the company's ability to rediscover and make use of the information they already own.

VII. REFERENCES

- [1]. Abdirahman Salad Warsame, "Human Resource Management Practices and Organizational Commitment", International Journal of Economics, Commerce and Management United Kingdom Vol. III, Issue 8, 2015, pp 156.
- [2]. Ackerman, J. L. 2017. Creating a culture of learning. The CPA Journal (August): 71. (Hiring team members that fit the firm's culture).
- [3]. Ahmed Mohamed Diriye., "Perceived Relationship between Career Development and Employee Commitment and Engagement at Nairobi City County Government" School Of Business, University Of Nairobi, 2015.
- [4]. Kane, G. C., D. Palmer, A. N. Phillips and D. Kiron. 2017. Winning the digital war for talent. MIT Sloan Management Review (Winter): 17-19.
- [5]. Wilson, H. J. and P. R. Daugherty. 2019. Creating the symbiotic AI workforce of the future. MIT Sloan Management Review (Fall): 1-4.
- [6]. Repenning, N. P., D. Kieffer and J. Repenning. 2018. A new approach to designing work. MIT Sloan Management Review (Winter): 29-38.
- [7]. Vijayalakshmi Murthy, B "Innovative HR Practices in IT Industry in India: An empirical study", 2015.
- [8]. Abdirahman Salad Warsame, "Human Resource Management Practices and Organizational Commitment", International Journal of Economics, Commerce and Management United Kingdom Vol. III, Issue 8, 2015, pp 156.
- [9]. Ackerman, J. L. 2017. Creating a culture of learning. The CPA Journal (August): 71. (Hiring team members that fit the firm's culture).



A Study on Millennial Brides

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ABSTRACT

Weddings are Big Business Industry in the current market. India alone encompasses 50 Billion Dollar wedding market Second only to the Unites States. The Indian wedding industry has consistently been a vigorous supporter of the country's economy. While it is a self-propagating industry so profoundly ingrained in our lifestyle that it is set to be around always, the abrupt change in its development can be followed to the reconsidered expectations and requirements of the modern age, which is driving an enormous move in viewpoint towards Indian weddings. India's blooming middle class – presently 300 million in number – are changing weddings into exhibits of their creating expendable salaries and newly found longings for the treats of the worldwide commercial marketplace. Among the country's population of 1.3 billion half of the population is under age 30. If one somehow managed to chalk up the most explicate characteristics of the millennial India Bride, qualities like individualistic, bold and Unorthodox would top the charts. But this segment is still unclear to the marketers. The un-predictive Behavior of Millennials does not give a clear understanding of what their needs and wants are. This Research deals with understanding the segment of “Millennial Brides”, to identify the wants and desires of these customers, and to recognize the opportunities and frame out optimum marketing strategies in order to satisfy them.

Keywords : Millennial Brides, Traits of Millennial Brides

I. INTRODUCTION

Weddings are Big Business Industry in the current market. India alone encompasses 50 Billion Dollar wedding market Second only to the Unites States. The Indian wedding industry has consistently been a vigorous supporter of the country's economy. Given the size and scale of the normal capacity, the sheer assortment of administrations and items included, and the quantity of individuals involved with assembling those grand events, that is just not out of the ordinary.

The market is anticipated to develop at 20 to 25 percent every year for the following upcoming years. While it is a self-propagating industry so profoundly ingrained in our lifestyle that it is set to be around always, the abrupt change in its development can be followed to the reconsidered expectations and requirements of the modern age, which is driving an enormous move in viewpoint towards Indian weddings. India's blooming middle class – presently 300 million in number – are changing weddings into exhibits of their creating expendable salaries and newly found longings for the treats of the worldwide commercial marketplace.

A Contemporary KPMG report assessed India's present wedding market at \$50 billion, developing quickly and consistently. With near portion of India's 1.3 billion-in number populace younger than 30 and more than 10-12 million weddings held every year, a consistent progression of future nuptial ceremony appears to be guaranteed. Weddings speak to a crucial piece of our social culture, and numerous families are happy to go to any length to guarantee that each part of the event is great. They are arranged well ahead of time and much of the time booked to harmonize with favorable dates on the schedule. The parents start putting something aside for their kid's weddings when they are conceived and designate a huge part of their life's reserve funds to the occasion. A few evaluations propose that up to one-fifth of a person's all out lifetime wealth is spent on this event.

Flagging the social and financial status of the families in question, weddings have seen the glamorization of customary functions, for example, the haldi (turmeric ceremony) and mehendi (henna ceremony), and furthermore the joining of western dos, for example, stag and hen gatherings, and mixed drink nights, which as of late have expanded the ubiquity of destination weddings in remote locales. In fact, India's stature for facilitating extreme festivals has become so across the board that the idea of the "Big Fat Indian wedding" has risen above fringes. These old traditions of a wedding in India is being revolutionized by a new segment of Brides called "The Millennial Brides".

The Millennials (those conceived somewhere in the range of 1980 and 2000) are getting hitched! As this cohort of computerized locals and online shoppers grows up, the wedding business faces new difficulties to take into account them. Among the country's population of 1.3 billion half of the population is under age 30. If one somehow managed to chalk up the most explicate

characteristics of the millennial India Bride, qualities like individualistic, bold and Unorthodox would top the charts. But this segment is still unclear to the marketers. The un- predictive Behavior of Millennials does not give a clear understanding of what their needs and wants are.

Objectives of the Study

- To understand the Primary Factors Influencing the Millennial Bride's buying Behavior .
- To identify factors of Millennials behavior in apparel fashion.
- To understand relationship between demographic factors and perception of the Millennials visiting the store during purchase of apparel

Research Methodology

This Research deals with understanding the segment of "Millennial Brides", to identify the wants and desires of these customers, and to recognize the opportunities and frame out optimum marketing strategies in order to satisfy them. This will help in carrying out efficient targeting and better positioning Strategies. It will also result in increasing the customer value and customer retention rate for the businesses.

In this Study, Qualitative research has been carried out on the primary data collected through a questionnaire. The questionnaire was taken up by 56 Millennial Brides.

Review of Literature

The segment of Millennial Brides is one of the novel and emerging segments in the Indian wedding market. The attributes that these brides possess are vastly distinct from the traditional brides the wedding industry used to deal with in large amount. Indian weddings are rapidly grasping moving out of their usual range of familiarity, be it as far as venue, welcomes or the general understanding. They are a splendid blend of conventional and comfort now, and it teaches everybody a thing or two. The extension has just become throughout the years, the spending all the more in this way, yet the subject presently revolves around the brides and the individuals who matter (“The Hindu: Wedding Business”).

Women comprise around 48.3 percent of India's populace according to the 2001 registration and are the valuable Human resource. Wealth is getting progressively assembled at the highest point

of the pay scale. The pay of the most elevated gaining family units has demonstrated an exponential development while the hole in family income between top workers and center workers has broadened (Ministry of Labor Statistics, Government of India; 2005). There are 50.69 lakh working women in the sorted-out part in India, of these, the focal government employees around 6 lakhs, the state government utilize; the state government and bodies under the state government utilize around 17 lakhs.

These emerging trends can be due to the changing preferences of Millennial Brides which in turn influences their buying behavior. Their needs and wants keeps changing with the changing time, their lifestyle and according to the amount of budget they are ready to spend on their weddings. On a more profound outline, a wedding is the indication of couple's feelings, and in this manner a kind of consumer behavior and the inward process of feelings and emotions about the product (Johnson & Mullen, 1990). The couple plan their wedding with emotions and take decision with complete subjectivity. Along with these traits, the socio-economic factors also influence their weddings and the products or services they opt for (Baron & Bryn, 1987). The weddings are becoming more commercialized and simplified but with the touch of uniqueness (“Cultural Wedding Customs & Traditions”). The Simplification & the Commercialization of the weddings depends upon the Millennial Brides who rather goes for quality and uniqueness than quantity and redundancy.

The possibility that consumers vary in the sum and kind of exertion they put into shopping isn't new to Marketing (Katona and Mueller 1955, Newman and Staelin 1972). Such contrasts are imperative to advertisers since they impact purchasers' responses to promoting techniques. For instance, Westbrook and Fornell (1979) discovered four particular styles of data search among solid products purchasers, going from the target customer, at one outrageous, who utilizes printed sources and in-store shopping guides, to the individual exhortation searcher, at the other extraordinary, who depends basically on close resources for settling on purchasing choices. Westbrook and Fornell suggest a calm methodology including limited time strategies that give a lot of true data for the goal customer. For the individual advertisement vice seeker, they suggest an increasingly aggressive, personal, deals situated methodology. Surely various techniques would apply to the market segment and the individual exhortation searcher. Along these lines, the sum and kind of search exertion used by a market segment is a significant determinant of the suitable marketing strategy for that segment.

What makes Millennial Brides unlike? For one thing that they are more digitally independent and digitally accessible than any other demographic segments. With 2.7 gadgets per individual, the study expresses that Millennials move between them (cell phone to PC, to console, to tablet, and so forth.) up to 27 times each day. Regardless of whether today's bride intends to purchase a wedding dress offline, its certain that she checked online for store locations, brand stature, Instagram pictures and more (IESE's José Luis Nuño, with Silvia Rodríguez and ABN Metrics). Initially, it's essential to take note of that not all Millennials are getting hitched. Millennials marriages are likewise happening later, as brides get their professions on target and battle to overcome the mishaps of the worldwide global financial emergency. However, all the more wedding chimes are ringing in the developing nations. This is incompletely because of demographic shifts, which are relied upon to keep going forward. While propelled economies have a maturing populace and less Millennials generally, in developing nations there are eight individuals of marriageable age (18-34) for everyone in developed nation - a proportion that is predicted to move to nine to one by 2030.

The wedding market Industry should be prepared to market to these digital locals successfully. Looking past demographic changes, the accompanying elements present difficulties and openings: (Millennial Brides. Nacer en los 80's, casarse hoy) Innovative, easy to understand web based business:

Twenty to thirty-year olds represent 46 percent of web-based apparel purchase (versus only 32 percent of the online and offline total). While most wedding outfit deals keep on occurring in physical shops, it won't be long until that changes.

"The Age of Cheap":

Millennials grew up with limits, quick design, outlets and minimal effort choices. There is no such model inside the marriage business... however. In the interim, a nonattendance of price rivalry (very nearly 85 percent of dresses sell for 1,000 euros or more) could mean rich compensations for a lower cost operator.

"Digital Mobility":

Millennial rush to exploit minimal effort trips to travel. They rush to move huge occasions, for example, weddings, to engaging destinations. Organizations need to make sense of the most ideal approach to pull in these moving targets.

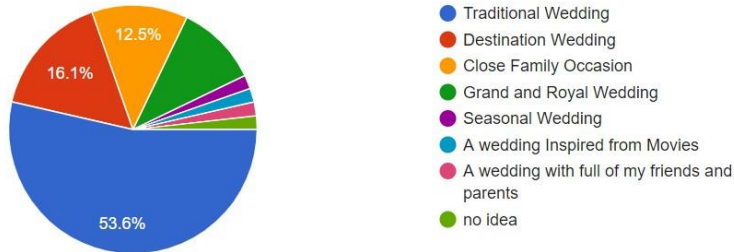
The Millennials might be slow to wed, however when they do, they will know precisely what, where and how they need their huge day to be. The bridal industry is very much ready to offer it to them - on the off chance that they can communicate in the language of the advanced age.

Findings of the Study

Among the following, what would your wedding be?



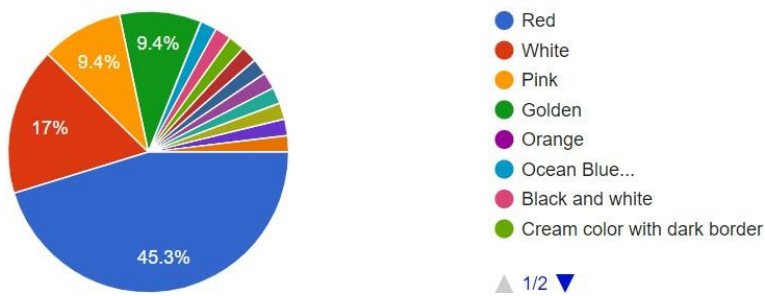
56 responses



Choose the color you want your Wedding dress to be in

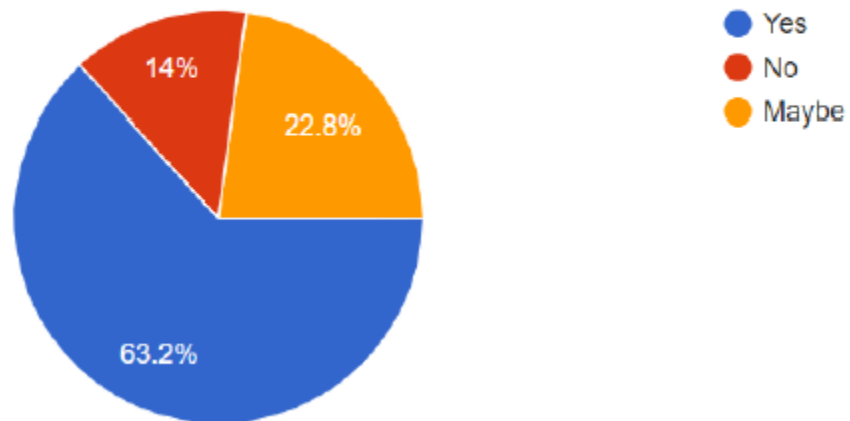


53 responses



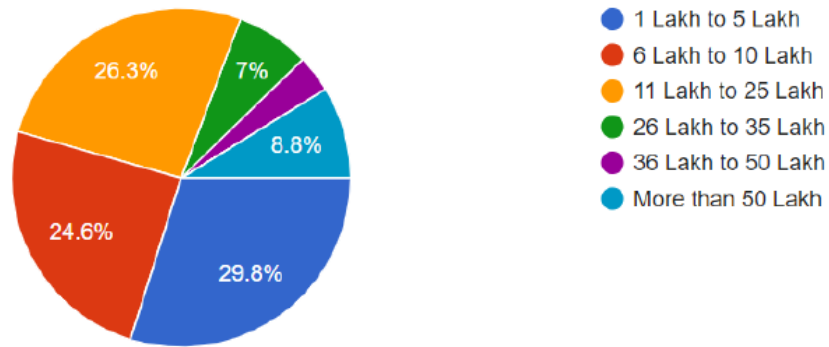
Would you personally consider your wedding dress to be the most important aspect of your wedding day?

57 responses



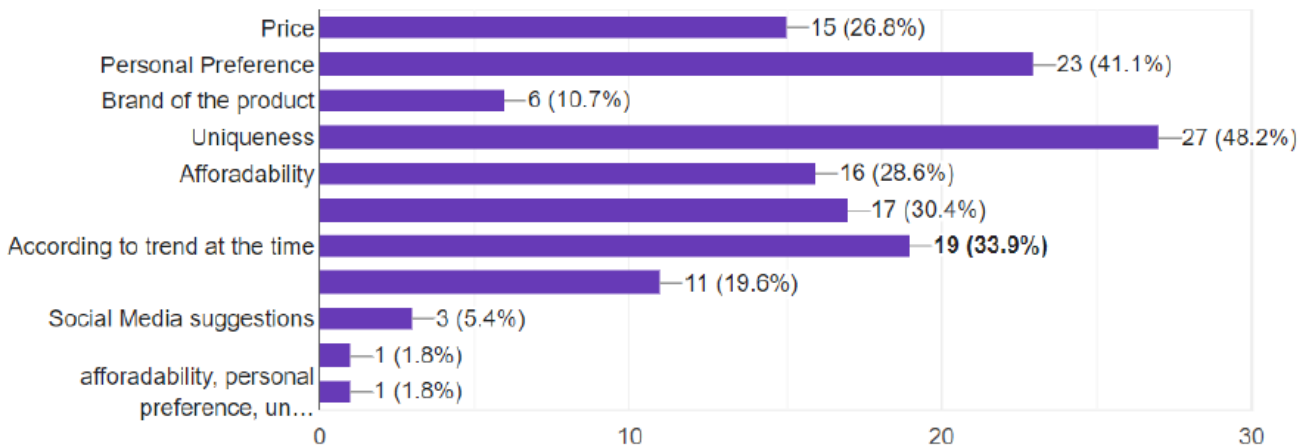
Roughly, what is the amount you are ready to spend on your wedding?

57 responses



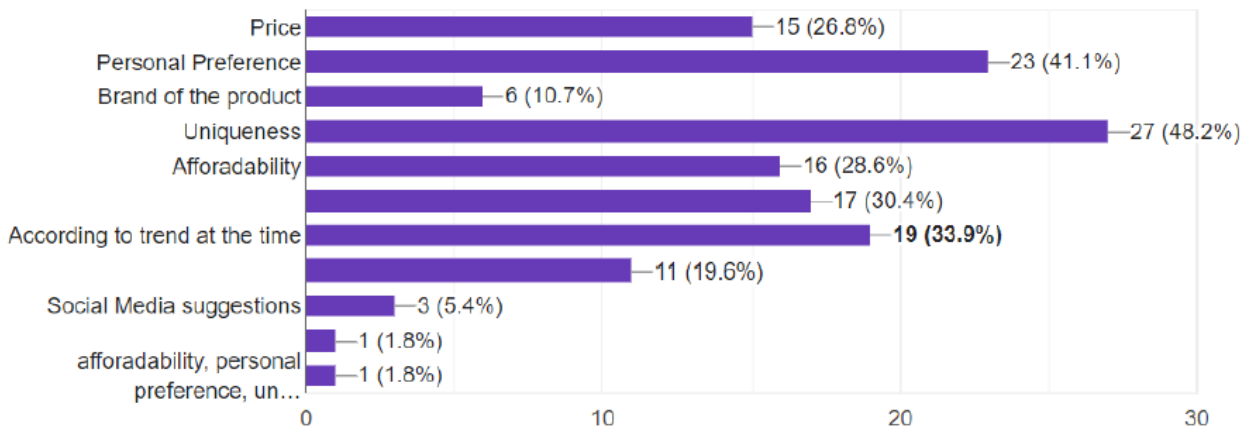
When shopping for your wedding, what is the most important factor? you can choose more than one

56 responses



When shopping for your wedding, what is the most important factor? you can choose more than one

56 responses



Findings:

- ✓ 48.2% of millennial brides agrees that they look for uniqueness while they shop for their wedding apparels.
- ✓ 41.1% agrees that their personal preference plays a vital role during their purchase in regards to their wedding.
- ✓ Only 26.8% believes they look for price as a primary factor when they purchase a product or service for their wedding.

Suggestions:

Brands should focus on understanding the segment's Personality traits and theories to identify approaches that can act as a tool behind the segment's motivations. Clarity on Segment's Personality traits will carve out approaches for the brands to maneuver their marketing strategies successfully.

In-depth Comprehension of Segment's Psychological Characteristics is absolutely essential to carry out. Efficient method is that brands should Implement extensive Research in the market in order to accomplish knowledge and useful Insights on the psychological traits of Millennial Brides.

The brands need to establish strong social media presence. The Segment of Millennial Brides is social media eccentric which can be utilized as an efficient marketing tool by the brands in terms of brand positioning and establishing brand loyalty among the segment. It also ensures the sustainability of Wedding Industry Brands through technology in the current and upcoming market environment.

Conclusion:

For a prosperous consumer-oriented market, the marketers need to understand the consumer segment and their behavior. They should possess the clear idea of the target consumers in order to provide exactly what they want which in turn will increase the customer retention rate. Through this study, the segment of "Millennial Brides" has been clearly defined with all the essential characteristics along with a persona. The study has also depicted the factors that influence millennial brides in their buying behavior through the collection and Interpretation of primary data.

II. REFERENCES

- [1]. Madaan, Reetika. "The Liaison Between Wedding Expenses And India Economy." *Journal Of Advance Research In Business Management And Accounting* (Issn: 2456-3544) 1.4 (2015): 01- 09.
- [2]. https://www.researchgate.net/publication/313737530_Review_On_Customer_Segmentatio_n_Technique_On_Ecommerce
- [3]. Goldsmith, R., Moore, M. And Beaudoin, P. (1999), "Fashion Innovativeness And Self- Concept: A Replication." *Journal Of Product And Brand Management*, 8 (1), 7-18. Korzaan, M.L. And Boswell, K.T. (2008), "The Influence Of Personality Traits And Information Privacy Concerns Onbehavioral Intentions", *The Journal Of Computer Information System*, 48(4), 15-24
- [4]. *Consumer Behavior: Building Marketing Strategy*, 12th Edition By Delbert Hawkins And David Mothersbaugh
- [5]. *Consumer Behavior* By Wayne D. Hoyer, Deborah J. Macinnis And Rik Pieters

- [6]. <https://www.entrepreneur.com/article/334063>
- [7]. Sari Nights And Henna Parties, Amy Yee, The Financial Times, May 17, 2008
- [8]. Moreno, Flor Madrigal, Et Al. "The Characterization Of The Millennials And Their Buying Behavior." International Journal Of Marketing Studies 9.5 (2017): 135-144.
- [9]. Ministry Of Labour Statistics 2005 India, Maspar Nv The Retail Weeks, 2007
- [10]. Krishnan, Jayasree. "Lifestyle–A Tool For Understanding Buyer Behavior." International Journal Of Economics And Management 5.1 (2011): 283-298.
- [11]. Mangold, W. Glynn, And Katherine Taken Smith. "Selling To Millennials With Online Reviews." Business Horizons 55.2 (2012): 141-153.
- [12]. Guha, Sriparna. "The Changing Perception And Buying Behavior Of Women Consumer In Urban India." Iosr Journal Of Business And Management 11.6 (2013): 34-39.

Challenges Faced by Rural Entrepreneurs

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ABSTRACT

Rural means "relating to or characteristic of the country or the people who live there." The majority of the population lives in villages. Enterprise and entrepreneurship are the drivers of economic growth in India's rural areas. With the ongoing challenges facing traditional rural sectors, the future success of the rural economy is inextricably linked to the capacity of rural entrepreneurs to innovate, and to identify new business opportunities that create jobs and income in rural areas. Rural entrepreneurship not only concentrates on generating employment opportunity it also make sure manufacturing the goods and services at low cost with the help of reducing the miscellaneous expenses and also with the help of low capital investment.

Rural entrepreneurship can be considered as one of the best way to reduce the poverty, migration of people from rural to urban, economic differences, un-employment and to develop backward people. Rural people also face some of the problems like lack of education, skill labor, technical knowledge, finance to start up and transportation

Keywords : Rural Entrepreneurship, Rural Industry, Opportunity To New Start Up, Problems, Challenges, Amenities And Constraints.

I. INTRODUCTION

CONCEPT OF RURAL ENTREPRENEURSHIP

Entrepreneurship is not an easy task. It is something which is related to innovative thinking to come up with new ideas, products or services. Basically entrepreneurship is process of taking risk overall and managing the resources more effectively and efficiently. Entrepreneurship is a person who sounds goods information and has managerial and technical knowledge to use the available resources and manufacture the goods or service at proper time for proper customers.

WHAT IS RURAL ENTREPRENEURSHIP?

It is an activity carried by entrepreneur in rural areas or villages by establishing the industries and business units to make use of local available resources like raw materials, semi-skilled labor, less cost of land and transportation.

Entrepreneurship is an emerging field that has gained more importance in recent trends and since from many years. However, people have lack of consensus on entrepreneurship. The majority of the population in India still leaves in villages. The entrepreneurship has been regarded as important factors in social and economic change since from 1960's. This phenomenon appeared in society in early 1930's. The concept of entrepreneurship was more confined towards large scale industries and small-scale industries, but later on they also focused on rural entrepreneurship to stop and reduce the migration from rural to urban

The economic condition and growth of development of country largely depends upon the progress of rural areas and standard of living of rural people. The rural industries play a very important role in building economy particularly in development of villages by reducing un-employment and other things. Rural entrepreneurship is completely based on encouraging local entrepreneur's skills and talents by motivating and providing basic and necessary information to increase the production capacity and to use the resources for maximum extent. Rural entrepreneurship can be increased and developed by recognizing the best and talented entrepreneurs who continuously come up with unique and innovative things that is inside and outside agriculture. This brings a value for economic condition by creating new method of production, new market, and new products and generates employment opportunity by ensuring continuous rural development. Rural entrepreneur are the one who carry the business or establish the activity in rural areas or villages by using the local available resources. These are the people who carry out different activities in villages and concentrate on producing goods or services that are inside or outside of agriculture. This can be considered as the best way to solve the problems in villages like migration, un-employment, deaths, loss and other sort of things.

According to KVIC (Khadi and village industry commission), Rural industry or village industry means any business located in rural areas, the population of which does not exceed 10,000 or such figure which produces any kind of goods or services with or without use of power or fixed capital investment. As per new government regulations of KVIC 20,000 population in village and below investment of 3 cores in plant and machinery

OBJECTIVES OF RURAL ENTREPRENEURSHIP

1. To know the problems faced by rural entrepreneurship.
2. To know the various types of rural entrepreneurship.
3. To analyses the performance of rural industry.
4. To know the importance of rural entrepreneurship.
5. To study various strategies carried out by successful rural entrepreneurs in India.

METHODOLOGY

Research Type – Exploratory Research Sources of Data – Secondary Sources Method of study – Qualitative Method

REVIEW OF LITERATURE

Berglund (2015) says this scientific rigor in entrepreneurship studies suspends

the “liveliness” of entrepreneurship. We consider this liveliness a very critical concept in our argument about rurality and rural entrepreneurship. In this paper, attention is paid to the (rural) entrepreneurship as an ongoing process which has dialectical interactions with its context.

Kyro (2014), they highlighted the few factors like cultural and traditional those factors influence the rural entrepreneurship. They mentioned that most of the people in rural areas are engaged in the traditional occupation which is based on agriculture (land). Then slowly they diversified these business or activity from agriculture to other activity. Before their occupation was limited for cottage, small scale and household industries.

Petrin (2012) this article helps to understand the quality of life of rural villages people and helps to improve the quality of life of individual, families and communities in order to create healthy economic and environment condition.

Ghosh Bishwanath (2012)Khanka S S (2011) and Sarwade (2010) they found that entrepreneurs started their activity as a part time business in small villages while they was main business in large villages or semi urban areas. The fathers of the most of the rural owners they was engaged in the same line of the activity. Majority of the rural business people purchase their materials once in a month. The major problem of those people is credit sale of the products because the demand characteristics for a product are closely connected with agriculture income.

Ashokan (2010), B C Mitchell (2008), Jayanta Kr Gopal (2010), Prabha Devi (2010) they stated that rurality defines a specific business activity which include physical, social and economic characteristics, location, natural resources and the landscape, social capital, rural governance, business and social networks, as well as information and communication technologies and complex influence on those activity in rural villages.

Sherief (2011).Sukhjeet Kaur, Saini and Gill (2012) tried to explain the understanding the factors that determine of rural entrepreneur and the environment conducive to its development. Their study concluded that to increase economic development in rural villages and it is very important to promote the rural entrepreneurship.

Choudhary K (2009), Anjali Ghosh (2011), Dr. Kalpana (2011) and VenkateshBabu (2012) they shared their opinion that rural owners should not only set up their business activity in rural areas but they should also be using the rural produce such as raw materials and employing rural people in their production process. Rural entrepreneurship is essence to make sure that they add value addition to rural resources in rural areas by engaging the rural people and other resources.

Satya Patil (2013)says that the owners should not only set up their business activity in rural areas but also they should be doing favor for rural people but motivating to start the business activity by making use of those available goods and services. It helps in reducing the migrating of people from rural to urban.

THE PROBLEMS FACED BY RURAL ENTREPRENEURSHIP

• Financial Problem

- a. Scarcity of fund – The rural village people face problem because they don't have proper back bone facility for covering liability and they don't get advice from any government and private banks to avail loan to start up business
 - b. Lack of credit facility – Due to non availability of asset they wont get proper credit facility either by bank or either by others to sell their products into markets.
 - c. Loan facility by government and private banks – Due to lack of assets rural village people step back ward to avail loan from banks
- Lack of infrastructure facilities – People are not highly qualified to implement high infrastructure in their business activity and also they will not be having complete information on those infrastructure

• Marketing problems

- a. Middlemen – This is one of the major problem where all the entrepreneurs face when they need to sell or introduce their new product to market. There are so many middlemen who will be waiting for as gatekeeper
- b. Market – is a place where buyer and seller meet together to exchange the goods and services. Here there will be number of competitors and where all the marketing mix should be implemented

• Management Problems

- a. Lack of information – due to illiterate the rural people will not be having enough information about the rules, regulation, norms and terms and condition.
- b. Legal formalities – the government has number of formalities and where the people face quite irritated and also frustrated with those formalities
- c. Procurement of raw materials – lack of knowledge to procure raw materials and also to cross check the quality for raw materials
- d. Lack of technical knowledge - due to illiterate the rural people will not be having enough information about the new and advanced technologies.
- e. Poor quality of products – due to less investment the people always face the problem in quality of products when they are selling in the market.

• Human Resources problems

- a. Low skill level of worker – When the people are illiterate the entrepreneur cannot expect the labors to be highly skilled and educated
- b. Negative attitude

THE VARIOUS TYPES OF RURAL ENTREPRENEURSHIP

There are various types Rural Entrepreneurship such as;

- ✓ Agro based enterprises - This enterprise includes the direct sale or processing of agro product such as pickles, sugar, oil, papads, jiggery, seeds, fruits juice, spices and dairy products.

- ✓ Forest based industries - These industries include woods products, coir industries, beedi making, honey making, bamboo products and bricks etc
- ✓ Mineral based industry - This industry includes crushing of stones, cement industry, wall coating and powders etc.
- ✓ Textile industry - These includes weaving, coloring, spinning and bleaching
- ✓ Handicrafts - These includes making of wooden or bamboo handicrafts that are local to that area, traditional decorative products, toys and all other forms of handicrafts typically which is more produced in that particular region.

With the increase in technology and infrastructure such as smart phones usage, internet accessibility in India; many social enterprises are helping farmers with latest technology such as;

- ✓ Agrostar: m-commerce, helping farmers acquiring agri-inputs at doorstep by just one missed call to 1800.
- ✓ Kisan Raja: Mobile motor based on GSM. This has made more convenience to farmers, as they can operate motor switch of farms from their homes.
- ✓ Ekgaon: aiming to reach 25 million households by 2020. They aim for “One village and One world network”.
- ✓ Digital Green: Training farmers, and has reached 150000 farmers among which 70% are womens. It has reached 7 – states in India and covered around 2000 villages.

Source: <http://www.iamwire.com/2017/01/10-agri-tech-social-enterprises-india/147502>

THE PERFORMANCE OF RURAL ENTREPRENURHSIP

The performance of the rural industries in respect of production, sales and employment is shown in the following table:

Table 1: performance of village or rural industries in terms of production and sales

Year	Production (Rs. In cores)	Sales (Rs. In cores)	Cumulative Employment (in lakh persons)
2014 - 2015	16753.62	21948.59	94.41
2015 - 2016	17508.00	23254.53	98.72
2016 - 2017	19198.8	24875.73	98.72
2017 - 2018	21135.06	25829.26	103.65
2018- 2019	17448.31	20320.73	111.04

Sources: Compiled from various issues of MSME annual reports

Table 2 – Number of enterprises, employment opportunity, production and growth of enterprises in rural villages

Year	Number of Enterprises (Lakh Nos.)			Empl. (Lakh Person)	Production (Rs. Crs.)	Growth	Share In
	Registered	Unregistered	Total		at Current prices	Rate (%)	GDP (%)
2014- 2015	15.91	93.58	109.49	263.49	314850	8.68	5.92
2015 - 2016	16.97	96.98	113.95	275.30	364547	9.64	5.79
2016 - 2017	17.53	101.06	118.59	287.55	429796	10.88	5.84
2017- 2018	18.71	104.71	123.42	299.85	497842	12.32	5.83
2018-2019	20.98	107.46	128.44	312.52	587196	12.65	5.94

Source –DCMSME.gov.in/sssiindia/statistics/performance

The above table clearly explains the performance of the rural entrepreneurship with the help of certain figures. Here it indicates that there are so many unregistered enterprises in India and they are running the business and various villages and various businesses. The employment opportunity has increased day by day when the entrepreneurs implement the new way of doing business and activity in rural areas. There is slowly change in rural entrepreneurs day by day due to so many changes in government rules and regulations, schemes and offers given by government and other private institutions. Day by day there is slight change in growth and also even production because of many changes in internal and external environment and it helps the people. This helps the people to use the quality products and services which is manufactured in low cost. The above table clearly indicates that the people are trying to stop the migration from rural to urban and they are focusing the rural areas to come with best strategy.

IMPORTANCE OF RURAL ENTREPRENEURSHIP

Rural entrepreneurship plays vital role in developing and contributing to economic condition and growth by contributing certain factors. Here we have discussed few things which are most important, they are as follows.

- ✓ Proper utilization of local resources–To manufacture the goods or services the main factor is cost, so this factor is cheap and available in rural villages for the starting the business and making use of it in proper way to come up with good results.
- ✓ Employment generation – This helps the people to reduce the migration from rural to urban just for the sake of employment opportunity and if the entrepreneur starts the activity in rural areas or villages the people will be hired and they can reduce the poverty
- ✓ Prevents rural migration – When the rural area people gets an opportunity to work in their own place they stop travelling from one place to another place for the sake of job, and also it creates healthy environment in villages.

- ✓ Raises economic development – By making use of natural available resources and semi- skilled employees to produce goods and service automatically they give raise for economic development by producing cheap goods and services which can reach customers at low cost.
- ✓ Producer’s goods of consumer’s choice – with the help of cheap and low cost raw materials producers can concentrate on producing the goods based on consumer’s choice to reach their satisfaction and increase their standard of living
- ✓ Entrepreneurial development- this will help in raising the business activity and also leads to increase in economic condition by contributing more to the GDP and NI.

SUCCESSFUL RURAL ENTREPRENEURS IN INDIA

There are many Incubators in India supporting the Rural Entrepreneurs in various manner;

1. Upaya Social Ventures:

This investment portfolio was started after identifying a major issue in India that is low income that is poverty. In India, approximately 250 million people still earn \$1.90 per day or more less than \$1.90 too. Hence they aimed in providing the opportunities to the poor in India by making them an entrepreneur.

- ✓ They guide the entrepreneurs with business plan and necessary network with investments.
- ✓ The investment companies ties up with this portfolio are Krishi star, parvata foods, Karmanthik, Saahas waste management, Maitri Livelihood services, Drishtee etc.
- ✓ This impacted the social metrics. Based on the samples selected on those who were employed, it was found that 78% of the people’s daily income was increased. And 80% of these families are now not on extreme poverty level (\$1.90\day). This resulted in 400% increase in the daily expense for their basic need that is food.
- ✓ People who made success business with help of this incubator; Dwijen Das, Platemaker, Patla Village, Assam; Dimbeshwar, Craftsman and designer, Patla Village Assam; Rekha, Paper Maker, Mirze town, Assam.
- ✓ Source:<https://googleweblight.com/i?u=http://www.upayasv.org/&hl=enIN&tg=275&tk=j8 Z9-a-tK-r6fpOQ>

2. RTBi :

The mission of this incubator is to make the Rural population for leveraging ICT in India.

- ✓ The gap between the suppliers and the farmers is usually a major constraint in Rural.
- ✓ They concentrate on the sustainable livelihood by providing “Village on web” which is ICT that provides farmers more opportunities in trading as well as to reach clients easily.
- ✓ This is a platform for the Rural SHG and Procedures. The monthly income also increases sustainably to farmers.
- ✓ According to their reports in 2016, 56 incubations were received which focused on ideas and innovative of rural. Guidance for these incubators was provided in terms of networking.

Source:http://www.rtbi.in/assets/Uploads/annual%20reports/Annual_Report_2016_v1.pdf

<http://www.rtbi.in/index.php/innovation/livelihood>

3. Rice husk – Lighting up Rural

The Green power plants, Gaynesh Pandey came up with innovative way of producing electricity using rice husk in Tumkuha in Bihar.

- ✓ 120 villages in Bihar and 3 Villages in UP has adopted this green power plant and has become a self-sufficient power supply.
- ✓ They also set targets to reach different states like Tamil Nadu, West Bengal, Maharashtra and Uttar Pradesh to gain profits.
- ✓ They took initiatives to educate 200 children in Tumkuha village on Green power plant.
- ✓ Producer gas which is combustible gas is sent to gas engine; where the alternators are used to convert this gas into electricity.
- ✓ Production; 2kg Rice Husk = 1KW of electricity.

Source: <http://business.rediff.com/slide-show/2010/jul/06/slide-show-1-he-is-lighting-up-villages-with-rice-husk.htm#8>

FINDINGS

- ✓ There are various opportunities for Rural Entrepreneurs such for starting up own business or enterprise.
- ✓ The Infrastructure and facilities are increasing with respect to usage of smart phones as well as internet access. Google is setting up internet facilities in 400 railway stations – Free Wi Fi in India. The introducing of Jio sim targeted Rural and Digital India.

There are other Social Enterprises supporting farmers with Agri Technology using various Apps such as Agrostar, Kisan Raja, Ekgaon, Digital Green etc.

- ✓ Incubators are playing a major role in supporting entrepreneurs in various ways such as funding's, networking etc. such as Upaya Social Ventures.
- ✓ Rural Entrepreneurs are also come up with innovative ways of producing electricity using Green Power plant that has benefited many villages and has solves power problems in rural India.
- ✓ The Rural Entrepreneur also increases the Rural per capita Income as well as purchasing power.

CONCLUSION

Rural entrepreneurship can be considered as one of the best way to reduce the poverty, migration of people from rural to urban, economic differences, un-employment and to develop backward people. Rural people also face some of the problems like lack of education, skill labor, technical knowledge, finance to start up and transportation.

The Opportunities have increased in Rural India with support of Social Enterprises Apps that provides support for Rural in Educating, training, Agri – Inputs, Technology in Agriculture, Networking, and various other services. Along with government initiatives even other Incubators such as Upaya Social Ventures & RTBi have supported many entrepreneurs and still are supporting many to have their sustainable daily income. The Rural Entrepreneur also increases the rural per capita Income as well as purchasing power.

II. REFERENCES

- [1]. <http://business.rediff.com/slide-show/2010/jul/06/slide-show-1-he-is-lighting-up-villages-with-rice-husk.htm#8>
- [2]. http://www.rtbi.in/assets/Uploads/annual%20reports/Annual_Report_2016_v1.pdf
- [3]. <http://www.rtbi.in/index.php/innovation/livelihood>
- [4]. <https://www.ibef.org/industry/agriculture-india.aspx>
- [5]. <https://www.ibef.org/industry/indian-rural-market.aspx>
- [6]. <https://www.google.co.in/amp/s/yourstory.com/2015/03/rural-india-women-entrepreneurs/amp/>



A Study on Perception of Parents and Their Children's on Parenting

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ABSTRACT

Parenting patterns and its impact of child's behaviour has become the centre attention over the course of last two decades. According to the American Psychological Association, parenting practices around the world share three major or fundamental goals: ensuring kid's health and safety, preparing children for lifestyles as effective adults, and transmitting cultural values needless to say, these goals are ambitious. Being a successful parent is no small achievement and whether youngsters grow to be competent, healthy, productive adults relay upon on numerous environmental and biological factors.

The perception that in the long run behaviour of children relies upon parenting style and many factors make a contribution in shaping parenting fashion that can be external environment, support, love, affection and opportunities. The purpose of present study is to explore parenting style in the society and their effect on kid's behaviors. The study was conducted by the usage of interviews and questionnaire method trough homogeneous sampling of parent and their children. Effective verbal exchange is the ultimate outcome that is effective among majority of mother and father and that can be used by dad and mom in getting access to their child's behaviour and adjusting their parenting strategies.

Keywords : Perception, Parenting

I. INTRODUCTION

Perception, consistent with Kendra Cherry is our sensory experience of the world around us and involves both the popularity of environmental stimuli and movements in response to these stimuli. Through the perceptual process, we gain statistics about properties and elements of the surroundings that is critical to our survival. Perception not only creates our experience of the sector round us; it lets in us to act within our surroundings. The purpose for having such diverse perceptions of parental involvement might also sprout from the numerous distinctive combos of factors, each containing exceptional factors and therefore resulting in uncountable one-of-a-kind perceptions of involvement.

The attempt to study the impact of parenting practices on children consequences is complicated due to the fact there exists an overwhelmingly wide variety of parenting behaviours and a similarly wide variety of baby behavioral effects. The causal relation between parenting practices and child behaviour consequences is in addition opaque relying on the timing and dimension of the behaviors in question.

For example, if we look at adolescents' perception of their parents' psychological control, or the extent to which parents try to control their children's feelings and beliefs, and adolescents' self-stated internalizing and aggressive behaviors, researchers located children behaviour as a stronger predictor of modifications in parental psychological manage than parental behaviour as a predictor of modifications in adolescent behaviour . Because this relation is multidirectional, reading this have an impact on parenting practices over child behavioral results will become even more complex.

Objectives of the Study

- ✓ To discerns notion on parenting patterns
- ✓ To address the desires, reasons and motivations mother and father have for being worried in their youngster's life.
- ✓ To see If the children have an understanding of discerns belief of parental involvement, the kids may also be prepared to understand the wishes of the parents.

Research Methodology

- ✓ Research type : Explanatory research
- ✓ Sampling technique is Simple Random Sampling
- ✓ Data is gathered from both primary and secondary sources
- ✓ Primary – Structured Questionnaire
- ✓ Secondary Sources
- ✓ Research data
- ✓ Magazines
- ✓ News papers (Both Local & National)

Literature Review

A number of studies have documented that children and adolescents who enjoy emotionally close relationship with their parents report better psychological health in adulthood (Snary, 1993). Increasing empirical evidence support the theoretical proposition that psychological well being in adulthood has roots in the affective climate of one's family of origin. The quality of parent child relationship has been argued to have a significant impact on the competence, resilience and well being of individuals.

Over the past two decades, growing evidence has also shown that parents are valuable resources for public education, one that remains largely untapped. The promotion of home school collaboration by involving parents in school or at home in their children's education has also become a major concern for policy makers and educators as family and school are two of the most significant contexts in which adolescents grow and develop. The influence of these two contexts, positive or negative, in shaping the lives of adolescents as they grow into young adulthood cannot be overstated.

The type and extent of support they receive from the adults in these contexts, namely, teachers and parents, will determine to a large extent their confidence in their academic abilities while at school, their future educational and career expectations and aspirations. Since many educationists and psychologists have drawn attention to the great complexity of the 'network of interrelated family environment variables associated with children's cognitive and affective domain, it would be worthwhile to study how adolescents perceive the role of parents in the learning process.

Findings also reveal that social influence at home (that is parental expectations and college plans for children) was more than those in school (that is peer influence and teacher expectations). In particular parental support has positive effect on their children's academic performance (Eccles and Harold, 1983).

Findings of the Study

- ✓ It was found that 44% of father and mother are permissive.
- ✓ 34% are authoritative and 22% are authoritarian of their parenting style
- ✓ Youngsters 51% completely agreed, 28% partly agreed and 21% simply agreed for the parenting fashion that their parents showed in the direction of them.

Suggestions

Sometimes parents don't fit into just one category, so don't despair if there are times or areas where you tend to be permissive and other times when you're more authoritative.

The studies are clear, however, that authoritative parenting is the best parenting style. But even if you tend to identify with other parenting styles more, there are steps you can take to become a more authoritative parent.

With dedication and commitment to being the best parent you can be, you can maintain a positive relationship with your child while still establishing your authority in a healthy manner. And over time, your child will reap the benefits of your authoritative style.

Every parent has to understand the feelings and emotions of their children and act accordingly in their parenting. Children has to understand their parents schedule and act wise than to creb at the situation. Perception varies from person to person and age and should be in tune to have a fruitful relation

Conclusion

The development of new theoretical approaches to parenting yield dimensions of parenting over and above those identified here are warmth, control, and structure or are these the three primary dimensions of parenting? Considerable work has been done on this issue over a very long time, but the limited number of dimensions may be a function of the reliance on self-report measures.

Although we have made substantial progress in understanding the nature of parenting, a number of questions should be addressed in future research.

The study shows that all parenting sorts are similarly significant and relies upon the way that guardians decide to form their youngster.

Youngsters need to acknowledge the child rearing styles of their parents with great idea.

II. REFERENCES

- [1]. Arnett JJ (2004). Adolescent storm and stress, reconsidered. *Am. Psychol.* 54:317-326
- [2]. Eccles JS, Harold RD (1983). Parent School Involvement during the early adolescent years. *Teach. Coll. Rec.* 94:568-587.
- [3]. Elder GT Jr., Van Nguyen T, Caspi A (1985). Quoted by C.A. Flanagan and J.S Eccles in Changes in parents' work status and Adolescents: Adolescent at school. *Child Dev.* 64:248.
- [4]. Flowers L, Milner R, Moore J (2003). Effects of locus of control on African American high school seniors' educational aspirations: Implications for preservice and in-service high school teachers and counselors. *High School J.* 87:39-50.
- [5]. Furstenberg F, Hughes M (1995). Social Capital and Successful Development Among At- Risk Youth. *J. Marriage Fam.* 57:580-592. Holden GW, Edwards LA (1989). Parental attitudes toward child rearing: Instruments, issues and implications. *Psycholo. Bull.* 106(1):29-58.
- [6]. Ingoldsby B, Schvaneveldt P, Supple A, Bush K (2003). The relationship between parenting behaviors and adolescent achievement and self - efficacy in Chile and Ecuador. In GW Peterson, SK Steinmetz, SM Wilson (Eds.). *Parent –youth relations: Cultural and cross- cultural perspectives* (129-148). New York:
- [7]. Haworth Press. Linver M, Barber BL, Eccles JS (1997). Parents make a difference: Influences on adolescents' college graduation plans. Presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- [8]. Sanders MG, Epstein JL, Connors-Tadros L (1999). Family partnerships with high schools. The parents perspective (Report No. 32). Center for Research on the Education of students Placed at Risk (CRESPAR). Office of Educational Research and Improvement,
- [9]. U.S. Department of Education (R-117-D40004). Simon BS (2001). Family involvement in high school: Predictors and effects [Electronic version]. *National Association of Secondary School Principals Bull.* 85:8 20.
- [10]. Snary J (1993). How fathers care for the next generation. A four decade study. Cambridge Harvard University press. Steinberg L (2001). We know some things: Parent–adolescent relationships in retrospect and prospect. *J. Res. Adolesc.* 11:1-19.
- [11]. Van Voorhis FL (2001). Interactive science homework: An experiment in home and school Connections. *Natl. Assoc. Sec. School Principals Bull.* 85(627):20-32.



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